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THE MADURA COLLEGE (Autonomous), MADURAI – 625 011

(AFFILIATED TO MADURAI KAMARAJ UNIVERSITY)

RE-ACCREDITED (3rd Cycle) WITH "A" GRADE BY NAAC

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., **COURSE CODE : 4H (Upto 2016)**

COURSE TITLE : Hindi - IV **QN.NO : 0049**

TIME : 3 Hours **MAX.MARKS :75**

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1. संदर्भ सहित व्याख्या कीजिए : (किन्हीं दो) 2 x 5 = 10 marks

(क) पाहन पूजै हरि मिलै, मै पूजूँ पहार।
ताते यह चाकी भली, पीस खाय संसार।।

(ख) चींटी को देख।
वह सरल, विरल, काली रेखा,
तम के तागे सी जो हिल–दुल।

(ग) मैं ढूँढता तुझे था जब कुंज और वन में
तू खोजता मुझे था तब दीन के वतन में।

(घ) झलमल कर हिम बिंदु डिले ले,
हलके झोंके हिले मिले थे।

2. किसी एक प्रश्न का उत्तर दीजिये। 1 x 10 = 10 marks
थके पॉव उपन्यास के किसी नारी पात्र **या (or)** पुरुष पात्र

3. किसी एक विषय पर लेख लिखिये। 1 x 10 = 10 marks
मीनाक्षी मंदिर, कन्याकुमरी, अजन्ता एल्लोरा

4. किसी एक रस को उदाहरण सहित स्पष्ट कीजिये। 1 x 10 = 10 marks
श्रृँगार रस या हास्य रस

5. किसी एक छंद से उदाहरण सहित लिखिए। 1 x 5 = 5 marks
सोरठा या रोला

6. किसी एक अलंकार को उदाहरण के साथ स्पष्ट कीजिये। 1 x 5 = 5 marks

उपमा या यमक

7. किन्हीं दो प्रश्नों का उत्तर लिखिये। 2 x 5 = 10 marks

1. क्रिया विशेषण 2. संबंध बोधक

3. विस्मयाधि बोधक 4. समुच्चय बोधक

8. हिन्दी में अनुवाद कीजये। 1 x 10 = 10 marks

The woman said, who are you in love with me? My sister is more beautiful than I am. Go and love her. He turned back and saw as woman who was very ugly. Being displeased. he went again to the other woman and said, "Why did you tell a lie! She ansewered : "Neither did you speak the truth, for if you were really in love with me.

9. किसी एक संवाद लिखिये। 1 x 5 = 5 marks

1. दफ़्तर में 2. भोजनालय में 3. बस स्टण्ड में

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A.,/ B.Sc., **COURSE CODE : 18U1TLA1**

COURSE TITLE :இக்கால இலக்கியம் **QN.NO : 0072**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. 'விருதுநகர்க்குறம்பு' - என்ற கவிதையை இயற்றியவர் யார்?
2. தமிழன் இதயம் குறித்து எந்த கவிஞர் பாடியுள்ளார்
3. தமிழச்சி இயற்றிய கவிதையின் பெயர் என்ன?
4. நும் பாடப்பகுதியில் எத்தனை வைரக்கீரு கவிதைகள் இடம்பெற்றுள்ளன?
5. அசோகமித்திரனின் எந்த சிறுகதை நும் பாடப்பகுதியில் இடம்பெற்றுள்ளது?
6. "இருவர் கண்ட ஒரே கனவு" - என்ற சிறுகதையின் ஆசிரியர் யார்?
7. பாரதியார் பிறந்த ஆண்டு எது?
8. 'சிறுகதை மன்னர்' என்று அழைக்கப்படுபவர் யார்
9. ஒரெழுத்தாலான மொழிகள் மொத்தம் எத்தனை?
10. பொருள் கூறுக : (i) பணி - பண் (ii) வழி - வளி

– Continued –

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. (அ) "நீரானது வளையாட்டுப் பிள்ளை" - என்ற கவிதை தரும் கருத்துக்களை விளக்குக.

(அல்லது)

(ஆ) கவிமணியின் கவிதையை மதிப்பிடுக.

12. (அ) அப்துல் ரகுமானின் கவிச்சிந்தனைகளை சான்றுக்காட்டி விளக்குக.

(அல்லது)

(ஆ) "மணப்பாறை மாடு கட்டி" - எனத் தொடங்கும் திரைப்படப் பாடலை விளக்கி எழுதுக.

13. (அ) புதுமைப்பித்தனின் சிறுகதைத் திறனைத் தன்மதிப்பீடு செய்க.

(அல்லது)

(ஆ) "நகரம்" - என்ற சிறுகதையின் தலைப்புப் பொருத்தத்தை ஆய்க.

14. (அ) குறிப்பு வரைக : (i) பாரதியார் (ii) பாரதிதாசன்

(அல்லது)

(ஆ) புதுக்கவிதையின் வளர்ச்சி நிலைகளை தொகுத்துரைக்க.

15. எழுத்துக்களின் பிறப்பு குறித்து விளக்குக.

(அ) (அல்லது)

(ஆ) மொழிமுதல் எழுத்துக்களை எடுத்துக்காட்டுகளுடன் தருக.

(3 x 10 = 30)

பகுதி – III

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. தமிழின் இனிமை குறித்து பாரதிதாசன் கூறுவன யாவை?

17. மு. மேத்தாவின் கவிதையை விளக்கி வரைக.

18. "செவ்வாழை" என்ற சிறுகதை உணர்த்தும் செய்திகளை ஆராய்க.

19. சிறுகதையின் தோற்றமும் வளர்ச்சியும் பற்றி விளக்கியுரைக்க.

20. காணாமல் போன இரு சக்கர வாகனத்தைக் கண்டுபிடித்துத் தருமாறு காவல்துறை ஆணையாளருக்கு கடிதம் ஒன்று எழுதுக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., / B.Sc., **COURSE CODE : 18U2TLA2**

COURSE TITLE : தமிழ் - II **QN.NO : 0074**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. "பிடித்தபத்து" என்ற பதிகத்தை மாணிக்கவாசகர் எந்த ஊரில் அருளினார்?
2. நாலாயிரதிவ்யப் பிரபந்தத்தில் முதல் பத்தாக அமைந்த பாசுரம் யாருடையது?
3. குறத்தி யாருக்கு குறி சொன்னாள்?
4. "நாயகம் ஒரு காவியம்" இந்நூலின் ஆசிரியர் யார்?
5. மூன்று உலகினுக்குமோர் இடுக்கண் மூட்டுவாள் - யார்?
6. காட்சியை மனக்கண்ணில் உருவாக்கும் சொல்லோவியம் - எது?
7. தமிழ் நூல்களை முதன் முதலில் அச்சேற்றியவர் யார்?
8. மெய்ஞானப் பாடல்களைப் "சூடாப் புலவர்" யார்?
9. கார் அறுத்தான் எவ்வகை ஆகுபெயர்?
10. இடக்கரடக்கல்இ மங்கலம்இ குழூஉக்குறி ஆகியன எவ்வழக்கைக் குறிப்பன ?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) சிவபெருமானின் சிறப்புகளாக பிடித்துபத்தில் மாணிக்கவாசகர் கூறுவன யாவை?

(அல்லது)

ஆ) பாவை நோன்பு மேற்கொள்ளும் முறை மற்றும் நோன்பின் பயன்களைக் குறிப்பிடுக.

12.அ) காளி தேவிக்குக் கலிங்கப் பேய்கள் கூறிய போர்களம் பற்றிக் கூறுக.

(அல்லது)

ஆ) முகமது நபியின் பிறப்பு இ வளர்ப்பு பற்றி மு.மேத்தா கூறுவது யாது?

13. அ) புதுமையாளர் பாரதி என்பதை தொ.பரமசிவன் எடுத்துரைக்கும் விதத்தத்தை விளக்குக.

பி.ப.பா...

(அல்லது)

ஆ) உடலோம்பல் - மருந்து என்ற கட்டுரையில் தனுஷ்கோடி ராமசாமி கூறுவனவற்றைக் குறிப்பிடுக.

14. அ) சைவ திருமுறைகளுள் எட்டாவது திருமுறை பற்றி எழுதுக.

(அல்லது)

ஆ) வீரமாமுனிவரின் தமிழ்த் தொண்டினை விவரிக்க.

15. அ) பெயர்ச்சொல்லின் பொது இலக்கணம், அறுவகைப் பெயர்கள், வினையாலணையும் பெயர் இவற்றை சாறுடன் விளக்குக.

(அல்லது)

ஆ) ஏவல் வினைமுற்று, வியங்கோள் வினைமுற்றை சான்றுடன் விளக்குக.

பகுதி – III **(3 X 10 = 30)**

எவையேனும் மூன்று வினாக்களுக்குக் கட்டுரை வடிவில் விடையளிக்க

16. பெரியாழ்வார் கண்ணனைத் தாலாட்டும் முறை விளக்கி எழுதுக.
17. குற்றாலத் திரிகூட மலையின் வளத்தினை எடுத்துரைக்க.
18. அறிவியல் தமிழ் பற்றி உ. கருப்பத்தேவன் கூறுவனவற்றைத் தொகுத்து கட்டுரை வடிவில் தருக.
19. இஸ்லாமியரின் தமிழ்ப் பணியைத் தொகுத்து எழுதுக.
20. இருவகை வழக்குகளைச் சான்றுடன் விளக்குக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., **COURSE CODE : 17U3TLA3**

COURSE TITLE : தமிழ் - III **QN.NO : 0075**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஒரிரு வரிகளில் விடை தருக.

1. அணிமன் கடனைக் கடக்கும் முன் சந்தித்த மூன்று கதாபாத்திரங்கள் பெயர்களைக் குறிப்பிடுக.
2. காரைக்கால் அம்மையார் முக்தி அடைந்த இடம் எது?
3. புதிய தரிசனங்கள் இப்புதினத்துக்கு கிடைத்த விருதின் பெயர்?
4. சீனாவை - இச்சொல் உணர்த்தும் பொருள் யாது?
5. உண்டி கொடுத்தோர் உயிர் கொடுத்தோரே என்று குறிப்பிடும் காப்பியம் எது?
6. நா. பார்த்தசாரதி நடத்தி வந்த இதழ் என்ன?
7. வெண்பாவின் பயன்று வரும் புனை எது?
8. உவமை அணி எத்தனை வகைப்படும்.
9. Gratuity என்ற கலைச்சொல்லின் பொருள்?
10. Morality என்ற கலைச்சொல்லின் பொருள் யாது?

[P.T.O]

பகுதி – II (5 x 7 = 35)

எவையேனும் ஐந்து வினாக்களுக்கு விடையளிக்க.

11 அ) மணிமேகலைக்கு ஆதிரை பிச்சையிட்ட சிறப்பினை எடுத்துரைக்க.

(அல்லது)

ஆ) சகுனி தருமனை சூதுக்கு அழைத்த திறத்தினை எழுதுக.

12 அ) 'தேடல்' நாவலில் இடம்பெறும் முதன்மை கதாபாத்திரங்களை புலப்படுத்துக.

(அல்லது)

ஆ) மீனவர்களின் வாழ்வியல் நிலையை 'தேடல்' நாவல் வழி ஆராய்க.

13 அ) இரட்டைக் காப்பியங்களின் சிறப்பினை எடுத்துரைக்க

(அல்லது)

ஆ) 'ஐஞ்சிறு காப்பியங்கள்' – குறிப்பு வரைக.

14 அ) ஆசிரியப்பாவின் வகைகள் மற்றும் பொதுஇலக்கணம் தருக

(அல்லது)

ஆ) தற்குறிப்பேற்ற அணியைச் சான்றுடன் விளக்குக.

15 அ) சங்ககால சமயநிலையைப் புலப்படுத்துக.

(அல்லது)

ஆ) சோழர்களின் அரசியல் அமைப்பில் சிறப்பினைச் சுட்டுக.

(P.T.O)

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. காரைக்கால் அம்மையாரின் பக்தித்தன்மையினை சேக்கிழார் விளக்குக.

17. 'தேடல்' - நாவல் வழி இன்றைய சமூக சூழலை எடுத்துரைக்க.

18. நாவலின் தோற்றம் வளர்ச்சி குறித்து, வரைக.

19. கலிப்பாவின் வகை மற்றும் யாப்பிலக்கணம் குறித்து கட்டுரை வரைக.

20. பல்லவர் காலம் கட்டிடக் கலையின் பொற்காலம் இக்கூற்றை நிறுவுக.

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THE MADURA COLLEGE (Autonomous), MADURAI – 625 011

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., **COURSE CODE : 17U4TLA4**

COURSE TITLE : தமிழ் - IV **QN.NO : 0076**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. நெடுநல்வாடையின் பாட்டுடைத்தலைவன் யார்?
2. செவ்வேள் என்று முருகனைக் குறிக்கும் எட்டுத்தொகை நூல் எது?
3. "வைகையில் வெள்ளம் வரும்" நாடகம் எக்கலையை ஊக்குவிக்கப்பட வேண்டியதன் அவசியத்தை வலியுறுத்துகிறது?
4. "நீயே தான் இந்தப்பிரபஞ்சம்" நாடகத்தின் முக்கிய கதாபாத்திரங்கள் இரண்டினைக் கூறுக.
5. திருவாதிரைக்கு உரிய தெய்வம் யார்?
6. பெண்களின் வீரத்தைக் கூறும் துறை எது?
7. காதலை முறையாக வெளிப்படுத்தும் முறைக்கு என்ன பெயர்?
8. திணை என்பதன் பொருள் என்ன?
9. நாயக்கர் கால அரசியலில் மதுரையின் ஆளுநராக இருந்தவர் யார்?
10. 'Audio' என்பதற்கான தமிழ்க் கலைச் சொல்லினைக் குறிப்பிடுக.

பகுதி – II **(5 x 7 = 35)**

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) அம்மூவனார் மற்றும் வெள்ளிவீதியாரின் குறுந்தொகைப் பாடல்களை விளக்குக.

(அல்லது)

ஆ) பழமொழி நானூற்றில் எவையேனும் இரண்டு பாடல்களை விளக்கி எழுதுக.

12. அ) "எல்லோருக்கும் கல்வி பொதுவானது" – என்ற கூற்றினை "மௌனத்தின் குரலொன்று" வழி விளக்குக.

(அல்லது)

ஆ) "நீயேதான் இந்தப் பிரபஞ்சம்" – நாடகத்தின் தலைப்புப் பொருத்தத்தை ஆய்க.

13. அ) குறிப்பு வரைக :- 1) நற்றினை 2) குறுந்தொகை

(அல்லது)

ஆ) பத்துப்பாட்டில் அகநூல்கள் குறித்து விளக்கி எழுதுக.

14. அ) அறத்தொடு நிலைத் துறையைச் சான்றுடன் விளக்குக.

(அல்லது)

ஆ) வெட்சித்திணை மற்றும் வஞ்சித்திணை குறித்து எடுத்துக்காட்டுடன் எழுதுக.

15. அ) பாண்டியர் கால அரசியல் நிலை குறித்து விளக்குக.

(அல்லது)

ஆ) நாயக்கர் கால கலைவளர்ச்சி பற்றி எடுத்துரைக்க.

பி. ப. பா...

பகுதி – III **(3 x 10 = 30)**

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. நெடுநல்வாடை கருத்துக்களைத் தொகுத்துரைக்க.

17. "அன்பின் மெய்" நாடகத்தின் பாத்திரப்படைப்புகளை ஆராய்க.

18. பதினெண் கீழ்க்கணக்கில் அறநூல்கள் குறித்த கருத்துக்களை விளக்கியுரைக்க.

19. பாடப்பகுதியில் உள்ள புறப்பொருள் துறைகளை விவரிக்க.

20. சமய சமுதாயச் சீர்திருத்தங்கள் குறித்துக் கட்டுரை வரைக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., **COURSE CODE : 18U3TLA3**

COURSE TITLE : தமிழ் - III **QN.NO : 0077**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. 'ஊர்சூழ்வரி' – எந்த காப்பியத்தில் இடம்பெற்றுள்ளது
2. 'பாஞ்சாலி சபதம்' – இயற்றியவர் யார்?
3. 'கீதாரி' நாவலின் ஆசிரியர் யார்?
4. 'நாவல்' – தமிழில் எவ்வாறு அழைப்பர்?
5. சீவகசிந்தாமணியின் ஆசிரியர் யார்?
6. ஐஞ்சிறுங்காப்பியங்கள் அனைத்தும் எந்த சமயத்தை சார்ந்தவை?
7. 'யாப்பு' – என்ற சொல்லின் பொருள் தருக
8. வெண்பாவுக்குரிய ஓசை யாது?
9. 'மன்னர்ஆட்சி' – வேறுபெயர் கூறுக.
10. வாணிபத்தின் இரு வகைகளைக் கூறுக

பி.ப.பா...

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. (அ) மணிமேகலா தெய்வத்தின் கூற்றும் சக்கரவாளக் கோட்டத்தின் பெயர் விளக்கமும் பற்றி விளக்குக.

(அல்லது)

(ஆ) விபீடணன் அடைக்கலம் புக்க படலத்தில் ஏவையேனும் மூன்று பாடல்களை விளக்கி எழுதுக.

12. (அ) கீதாரி நாவலின் கதைச் சுருக்கத்தை எழுதுக.

(அல்லது)

(ஆ) நும் மனம் கவர்ந்த இரு கதைமாந்தர்களின் பண்பு நலன்களை கீதாரி நாவல் மூலம் எடுத்துரைக்

13. (அ) கரட்டைக் காப்பியங்கள் பற்றிய கருத்துக்களை நிரல்படுத்துக.

(அல்லது)

(ஆ) குறிப்பு வரைக : (i) நாககுமார காவியம் (ii) யசோதர காவியம்

14. (அ) அசை என்றால் என்ன? வகைகளைச் சான்றுகள் எடுத்தியம்புக.

(அல்லது)

(ஆ) அடி என்பது யாது? வகைகளை எடுத்துக்காட்டுகளு விளக்கி எழுதுக.

பி.ப.பா

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15. (அ) பல்லவர் கால கலைவளர்ச்சி பற்றி விளக்கி எழுதுக.

(அல்லது)

(ஆ) சோழர்கால பொருளாதார நிலை குறித்து விரித்து எழுதுக.

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. கோவிந்தையார் இலம்பகம் தரும் கருத்துக்களை தொகுத்துரைக்க.

17. "கீதாரி" – நாவலின் தலைப்புப் பொருத்தத்தை ஆராய்க.

18. நாவலின் தொற்றும் வளர்ச்சியும் குறித்துக் கட்டுரை வரைக.

19. ஆசிரியப்பா, வஞ்சிப்பாவின் பொது இலக்கணத்தை விளக்கி வரைக.

20. சங்ககால அரசியல் நிலை பற்றிக் கட்டுரைக்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., / B.Sc., **COURSE CODE : 18U4TLA4**

COURSE TITLE : தமிழ் - IV **QN.NO : 0078**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. நற்றிணை காட்டும் அருவி விழும் நிறம் எத்தகையது?
2. புறநானூற்றில் வீரனது கடமை என்ன?
3. 'அற்றைத் திங்கள் அவ்வெண்ணிலவில்' – நாடக ஆசிரியர் யார்?
4. இளையவன் இவனா? நாடகத்தில் எந்த அரசனின் வரலாறு நாடகப் பொருளாகிறது?
5. 'யாதும் ஊரே யாவரும் கேளிர்' – பாடலை இயற்றியவர் யார்?
6. பரிபாடலில் திருமாலைப் பற்றிய பாடல்களில் எப்பெருள் மரபு இல்லை?
7. அகப்பொருள் திணைகள் எத்தனை?
8. வெட்சித் திணை எனப்படுவது யாது?
9. பாண்டியர் காலத்தில் இருந்த படைப்பிரிவுகள் யாவை?
10. மதுரை மீனாட்சி திருக்கல்யாணத்தையும், அழகர் ஆற்றில் இறங்குவதையும் இணைத்துத் திருவிழாவாக ஏற்பாடு செய்த மன்னன் யார்?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) குறிஞ்சிப்பாட்டுத் தலைவியின் அன்பு மிகுதி வெளிப்படும் விதம் யாது?

(அல்லது)

ஆ) இனியவை நாற்பது கூறும் இரண்டு கருத்தினை விளக்குக.

12. அ) 'வள்ளியப்பன்' பாத்திரப்படைப்பை இளையவன் இவனா? நாடகம் வழி விளக்குக.

(அல்லது)

ஆ) 'மணி' மாணவனின் பண்பு நலனை விளக்குக.

13. அ) 'பரிபாடல்' – அகமும் புறமும் பற்றியது – விவரி.

(அல்லது)

ஆ) ஆற்றுப்படை நூல்கள் கூறும் வழிப்படுத்தும் முறையினை விளக்குக.

14. அ) அறத்தொடு நிற்றல் என்றால் என்ன? விளக்குக.

(அல்லது)

ஆ) புறத்திணைகள் இரண்டினைச் சான்றுடன் விவரிக்க.

15. அ) பாண்டியர் காலச் சமுதாய நிலையை விளக்குக.

(அல்லது)

ஆ) ஆங்கிலேயர் கால நிர்வாகச் சீரமைப்பினை விவரி.

பி. ப. பா...

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. திருவள்ளுவர் கூறும் 'வினைத் தூய்மை' அதிகாரக் கருத்தினை விவரிக்க?
17. பாரிமகளிரின் மன உணர்வினை 'அற்றைத் திங்கள் அவ்வெண்ணிலவில்' நாடகம் வழியாகத் திறனாய்க?
18. பதினெண் கீழ்கணக்கு நூல்கள் கூறும் நீதிக் கருத்துக்களைக் கட்டுரைக்க.
19. முதற்பொருள், கருப்பொருள் குறித்து விவரிக்க.
20. நாயக்கர் காலக் கலை வளர்ச்சியைக் கட்டுரை வடிவில் தருக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 18U1NED1**

COURSE TITLE : English - I **QN.NO : 0105**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Pointing to a man in a photograph, " His brother's father is the only son of my grandfather" How is the woman related to the man in the photograph?
   a) sister b) aunt c) grandmother d) sister
2. Ignorance: Education :: disease : _____
   a) hospital b) doctor c) medicine d) nurse
3. _____ a football, he plays cricket.
   a) beside b) besides c) beneath d) between
4. Which word is misspelt?
   a) environment b) opportunity c) government d) democracy
5. He _____ a dictionary yesterday.
   a) buy b) buys c) was buying d) bought
6. The bananas _____ by the monkeys.
   a) ate b) eat c) were eaten d) have eaten
7. Who gets a fair round belly in *All the World is a Stage*?
   a) The Soldier b) the Justice c) the Lover d) the Oldman
8. How is the village school described?
   a) a temple b) a citadel c) anoisy mansion d) a brick building
9. The first belonging of the Quick Man destroyed by the Conjurer was _____.
   a) hand kerchief b) spectacles
   c) gold watch d) celluloid collar
10. What is the temperature of Schatz?
    a) 98 Degree b) 100 Degree
    c) 102 Degree d) 104 Degree

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Complete the Paragraph:

I was going to Madurai. It was a crowded bus. The old man standing beside me suddenly collapsed. I caught him and ……..

(or)

b) Complete the Paragraph:

He was from a village. His parents were farm workers. He told lies to them and got lot of money for his course in a college. He spent them with his friends lavishly. One day his father came to see him in the hostel. He was shocked to know ……

12. a) Fill in blanks with correct phrasal verb:

(passed away, made up, break out, run out, put up with)

1. Don't smoke in the forest. Fires_____ easily at this time of the year.
2. She was very sad because her father _____ last week
3. I'm afraid; we have_____ of apple juice. Will an orange juice do?
4. His mother can't _____ his terrible behavior anymore.
5. As an excuse for being late, she_____ a whole story.

(or)

b) Distinguish the following confusing pairs of words in sentences of your own:

i) stationery, stationary ii) compliment, complement iii) adopt, adapt iv) break, brake v) loose, lose

13. a) Give the parts of speech of the each word in the following sentence: *I went to Chennai yesterday*

(or)

b) Give the parts of speech of the each word in the following sentence: *She sings a melodious song*

14. a) What is the main idea of the poem "Ozymandias"? (or)

b) Sketch the character of the village school master.

15. a) Describe Schatz's state of mind during his illness. (or)

b) Narrate how the conjurer carries on his performance despite the Quick Man's objections.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Write a summary of the article below:

Air pollution is another burning ecological problem. Air pollution comes from variety of different sources like factories, power plants, cars, buses, trucks, wildfires, etc. Air pollution doesn't only affect air, but also threatens the health of humans, trees and animals and is destroying the ozone layer which protects us from dangerous ultra-violet radiation. Statistically speaking, every day average individual breathes more than 3,000 gallons of air and since many people live in urban areas full of smog this affect their health causing them lot of health problems.

Worldwide air pollution is responsible for large numbers of deaths and cases of respiratory disease. According to World Health Organization 2.4 million people die each year from causes directly attributable to air pollution. There are many diseases caused by polluted air like asthma, bronchitis, emphysema, lung and heart diseases, and respiratory allergies which are causing death to the large number of people. Usual symptoms are difficulties in breathing, wheezing, coughing and aggravation of existing respiratory and cardiac conditions and respiratory system and the cardiovascular system are the two most affected areas.

Many people think that factories and power stations are the biggest air pollutants, but that is not true, because the biggest air pollutants are mainly automobiles and other vehicles. Of course, factories and power stations also have significant effect on air pollution. The worst disaster caused by polluted air was Bhopal disaster that happened in Bhopal, India in1984 when a Union Carbide subsidiary pesticide plant released 40 tonnes of methyl isocyanate (MIC) gas, that killed between 2500 and 5000 people and around 500,000 people were exposed to the leaking tables of whom approximately 20,000 people to this date, died as a result from this exposure.

Contd…

There is some progress in air pollution control technologies and urban planning strategies to reduce air pollution, but it's biggest problem are large costs required for these technologies although these costs are really negligible compared to the expenditures that are coming as a result of air pollution like medical costs for treating the people that were unlucky enough to caught some disease caused by air pollution.

So what to do in order to stop air pollution? Get rid of our cars? We all know that's impossible, but reducing their number and using more public transportation that could be done, although very unlikely in current situation. Make some new type of car, that doesn't cause air pollution? Even harder because car manufacturers are very strong force in the industry. Reduce the use of the fossil fuels and their dangerous emission of greenhouse gases which is not only causing the air pollution but also the global warming as well? Unfortunately there is still almost negligible transformation rate from the fossil fuel to the renewable energy sources and fossil fuels are still dominating factor in the world industry. Cost of all this is very big, namely our health which will to momentary predictions suffer in years to come because of air pollution.

17. Fill in the blanks choosing the correct word in the bracket:

Site activity information. We keep {1}_____ of some of the actions {2}_____ take on Facebook, such as {3}_____ connections (including joining a group {4}_____ adding a friend), creating a {5}_____ album, sending a gift, poking {6}_____ user, indicating you "like" a {7}_____, attending an event, or connecting {8}_____ an application. In some cases you are also taking an action {9}_____ you provide information or content {10}_____ us.

(adding, you , or, when, photo, to, another, track, post, with)

18. Prepare curriculum vitae of the following candidate: K. Mohana, B.E.(ECE), who is applying for a post in a software company.

19. Describe the seven ages in a man's life.

20. *I Am a Cat*, satirizes the foolishness of upper-middle-class Japanese society during the Meiji era – Discuss.

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No of Pages	3

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., (CS / IT) **COURSE CODE : 18U2NED2**

COURSE TITLE : English - II **QN.NO : 0106**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. _____is comparing two things using the words 'as' or 'like' .
   a) metaphor b) Blank verse c) Simile d) Alliteration
2. _____ is not rhymed .
   a) metaphor b) Blank verse c) Simile d) Alliteration
3. Find out the correct synonyms : chop off
   a) Of no use b) to cut away c) to roll d) to make
4. Find out the correct antonyms : ecstatic
   a) Joy b) sad c) cruel d) kind
5. If you play well you _____ the match
   a) win b) will win c) won d) winning
6. If it rained, they_____cancel the magic show
   a)Would b)win c) shall d) should
7. Della has _____
   a) One dollar b) two dollar
   c) one dollar eighty seven cents d) eighty seven cents
8. Small rooms _____the mind ;large rooms distract it, said Leonardo da Vinci
   a) obedience b) discipline c) calm d) ego
9. In Shakespeare's Macbeth , sleep knit up_____
   a) clothes b) the ravelled sleave of care
   c) great Neptune's ocean d) kills the guards
10. In Hamlet, _____ compared to sleep.
    a) life b) breathe c) soul d) death

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Write a short note on Blank Verse

(OR)

b) Write the correct order of the sentences:

I: The main thing that propelled the development of the aeroplanes at such a fast pace was, however, the first and the second world war.

II: An aeroplane was a wonderful invention of its time.

III: But its use as a main means of transport was adopted later only done later.

IV: Some even say that it was one of the greatest inventions of all time.

12. a. Find the meaning for the following expressions:

i) To come to grips with
ii) To come in handy
iii) To come across something
iv)To come out with something
v) To come down to something
vi) To come to pass
vii) To come down

(OR)

b. Find the meaning for the following words:

i) Sob ii) Howl iii) Scream iv) Bawl
v) Yowl vi) Whimper vii) whine

13. a. Rewrite as directed :

i) Seenu is the oldest boy in my class(into positive)
ii) Tiruchi is not so big as chennai (into comparative)
iii) Bharathiyar is one of the most famous poets in Tamilnadu.(into positive)
iv) Leela is taller than mala and sheela(into positive)
v) I am not as poor as you (into comparative)
vi) No other boy is so active as Rama(into superlative)
vii) I am not braver than him(into positive)

(OR)

b. Fill the correct modal auxiliary verbs:

i) People ------- walk on grass.
ii) Drivers ----- stop when the traffic lights are red.
iii) ----- I ask a question? Yes, of course.
iv) You ------ take your umbrella. It is not raining.
v) ------ you speak Italian? No, I can't.
vi) If you want to learn to speak English fluently, you ----- to work hard.
vii) Take an umbrella. It ------ rain later.

Contd…

14. a) According to C.L.N.Prakash , Why and how should we rethink our thinking ?

(OR)

b) Why does the narrator call the two young boys – Nicola and Jacopo, the two gentleman of Verona?

15. a) Write a short note on Window to the mind a Soliloquy from Shakespeare's Hamlet

(OR)

b) Describe the sleep walking scene from Shakespeare's Macbeth

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Write an essay on Heroic Couplets.
17. Expand the proverbs: The pen is mightier than the sword.
18. Read the following passage and answer the questions :

One dollar and eighty seven cents. That was all. And sixty cents of It was in pennies. Pennies saved one and two a at time by bulldozing the grocer and the vegetables man and the butcher until ones cheeks burned with the silent imputation of parsimony that such close dealing implied. Three times Della counted it. One dollar and eighty seven cents. And the next day would be Christmas.

There was clearly nothing left to do but flop down on the shabby little couch and howl. So Della did it. Instigates the moral reflection that life is made up of sobs, sniffles and smiles,wih sniffles predominating, while the mistress of the home is gradually subsiding from the first stage to the second, take a look at the home. A furnished flat a $8 per week. It did not exactly beggar description, but it certainly had that word on the lookout for the mendicancy squad.

i. Who was counting the money?
ii. Did she have a lot of money?
iii. How had she saved that money?
iv. Della did " it." What is that "it"?
v. Why is Christmas mentioned here?
vi. Who is called the mistress of the house?
vii. What is the "second" stage?
viii. Does she live in her own house?
ix. Who, then, is the master of the house?
x. What is mendicancy squad? Why is it mentioned here?

19. Bring out with illustrations, the poverty of Jim, Della as reflected in their flat.
20. Write a critical appreciation of R.H Wood's Post Early Christmas.

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No of Pages	4

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., **COURSE CODE : 3E (Upto 2016)**

COURSE TITLE : English - III **QN.NO : 0123**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The King likes _____ very much .
   a) Dogs b)cats c) horses d) parrots
2. At the end where are Mrs. Parker and her son going ?
   a) America b) Austria c) Africa d) Australia
3. Mathilde's husband was a little clerk in the _____
   a) Ministry of Defence b) Ministry of Education
   c) Ministry of commerce d) Ministry of Agriculture
4. _____ struck Mohan Lal on the face
   a) Bill b) Latchmi c) Jim d) The Guard
5. Find out the right indirect speech :He says, "I am unwell."
   a) He says I was well b) He says that he is unwell
   c) He says he is well d) He is well
6. Find out the right complex sentence : Amol took me out to lunch. I went to see Amol.
   a) Amol took me out to lunch when I went to see him.
   b) Amol took me out to lunch I went to see him.
   c) Amol took me out to lunch when I went to see
   d) Amol take me out to lunch when I went to see him.
7. A short meeting _____lists the ultimate meeting goal
   a) Minutes b) irony c) circular d) agenda
8. _____is the statutory record of the business transacted, decisions taken and resolutions passed in a meeting.
   a) Agenda b) Minutes c) circular d) Advertisement
9. A _____ details the whole course of the candidate's academic career
   a) VC b) CV c) resume d) agenda
10. A _____ summarizes skills and work experience
    a) Resume b) letter c) confidence d) writing

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11.a) Describe the roles of the two ladies in the court.

(OR)

b) Give a brief account of the parts of Tom and Alec in the play.

Contd…

12.a) Show that Latchmi is a typical Indian wife.

(OR)

b)Write about the King's experience with the hermit

13.a) Change into Simple sentences

1. You must work hard or you will not pass the exam.
2. The doctor admitted that he was helpless.
3. No one likes a man who tells lies.
4. I shall look after her as she stays here.
5. The more you earn, the more you should save.
6. You must observe austerity, or you will not become morally strong.
7. This book is not beautifully printed, but is free from mistakes also.

(OR)

b) Change into Compound sentences

1. He could not win a scholarship due to his carelessness.
2. If you do not leave this room, I will compel you to do so.
3. Feeling satisfied with his work, the Principal offered a permanent job.
4. The sun having risen, the fog disappeared.
5. You must run very fast to win the race.
6. Everybody knows that man is mortal.
7. If I am right, I should be supported.

14.a) Read the following passage and make a notes of the passage

The term dietary fibres refers collectively to indigestible carbohydrates present in plant foods. The importance of these dietary fibres came into the picture when it was observed that the people having diet rich in these fibres, had low incidence of coronary heart disease, irritable bowel syndrome, dental caries and gall stones.The foodstuffs rich in these dietary fibres are cereals and grains, legumes, fruits with seeds, citrus fruits, carrots, cabbage, green leafy vegetables, apples, melons, peaches, pears etc.

These dietary fibres are not digested by the enzymes of the stomach and the small intestine whereas most of other carbohydrates like starch and sugar are digested and absorbed. The dietary fibres have the property of holding water and because of it, these get swollen and behave like a sponge as these pass through the gastrointestinal tract. The fibres add bulk to the diet and increase transit time in the gut. Some of these fibres may undergo fermentation in the colon.

In recent years, it has been considered essential to have some amount of fibres in the diet. Their beneficial effects lie in preventing coronary heart disease, and decreasing cholesterol level. The fibres like gums and pectin are reported to decrease postprandial (after meals) glucose level in the blood. These types of dietary fibres are recommended for the management of certain types of diabetes. Recent studies have shown that the fenugreek

Contd…

(Methi) seeds, which contain 40 per cent gum, are effective in decreasing blood glucose and cholesterol levels as compared to other gum containing vegetables.

Some dietary fibres increase transit time and decrease the time of release of ingested food in colon. The diet having less fibres is associated with colon cancer and the dietary fibres may play a role in decreasing the risk of it.The dietary fibres hold water so that stools are soft, bulky and readily eliminated. Therefore, high fibre intake prevents or relieves constipation.

The fibres increase motility of the small intestine and the colon and by decreasing the transit time there is less time for exposure of the mucosa to harmful toxic substances. Therefore, there is a less desire to eat . and the energy intake can be maintained within the range of requirement. This phenomenon helps in keeping a check on obesity. Another reason in helping to decrease obesity is that the high-fibre diets have somewhat lower coefficients of digestibility.

The dietary fibres may have some adverse effects on nutrition by binding some trace metals like calcium, magnesium, phosphorus, zinc and others and therefore preventing their proper absorption. This may pose a possibility of nutritional deficiency especially when diets contain marginal levels of mineral elements. This may become important constraints on increasing dietary fibres. It is suggested that an intake of 40 grams dietary fibres per day is desirable.

(OR)

b) Read the following passage and make a précis of the passage.

Effective speaking depends on effective listening. It takes energy to concentrate on hearing and to concentrate on understanding what has been heard. Incompetent listeners fail in a number of ways. First, they may drift. Their attention drifts from what the speaker is saying. Second, they may counter. They find counter-arguments to whatever a speaker may be saying. Third, they compete. Then, they filter. They exclude from their understanding those parts of the message which do not readily fit with their own frame of reference. Finally, they react. They let personal feelings about a speaker or subject override the significance of the message which is being sent.

What can a listener do to be more effective? The first key to effective listening is the art of concentration. If a listener positively wishes to concentrate on receiving a message his chances of success are high.

It may need determination. Some speakers are difficult to follow, either because of voice problems or because of the form in which they send a message. There is then a particular need for the determination of a listener to concentrate on what is being said.

Concentration is helped by alertness. Mental alertness is helped by physical alertness. It is not simply physical fitness, but also positioning of

Contd..

the body, the limbs and the head. Some people also find it helpful to their concentration if they hold the head slightly to one side. One useful way for achieving this is intensive note-taking, by trying to capture the critical headings and sub-headings the speaker is referring to.

Note-taking has been recommended as an aid to the listener. It also helps the speaker. It gives him confidence when he sees that listeners are sufficiently interested to take notes; the patterns of eye-contact when the note-taker looks up can be very positive; and the speaker's timing is aided- he can see when a note-taker is writing hard and can then make effective use of pauses.

Posture too is important. Consider the impact made by a less competent listener who pushes his chair backwards and slouches. An upright posture helps a listener's concentration. At the same time it is seen by the speaker to be a positive feature amongst his listeners. Effective listening skills have an impact on both the listener and the speaker.

15.a) Write minutes of the meeting of HODs and principal to discuss the celebration of college Annual day function

(OR)

b) Draft an advertisement for a new Television showroom.

PART – C **(3x10=30)**

Answer any THREE questions

16.Bring out in detail the humour in the play Post Early for Christmas.

17.What were the various helps the Happy Prince did for the people?

18.Rewrite the sentence into indirect speech

1. He said, "Alas! I am undone".
2. Alice said, "How clever I am?"
3. He said, "Bravo! You have done well."
4. "So help me, Heaven!" he cried, "I will never steal again".
5. He said to me, "What are you doing?"
6. A stranger asked me, "Where do you live?"
7. The Policemen said to us, "Where are you going?"
8. She said to him, "I do not believe you."
9. He says, "I have passed the examination."
10. He said, "Be quite and listen to my words".

19. Write a report on the celebration of world environment day in your locality.

20. Write a resume for the post of assistant professor of English in a reputed college

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., **COURSE CODE : 4E (Upto 16)**

COURSE TITLE : English-IV **QN.NO : 0124**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 1 = 5)

Answer all Multiple choice questions by choosing the correct option.

1.'Pygmalion' is a _____play that examines a social issue
a) Tragedy b) Comedy c) Problem d) Romantic

2. The story 'Narayanpur Incident'begins on _____when the Quit India resolution was passed in Bombay.
a) August 8, 1942 b) August 7, 1942 c) August 9, 1942 d) August 1, 1942

3.Dialogue Writing is a/an _____ one
a) Active b) Passive c) Both (a) & (b) d) None of these

4. The most important trait for an effective presentation is _____
a) Clarity b) Unit c) Coherence d) Purpose

5. Eye contact is a form of _____ communication
a) Verbal b) Non-verbal c) Oral d) None of these

PART – B (10 x 1 = 10)

Answer all questions .

6. How many acts does the play 'Pygmalion' has?
7. Who wrote the play 'Pygmalion'?
8. What is the theme of the story the 'Narayanpur incident'?
9. Which historical event is mentioned in the Narayanpur incident?
10. Point out the four types of dialogue.
11. What is a Proverb?
12. Why is powerful presentation needed?
13. Who is interviewer?
14. What do you mean body language?
15. How many participants are generally there in group discussion?

PART – C (5x 6 = 30)

Answer all questions by choosing either (a) or (b).

16. a) Write on a short note about the relationship between 'Higgins' and 'His Mother'

(OR)

b) Write on the role played by 'Eliza Doolittle' in 'Pygmalion'

17. a) Give an account of the significance role played by 'Patil' SI, in the 'Narayanpur Incident'?

Contd

(OR)

b) Whom you think is the hero of the 'Narayanpur Incident' – Why?

18.a) **Spot the error in the following sentence**

i. I am / always / clever in / pinting
(a) (b) (c) (d)

ii. My mother/ is angry / against / me
(a) (b) (c) (d)

iii. He / is / got / headache
(a) (b) (c) (d)

iv. They has / been working / here / since 2000
(a) (b) (c) (d)

v. They / told to me / to bring / their book
(a) (b) (c) (d)

vi. I have / the habit / of writing / Dairy
(a) (b) (c) (d)

vii. I must / congratulate / you for / your success
(a) (b) (c) (d)

(OR)

b) You are a student representative of you college. You want to organize a cultural event in your college. How do you get permission from your college Princlpal? Write a dialogue on that.

19. a) Write a short note on powerful Presentation

(OR)

b) Explain shortly the 'Telephone Communication Skills' that improve customer service

20. a) Write on the importance of body language

(OR)

b) How can one develop one's personality?

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

21. Why do you think that 'Higgins' and 'Eliza' should never marry? Or do you think that they should marry? Explain.
22. How thewriter ShasiDeshpande creates a sense of danger and tension in the story 'The Narayanpur Incident' to show us what is at stake - Explain with examples.
23. Expand the proverb in detail –"Where there is a will there is a way"
24. If you want to be hired what are the important interview skills You need – Pointsout
25. Write a Group Discussion on the topic "Challenges faced by the online classes & online exams".

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., **COURSE CODE : 17U1NEN1**

COURSE TITLE : English - I **QN.NO : 0125**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Garish means _____

a) pleasantly bright b) unpleasantly bright

c) bright d) dull

2.The poem 'Mending Wall' presents _____different attitudes to life.

a) one b) two c)three d) four

3.Falstaff is an immortal comic character created by _____

a) Ben Jonson b) Sheridan c) Shakespeare d) Marlowe

4.Leacock refused to accept the photograph because it was_____ him

a) distasteful b) different from c) costly for d) face

5. Always remember what I told you. Identify the sentence .

a) Assertive b) Imperative c) exclamatory d) Interrogative

6. Identify the right synonym among the given option: miracle

a) minor change b) wonder c) misery d) happy

7. Identify the right antonyms among the given option: contract

a) decorate b) increase c) expand d) large

8. Caroline sometimes puts nail varnish on her _____ nails.

a) tow b) toe c) too d) tour

9. Write the one word substitution: A person who sells and arranges cut flowers_____

a) buyer b) florist c) seller d) broker

10. Dogs wag their _____ when they are happy.

a) tale b) tails c) tall d) tailor

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11.a How does Emily Dickinson depict the bird ?

(OR)

b. Explain the symbolic description in the poem Mending wall

12.a.How did Leacock react when he saw his photograph?

(OR)

b.What are the different drugs mentioned by Hardin?

13.a Complete the following sentences using appropriate articles. In some cases, no articles are needed.

1. This book has won **----** Booker prize.
2. Harishchandra was **----------** honest king.
3. I am--------- fond of classical music.
4. I met **--------**boy in the store.
5. Gold is **------** precious metal.
6. She returned after **---------** hour.
7. There is **---------** institution for the blind in this city.

(OR)

b. Fill in the blanks with an appropriate preposition.

1. We should arrive **-----** their place in time for lunch.
2. They live --------- a small one bedroom flat on the third floor.
3. Granny is arriving **----------** the 3.30 train.
4. Last year, there were a large number of mangoes **----------** the tree.
5. His house is **-------** the way from Mumbai to Thane.
6. He met and fell in love with a French girl when he was **-------** the London School of Economics.
7. A few days after the accident she died **--------** the injuries.

14. **a. Choose the correct antonyms of the *italicized* words from the following sentences:**

1. A hero here is so ***rude.***
   a. rough b. courageous c. polite d. righteous
2. Ambition should be made of ***sterner*** stuff.
   a. arrogant b.softer c.courageous d.smooth
3. He is an ***honourable*** man.
   a.malicious b.dishonourable c.cautious d.kind hearted
4. ***Ingratitude*** more stronger than traitors.
   a.harsh b. thankless c.gratitude d.stern
5. For I have neither***wit*** nor write.
   a. intelligence b.humour c.shrewdness d.ignorance
6. Woman has developed an ***inferiority*** complex.
   a.equality b. superiority c. lower d.authoritative

Contd…

7. she is ***timid***.
   a.active b.bold c.passive d.useless

(OR)

b. Choose the correct Synonyms of the *italicized* words from the following sentences:

1. Go and ***fetch*** some water.
   a. bring b. gave c. buy d. sell
2. Ram was ***squashed***.
   a. saved b. crushed c. met d. attacked
3. Their eyes sockets were ***hollow***.
   a. full b. dark c. damaged d. empty
4. Men of genius conducted ***obscure*** experiments.
   a. well-known b. complicated c. unknowm d. scientific
5. To liberate the ***ultimate*** power in nature.
   a. initial b. final c. external d. closest
6. He played a ***majestic*** role in a drama.
   a. proud b. sad c. villain d. impressive
7. There are ***numerous*** shops available in the bazaar.
   a. many b. some c. few d. little

15.a. Develop the following hints:-
Six people-go-on pilgrimage–cross river-"Are all of us safe?"–each one count's others-only five–worried-returns –wants to count again–another man counts– all six safe– "the man lost in the river is back with us.

(OR)

b. Read the following passage and answer the questions :

One dollar and eighty seven cents. That was all. And sixty cents of It was in pennies. Pennies saved one and two a at time by bulldozing the grocer and the vegetables man and the butcher until ones cheeks burned with the silent imputation of parsimony that such close dealing implied. Three times Della counted it. One dollar and eighty seven cents. And the next day would be Christmas.

There was clearly nothing left to do but flop down on the shabby little couch and howl. So Della did it. Instigates the moral reflection that life is made up of sobs, sniffles and smiles, with sniffles predominating, while the mistress of the home is gradually subsiding from the first stage to the second, take a look at the home. A furnished flat a $8 per week. It did not exactly beggar description, but it certainly had that word on the lookout for the mendicancy squad.

i. Who was counting the money?
ii. Did she have a lot of money?
iii. How had she saved that money?
iv. Della did " it." What is that "it"?
v. Why is Christmas mentioned here?
vi. Who is called the mistress of the house?
vii. What is the "second" stage?

Contd…

PART – C (3 x 10 = 30)

Answer any THREE questions.

16.Show that the poem The Unknown Citizen is a satire on the bureaucratic society

17.Narrate how Gardiner presents humourously losing the umbrellas and books.

18. Identify the Kinds of Sentence :

1. Please leave your footwear outside.
2. Will you wait here?
3. Where have you been all this while?
4. We will not tolerate this.
5. I am your friend.
6. My sister lives in Mexico.
7. What did you do then?
8. Do be a bit more careful.
9. Never speak to me like that again.
10. The ball rolled slowly into the goal.

19. Write the one word substitution

a) The Government wing responsible for making Rules
b) Life history of a person written by that person
c) One who does not take any alcoholic drink
d) A speech delivered without any previous preparation
e) A disease which attacks many people in a particular area in one time
f) A person who introduces the performers or contestants in a variety show
g) One who presents a radio programme
h) An artist who makes sculptures.
i) A person who compiles dictionaries
j) One who supervises in the examination hall

20. Write a letter to the Commissioner of Police, New Delhi, complaining about the rising rate of Covid 19 in the city.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., **COURSE CODE : 17U2NEN2**

COURSE TITLE : English - II **QN.NO : 0126**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. The poem "Australia" is written by _____.
(a) A.D. Hope (b) Kamala Das (c) Achebe (d) K.N. Daruwala
2. _____ is a Nigerian poet.
(a) Chinua Achebe (b) Kamala Das (c) A.D. Hope (d) K.N. Daruwala
3. _____ is a kind man who does not wish any harm on others in "Sweets for Angels"
(a)Kali (b) Rose (c) Royer (d) Ozymandias
4. A. J. Cronin is a _____ who shared his experience to overcome fear and depression.
(a) Medical doctor (b) engineer (c) poet (d) novelist
5. Choose the correct question tag:
We are going to Chennai tomorrow.
(a) Aren't we? (b) Are we? (c) can't we? (d) can we?
6. Choose the correct tense form:
She _____ (write) a letter to her mother now.
(a) wrote (b) writes (c) write (d) written
7. Complete the following sentence:
She has been working as an Assistant Professor _____.
(a) From 1997 (b) since 1997 (c) on 1997 (d) at 1997
8. If you work hard, you will _____ .
(a) Have passed (b) pass (c) passed (d) be passed
9. Write the correct sentence from the jumbled words:
Now/ start/ going to/ are/ we/ programme / start the

(a) We are going to start now the programme
(b) Are we going to start the programme now
(c) We are going to start the programme now
(d) We are now going to start the programme.
10. A _____ is a brief piece of writing that's around seven to ten sentences long. It has a topic sentence and supporting sentences.

Contd...

(a) Essay (b) short story (c) paragraph (d) poetry

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11 (a). Bring out the theme of K.N.Daruwalla's "The Epiteptic."

(or)

(b) How does Kamala Das show her Grandmother's house?

12 (a). Bring out the irony in "Travel by Train"?

(or)

(b) Comment on Robert Lynd's essay "Forgetting."

13 (a). Write question tags for the following:

1. She is a teacher.
2. The children are playing.
3. The players are not practicing.
4. We can attend the meeting.
5. Tomorrow is a working day.
6. Kannan was absent yesterday.
7. Vimala goes to college today.

(or)

(b). Change the **active voice** into **passive voice**:

1. Harry ate six shrimp at dinner.
2. Beautiful giraffes roam the savannah.
3. Sue changed the flat tire
4. We are going to watch a movie tonight.
5. I ran the obstacle course in record time.
6. The crew paved the entire stretch of highway.
7. Mom read the novel in one day.

14 (a). Write the correct answers from the given words:

1. Each ____ a trophy for playing.
2. Somebody_____ for this.
3. Anybody _____ more fun than you.
4. Something _____very wrong here.
5. Everybody _____ a good book.
6. Nothing _____ been determined as of yet.
7. My mom or dad ____ coming to the play.

(will pay, is gets, has is, enjoys, is)

(or)

(b). Write a paragraph on the use of "Concord."

15 (a). Write a meaningful sentence out of the jumbled words:

1. love / of others / good manners / and / win the / respect
2. when / best / they can / one is / be learnt / young
3. saves us / turns away / soft answer / anger and / a / a pitfall / from many

Contd...

4. who is / stranger / respectful / a person / even / like
5. sure / in life / they / passport / are a / for success
6. and space / conquered / air time / we have / help of / with the / scientific inventions
7. inventions / armed / which are / has / miracles / science / man with / not less than

(or)

(b). Write a paragraph on reading skills.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Write an essay on the poem "Refugee Mother and Child."
17. How does the author describe "Australia"?
18. Write an essay on R.K.Narayanan's "Sweets for Angels."
19. Sketch the Character of the women mentioned by J.B.Priestly in "Travel by Train."
20. Write logical sentences out of the jumbled sentences:
    1. the in playing the are park children
    2. time did much the you yesterday spend how in library
    3. song in beginning the a lovely the sang of school we play
    4. park I go the meet friends to and my tomorrow will
    5. feeling was so she why depressed
    6. overcome they to determined those are challenges
    7. like would book you to read this
    8. Maria and visited the summer countryside during Anita the vacation John
    9. puppy was bowl food and the ate all the placed the hungry in
    10. the program John quiz participated in

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., **COURSE CODE : 17U3NEN3**

COURSE TITLE : English - III **QN.NO : 0127**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Tom and Alec told that _____ convicts have escaped from the prison
   (a) Two (b) Three (c) Four (d) Five
2. Terry Fallis's novel 'The Best Laid Plans' is a satirical take on the ____political system.
   (a) Indian (b) Canadian (c) African (d) American
3. Mathilde was born into a family of _____
   (a) Scientists (b) Doctors (c) Engineers (d) Clerks
4. The story of the 'Happy Prince'states the theme of the _____
   (a) Social injustice (b) Happy life (c) Unhappy Life (d) Life of bird
5. He told me _____close the door. (Choose the correct answer)
   (a) that (b) to (c) if (d) whether
6. He asked me "what is your name"? (choose the correct answer)
   (a) He asked me what my name was (b) He asked me what was my name
   (c) He asked me my name what (d) None of these are correct
7. _____ is an information tranfer skill
   (a) Note Making (b) Precis writing
   (c) Report writng (d) Letter writing
8. _____ is a short form of the text and gives only the important parts
   (a) Summary writing (b) Precis writing (c) Report writng (d) Circlar
9. _____ is essentially a letter containing some important information that is distributed to a large number of people
   (a) A circular (b) A Notice (c) A Mail (d) None of these
10. An advertisement is the promotion of a product, brand or service to a viewership in order to attract _____
    (a) Interest of the product (b) engagement
    (c) sales (d) All of These

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. (a) Write briefly on Joe's foolishness and how that helps the criminals'escape

    (OR)

    (b) Explain the robbery scene in the play 'The Best Laid Plans' byMitchell
12. (a) Comment on how the course of the Loisel's life changed due to the necklace.

Contd…

(OR)

(b) What were the Hermit's answers to the three questions? Write each answer separately. Which answer do you like most, and why? Explain shortly

13. (a) **Change the Direct Sentence into Indirect Sentence**

i. He said, "I will come tomorrow".
ii. We told, "You are Lucky".
iii. She said to me, "Bring your book" .
iv. Teacher said, "You are all good".
v. Ravi Said, "Who are you?"
vi. He asked me, "Will you come tommorrow?"
vii. My friend said, "Is it your book?"

(OR)

(b) **Change the Indirect Sentence into Direct Sentence**

i. We told that we were happy.
ii. They asked me where the address was.
iii. He asked my sister what her name was.
vi. The manager said to his workers that they would come with them
v. They requested me to open the door
vi. We orderd him to bring a cub of coffee
vii. They said to them that they did not do the mistake again

14. (a)Precise the following

Dolphin is the common name of aquatic mammals within the infraorder Cetacea. The term dolphin usually refers to the extant families Delphinidae, Platanistidae, named Iniidae and Pontoporiidae and the extinct Lipotidae There are 40 extant species named as dolphins. Dolphins range in size from the relatively small 1.7-metre-long and 50-kilogram . Dolphins can sometimes leap about 30 feet. Several species of dolphins exhibit sexual dimorphism, in that the males are larger than females. They have streamlined bodies and two limbs that are modified into flippers. Though not quite as flexible as seals, some dolphins can travel at speeds 29 kilometres per hour for short distances. Dolphins have well-developed hearing which is adapted for both air and water and is so well developed that some can survive even if they are blind. Some species are well adapted for diving to great depths. They have a layer of fat, or blubber, under the skin to keep warm in the cold water.

(OR)

(b) In your place, A boy at the age of 13 invent a small satellite. It gives amazement to you. Write a report to send a famous newspaper to inform his invention and its use of space.

15. (a) Assume you are a Post Graduate in English. You want to apply for the post of lecturer in polytechnic college. Write on how would you prepare your Resume

(OR)

(b)In your college, sports day is going to be celebrated in a grand manner. As a representative of your college how would you prepare a Notice

Contd…

PART – C (3x10=30)

Answer any THREE questions

16. Summarise the play 'The King Who Limped' by Monica Thorne
17. Justify the title of the story 'Karma'?
18. **Change the Following Sentences**
    i. The Cheif guest arrived and the meeting begun (Compound into Simple)
    ii. As the sun went behind clouds it became dark (Complex into compound)
    iii. He is very rich, but lives like a pauper (Compound into Complex)
    iv. Despite a talented painter he failed to make a mark(Simple into Compound)
    v. Somebody pulled the chain and the train stopped (Compound into Complex)
19. Prepare Note - Making of the following

    Colour Therapy is a complementary therapy for which there is evidence dating back thousands of years to the ancient cultures of Egypt, China and India. If we define it in simple terms, Colour is a light of varying wavelengths, thus each colour has its own particular wavelength and energy. Colours contribute to energy. This energy may be motivational and encouraging. Each of the seven colours of the spectrum are associated with energy. The energy relating to each of the seven spectrum colours of red, orange, yellow, green, blue, indigo and violet, resonates with the energy of each of the seven main chakras/energy centres of the body. Colour therapy can help to re-balance and/or stimulate these energies by applying the appropriate colour to the body.Red relates to the base chakra, orange the sacral chakra, yellow the solar plexus chakra, green the heart chakra, blue the throat chakra, indigo the brow chakra (sometimes referred to as the third eye) and violet relates to the crown chakra. Colour is absorbed by the eyes, skin, skull, our 'magnetic energy field' or aura and the energy of colour affects us on all levels, that is to say, physical, spiritual and emotional. Every cell in the body needs light energy - thus colour energy has widespread effects on the whole body.

20. You want to sell your car for a reasonable price as it is of a single owner. Draft a suitable advertisement to the following situation.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., **COURSE CODE : 17U4NEN4**

COURSE TITLE : English-IV **QN.NO : 0128**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. What is the name of the flower girl in G.B.Shaw's Pygmalion?
   a) Mary Doolittle b) Eliza Doolittle
   c) Helena Doolittle d) Nancy Doolittle
2. From which myth has Bernard Shaw taken the source for his play
   a) Indian b) Chinese c) Greek d) Italian
3. What was the time of the setting of the Narayanpur incident?
   a) Greek period b) Buddhist period
   c) British period d) Mughal period
4. The Narayanpur Incident with national movement as its theme is meant for:
   a) Indian freedom fighters b) British
   c) Women d) Children
5. Spot the error in the statements below:
   a) Childrens played football b) The police has come
   c) A girls reads book d) He jumped on well.
6. Complete the proverbs:
   a) All good things _____ b) An idle brain is the _____
   c) All that glitters is not _____ d) A bird in the hand two in the _____
7. What is very important in a telephone conversation?
   a) Body language b) Eye contact
   c) Tone d) Listening
8. A complete personality development includes growth of
   a) Body and mind b) Physical strength
   c) Mental ability d) Attitude
9. Leadership qualities are tested in a
   a) Presentation b) Group discussion
   c) Speaking skill d) Writing skill
10. Wearing new cloths and new foot wear is not desirable in attending a
    a) Group discussion b) party c) class room d) interview

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Mention some of the important tips of a good presentation.

(OR)

b) How does body language constitute to a good communication.

12. a) Give a brief outline of the Greek myth Pygmalion.

(OR)

b) How does Shaw's Pygmalion differ from the Greek myth.

13. a) Comment on the theme of Shashi Dashpande's The Narayanpur incident.

(OR)

b) Frame three conversations between two friends who get into the same job.

14. a) What are the important factors to be followed in a telephone conversation?

(OR)

b) Mention some of the tips to face an interview.

15. a) What are the do's and don'ts of a Group Discussion?

(OR)

b) How is a group discussion important in an interview?

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Bring out the irony of English language learning as Shaw had portrayed in Pygmalion.

17. Write an essay on the significance of the title The Narayanpur Incident.

18. Write an essay on the do's and don'ts of presentation skills.

19. What is meant by personality development in complete sense.

20. Write an essay on the importance of soft skills in the job market.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., Professional Accounting **COURSE CODE : 17U1AAC1**

COURSE TITLE : Business Statistics **QN.NO : 0207**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Statistics deals with aggregates of
   a) Figures b) Number c) Facts d) Falls
2. Which sample survey is popular?
   a) Stratified sample b) Cluster sample
   c) Multi-stage sampling d) Quota sample
3. Given mean 25, mode 24,the median would be
   a) 25.5 b) 24.67 c) 24.5 d) 24.33
4. Arithmetic mean is greater than
   a) Mean b) Geometric mean c) Median d) Mode
5. Quartile deviation is otherwise called as ____
   a) Quartile range b) Inter quartile range
   c) Intra quartile range d) Skewness
6. The concept if standard deviation is introduced by_____
   a) Pearson b) Karl Pearson
   c) Kal Pearson d) Kar Peerson
7. Which is a method of measuring correlation____
   a) Graphic Correlation b) Scatter diagram
   c) Karl Pearson's coefficient d) All of these
8. The rank correlation coefficient was developed by____
   a) Karl Pearson b) Spearman c) Bowley d) Rank
9. Sir Francis Galton first introduced regression in the year _____
   a) 1800 b) 1877 c) 1899 d) 1822
10. The ratio of the average deviations is called___
    a) Correlation b) Skewness c) Regression d) Kurtosis

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Elaborate the applications of statistics in various fields.

(OR)

b) Explain the various types of diagrams with examples.

12. a) Find out mean from the following data.

Roll no	1	2	3	4	5	6	7	8	9	10
Marks	21	30	28	40	26	34	40	9	15	57

(OR)

b) Calculate Geometric Mean

50	72	54	82	93

13 .a Calculate range and Co- efficient of range:

Contd…

Day	Monday	Tuesday	Wednes day	Thursday	Friday	Saturday
Price Rs	300	350	290	305	360	280

(OR)

b) Calculate Standard from the following data.

Marks(x)	10	20	30	40	50	60
No.of.Students(f)	8	12	20	10	7	3

14. a) Describe the Scatter diagram method of correlation with its merits and demerits

(OR)

b) a random sample of 5 college students is selected and their grades in Mathematics and statistics are found total.

X	85	60	73	40	90
Y	93	75	65	50	80

Calculate spearman's rank correlation coefficient.

15. a) Find regression lines by using assumed mean:

X	40	38	35	42	30
Y	30	35	40	36	29

(OR)

b) From the following data, calculate the value of Y when X=12.

	X	Y
Average	7.6	14.8
Standard Deviation	3.6	2.5

Correlation coefficient(ɣ)

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain the different methods of collection of primary data.
17. Find out the mode from the following series.

x	0-5	5-10	10-15	15-20	20-25	25-30	30-35
Frequency	1	2	5	14	10	9	2

18. From the following table, the Quartile Deviation as well as its co-efficient.

Size	4-8	8-12	12-16	16-20	20-24	24-28	28-32	32-36	36-40
Frequency	6	10	18	30	15	12	10	6	2

19. Compute the co-efficient of correlation between X and Y.

X	10	12	18	8	13	20	22	15	5	17
Y	88	90	94	86	87	92	96	94	88	85

20. Estimate the value of X corresponding to Y=200 from the following data:

X	200	248	297	338	463	393
Y	137	147	184	196	276	260

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., Professional Accounting **COURSE CODE : 17U1ASM1**

COURSE TITLE : Applied Statistical Tools **QN.NO : 0209**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The index number which studies the net relative change in the volume of goods is called
   (a) price index (b) quantity index
   (c) value index (d) none
2. Fisher's ideal index satisfies ……..
   (a) Time reversal test (b) factor reversal test
   (c) circular test (d) both time and factor reversal tests.
3. The general tendency of data to grow or decline over a long period of time is.
   (a) secular trend (b) seasonal variation
   (c) cyclical variation (d) Irregular variation
4. Any kind of variation which is periodic in nature and repeats within short duration is called ……..
   (a) cyclical variation (b) seasonal variation
   (c) Irregular variation (d) none
5. Trend has been measured to find out
   (a) growth factor (b) rate of change
   (c) estimate future (d) All of the above
6. …… event refers to all possible outcomes a random experiment
   (a) Exhaustive (b) Equally likely
   (c) mutually exclusive (d) none of the above
7. When two or more events take place simultaneously their occurrence is known as …….. events.
   (a) Dependent event (b) Independent event
   (c) simple event (d) compound event
8. The process of combining two indices is known as …….
   (a) base shifting (b) splicing
   (c) Deflating (d) none
9. Given annual trend equation Y = 75 + 69.5 X Hence, quarterly trend equation is
   (a) Y = 6.25 + 0.48 X (b) Y = 1.04 + 0.97 X
   (c) Y = 6.25 + 0.84 X (d) Y = 18.75 + 1.45 X

Contd…

10. Annual trend equation Y = 50 + 59.5 X, the monthly trend equation is

(a) Y = 4.17 + 0.41 X (b) Y = 12.5 + 1.24 X

(c) Y = 50 + 4.95 X (d) Y = 4.17 – 0.41 X

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.(a) Explain the usefulness of index numbers.

(OR)

(b) Distinguish between chain base method and fixed base method.

12.(a) Construct cost of living index from the following indices, the weights being food 60, rent 20, clothing 25, fuel and miscellaneous 5.

Year	Food	Rent	Clothing	Fuel	Misc
2000	100	100	100	100	100
2001	105	104	96	102	105
2002	115	110	98	104	115
2003	120	112	102	105	125

(OR)

(b) Construct the consumer price index for 2001 on the basis of 2000 from the following data using the aggregate expenditure method.

Commodities	Qty. consumed in 2000	Units Qty.	Price in 2000	Price in 2001
Rice	5 Qtl	Qtl	500	650
Fire wood	10 mds.	mds.	120	180
Ghee	4 seers	seer	60	70
Kerosene	5 tins	tin	70	80
Clothing	10 meters	meter	30	40

13.(a) Following figures relate to the sales of a company for 10 years. Calculate five yearly moving average and determine trend values.

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Sales (Rs in '000)	29	37	44	39	46	49	62	54	49	51

Also find short – term fluctuations.

(OR)

(b) The following data gives the world production of Gold. Fit a straight line trend by the method of least square. Also estimate the production of gold for the year 2008.

Year	1998	1999	2000	2001	2002	2003	2004
Production (in crore ounces)	127	101	130	132	126	142	137

14.(a) A bag contains 2 white and 3 black balls. Four persons A, B, C and D in that order draw one ball and do not replace it. The person who draw a white ball is to receive Rs. 200. Determine their respective expected gain.

Contd…

(OR)

(b) In a business venture a man can make a profit of Rs. 1000 with probability of 0.8 or suffer a loss of Rs. 400 with a probability of 0.2. Determine his expected profit.

15.(a) The mean of the Poisson distribution is 3.5. Calculate a) Standard deviation b) Skewness and c) Kurtosis.

(OR)

(b) If on an average 8 ships out of 10 arrive safely at Tuticorin port, find the mean and standard deviation of the ships arriving safely out of a total of 1600 ships.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Discuss the problems of construction of index number.

17. Construct quantity index numbers from the following data by

(i) Laspeyre's method

(ii) Paasche's method and

(iii) Fisher's method

Year	Commodity A		Commodity B		Commodity C	
	Price	Quantity	Price	Quantity	Price	Quantity
2002	10	20	16	12	12	6
2004	8	24	14	14	10	8

18. Find out the seasonal fluctuation from the following time series by the simple average method.

Year	Quarterly Sales (Rs. in '000)			
	I	II	III	IV
1999	65	58	56	61
2000	68	63	60	69
2001	70	67	68	66
2002	67	62	60	64
2003	70	60	66	70

19. In a business venture a man can make a profit of Rs. 1000 with probability of 0.8 or suffer a loss of Rs. 400 with a probability of 0.2. Determine his expected profit.

20. Fit a normal curve to the following data and calculate the theoretical frequencies by 'area method' .

Height (Inches)	Number of student.
59.5 - 62.5	5
62.5 – 65.5	18
65.5 – 68.5	42
78.5 – 71.5	27
71.5 – 74.5	8
	100

Given that X = 67.45 and o-- = 2.92.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., Professional Accounting **COURSE CODE : 17U2AMC3**

COURSE TITLE : Financial Accounting - II **QN.NO : 0213**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The amount of Credit Sale is ascertained by ——
(A) Preparing Total Debtors Account (B) preparing Trading Account (C) statement of affairs (D) All of the above.

2. —— method does not provide a clear picture of the operating results of a business.
(A) Cash Book (B) Net worth (C) Conversion
(D) None of the above.

3. Revaluation Account is a ——
(A) Nominal Account (B) Real Account (C) personal Account
(D) All of the above.

4. To provide funds to pay to the deceased Partner's heirs in case of death of a Partner, the Partners generally ——
(A) create a Sinking fund (B) Take a Joint life policy
(C) Create a Reserve fund (D) open a separate bank account

5. On dissolution of a firm Cash in hand is transferred to ——
(A) Realisation Account (B) capital Accounts of the Partners in profit sharing ratio (C) cash Account.
(D) creditors Account.

(P.T.O)

6. unrecorded liability paid at the time of dissolution is to be debited to ____ account
(A) Reserves Account (B) Cash Account (C) Creditors Account (D) Realisation

7. ____ transactions Accelerate Industrial growth.
(A) Leasing (B) Financing (C) Cash (D) None of the above.

8. The Provisions of the ____ apply to lease contracts.
(A) standard (B) agreement (C) Contract Act
(D) All of the above

9. The mathematical Process involved in the computation of average due date is known as ____
(A) Equation of date (B) Equation of payments
(C) Equation of credit (D) All of the above.

10. ~~Black~~ Backward method of calculating the number of days for account current is otherwise known as ____
(A) Counted method (B) Epoque method (C) Periodical Balance method (D) None of the above.

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b)

11. (A) Distinguish between statement of affairs and Balance sheet in detail.

(P.T.O)

(OR)

11(b) Mr. Jain commenced business on 1/1/2017 with a capital of Rs. 25,000. He immediately bought furniture for Rs. 4000 During the year, he borrowed Rs. 5000 from his friend and introduced a furthur capital of Rs. 3000. He has withdrawn Rs. 600 at the end of each month for personal expenses. from the following information, you are required to prepare Trading and Profit & Loss A/c and Balancesheet as on 31/12/2017.

Sales (Including Cash sales of Rs. 30,000)	1,00,000
Purchases (Including Cash purchases of Rs. 10,000)	75,000
Carriage	700
Wages	300
Discount allowed to debtors	800
Salaries	6200
Bad debts written off	1500
Trade expenses	1200
Advertisement	2200

Rama has used goods worth Rs. 1300 for Private purposes and Paid Rs. 500 for personal expenses which is not recorded anywhere. On 31/12/2017, his debtors were worth Rs. 21,000 creditors Rs. 15,000 and stock in trade Rs. 10,000. Furniture to be depreciated at 10% per annum.

12(a) Describe the need for valuation of Goodwill.

(OR)

12(b) Ram and Ravi are Partners in a firm sharing Profit and Loss as 3:1. Their capitals on 1/1/2016 amounted to Rs. 18,000 and 12,000 respectively.

(P.T.O)

During the year ended 31/12/2016 they lost Rs. 10,608 without taking into account interest on capital and drawings. According to Partnership deed, interest on capital is to be allowed at 5% P.a and charged on drawings at 2%. The drawings of Ram and Ravi were Rs. 3,000 and Rs. 2,400. Prepare the Profit & Loss Appropriation A/c and the Capital accounts of the Partners as on 31/12/2016.

13(a) Explain the modes of dissolution of firm

(OR)

13(b) From the balancesheet of A, B and C, who are sharing profits and losses in the ratio of 2:2:1. Assuming that all the partners are insolvent, Prepare necessary ledger accounts to close the books of the firm

Balancesheet of A, B and C
as on March 31, 2015

Liabilities		Assets	
Sundry creditors	1,20,000	Cash	1000
Bank Loan (with a Charge on stock)	50,000	Stock	60,000
		Other Assets	1,09,000
		Goodwill	30,000
Capitals:		Capital:	
A	30,000	C	20,000
B	20,000		
	2,20,000		2,20,000

Stock Realised Rs. 52000 and other Assets were sold for Rs. 90,000. Expenses on Realisation amounted to Rs. 3000.

(P.T.O)

(5)

14(a) Distinction between operating Lease and finance Lease

(OR)

14(b) An equipment is leased for 3 years and its useful life is 5 years. Both the cost and the fair value of the equipment are Rs. 3,00,000. The amount will be paid in 3 installments and at the termination of lease lessor will get back the equipment. The unguaranteed residual value at the end of 3 years is Rs. 40,000. The IRR of the investment is 10%. The Present value of annuity factor of Rs. 1 due at the end of 3rd year at 10% IRR is 2.4868. The Present value of Rs. 1 due at end of third year at 10% Rate of interest is 0.7513.

(i) State with reason whether the lease constitutes finance Lease.

(ii) calculate unearned finance income.

15(a) Describe the importance of Investment ~~of~~ Accounting.

(OR)

15(b) The following transactions took place between Ram and Krishna from 1/1/2015 to 30/6/2015.

		Rs.
2015 Jan 1	Sold goods to Ram	2,240
Jan 10	Received Ram's acceptance at 2 months	1000
Feb 15	Received cash from Ram	1,200
March 2	Bought goods from Ram	5,500
March 3	Accepted Ram's bill at 1 month	2,000
April 11	Paid cash to Ram	2,000
April 30	Sold goods to Ram Payable upto 31st may	8,400

(P.T.O)

May 11	Bought goods from Ram	1500
May 31	Sold goods to Ram Payable up to 10th June	2,200
June 15	Bought goods from Ram	3,000

Prepare the account current to be sent by krishna on 30th June 2015. The rate of interest is 5%.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. The following are the statement of profit or loss for the year ending 31/10/2012.

Assets & Liabilities	1.11.2011	31.10.2012
Bank Balance	560 (Cr)	350 (Dr)
Cash on hand	10	50
Debtors	4500	3600
Stock	2700	2900
plant	4000	4000
Furniture	1000	1000

Ramesh had withdrawn Rs. 2000 during the year and had introduced fresh capital of Rs. 4200 on 1/7/2012. A provision of 5% on debtors is necessary. write off Depreciation on plant at 10% and furniture at 15%. Interest on capital is to be allowed at 5%.

Prepare a statement of affairs as on 31/10/2012.

17. What are the accounting adjustments are necessary when a new person is admitted as partner?

(P.T.O)

18. Describe the objectives of Amalgamation and Issues connected with Amalgamation of firms in detail.

19. ABC Ltd took a machine on lease from XYZ Ltd. the fair value being Rs. 10,00,000. The economic life of the machine as well as the lease term is 4 years. At the end of each year. ABC Ltd pays Rs. 3,50,000. The lessee has guaranteed a residual value of Rs. 50,000 on expiry of the lease to the lessor. However XYZ Ltd estimates that the residual value of the machinery will be Rs. 35,000 only. The Implicit rate of Return is 16%. and PV factors at 16% for 1year - 0.8621, 2year - 0.7432, 3year - 0.6407 4year - 0.5523 respectively. You are required to calculate the value of machinery to be Considered by ABC Ltd and the finance charges for each year.

20. On 31st January 2016. Mr. Adil purchased for Cash from Mr. Balu four 6% Rs. 100 debentures of M/s Ltd at Rs. 110.50 cum interest, interest being payable on 1st June and 1st December each year.

How will you record the transactions in the books of both the parties, if each ~~Party~~ Party had to pay Bank Commission of 25 paise per Rs. 100 ?

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RE-ACCREDITED (3rd Cycle) WITH "A" GRADE BY NAAC

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., Professional Accounting **COURSE CODE : 3PA2 (Upto 2016)**

COURSE TITLE : Corporate Accounting **QN.NO : 0224**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (15 x 1 = 15)

Answer all questions.

I. True (or) False

1. Share allotment is a real account.
2. Goodwill is intangible assets.
3. As per the definition given in AS-14, there is o distinction between Amalgamation and absorption.
4. Post acquisition profits are also known as revenue profit.
5. Local taxes are examples of secured creditors.

II. Fill up the blanks

6. A new company cannot issue at _____.
7. The excess of average profits over the normal profits is known as _____.
8. The method of accounting used to record amalgamations in the nature of merger is called _____ method.
9. Minority interest is shown on the _____side of CBS.
10. Debenture holders secured by first floating charges are paid after the payment to _____.

III. Multiple Choice Questions

11. If a share of Rs.10, on which Rs.8 has been called and Rs.5 has been received is forfeited share capital A/c in this case will be debited with:
    (a) Rs.2 (b) Rs.5 (c) Rs.8 (d) Rs.10
12. A business had a capital of Rs.80,000 at the end. It had earned profits of 10,000 during the year. The average capital employed of the business will be:
    (a) Rs.85,000 (b) Rs.75,000
    (c) Rs.70,000 (d) Rs.90,000
13. Pooling of interest method is used to account for amalgamations in the nature of:
    (a) Purchase (b) Sale
    (c) Merge (d) None of the above
14. A company in which more than 50% of shares are held by another company is termed as:
    (a) Holding company (b) Subsidiary company
    (c) Govt. company (d) Public company
15. Secured creditors are shown in the statement of affairs under:
    (a) List A (b) List B (c) List C (d) List D

Contd…

PART – B **(5 x 6 = 30)**

Answer all questions by choosing either (a) or (b).

16. (a) what is mean by underwriting of shares and debentures? How is the liability of various underwriters determined?

(OR)

(b) Batliboi Co.Ltd, issued 50,000 equity shares of Rs.10 each to the public on condition that full amount of shares will be paid in a lump sum. All these shares were taken up and paid by the public. Pass the ournal entries in the books of company when,

(i) Shares are issued at par (ii) Shares are issued at a premium of 10%

17. (a) Explain the factors influencing the valuation of shares.

(OR)

(b) Elaborate the yield method of valuation of shares by giving a suitable illustration

18. (a) State the conditions to be satisfied in the case of amalgamation in the nature of merger

(OR)

(b) Describe in detail internal reconstruction.

19. (a) X Ltd. Purchased 60% shares of Y Ltd. on 01-01-02 when the balance on their P&L A/c and General reserve were Rs.1,50,000 and Rs.1,60,000 respectively. On 31-12-02, the Balance sheet of Y Ltd. Showed P&L A/c and General reserve Rs.3,00,000. Calculate Capital Profits and Revenue Profits.

(OR)

(b) On 01-07-01, X Ltd. acquired 60% shares of Y Ltd.(with a total capital of Rs.5,00,000) for Rs.3,80,000. The balance sheet of Y Ltd., showed P&L a/c balance on 01-01-01.Rs.1,20,000 and Profit for the year 2001 Rs.1,00,000. Calculate the value of goodwill or capital reserve.

20. (a) Explain the items found in Liquidator's final statement of account.

(OR)

(b) From the following information, prepare liquidators final statement of account.

Particulars	Rs.
Liquidators remuneration	7,000
Expenses of Liquidation	30,000
Equity share holders	1,00,000
Surplus from securities	10,10,000
Preferential Creditors	2,00,000
Cash at bank	1,00,000
Unsecured Creditors	7,00,000
Preference share holders	1,00,000

Contd…

PART – C (3 x 10 = 30)

Answer any THREE questions.

21. Describe the Redemption of Preference shares and Debentures.
22. Why need for valuation of share arises? What are the methods for valuation of shares?
23. Elaborate the terms amalgamation, absorption, and reconstruction.
24. The following are the balance sheets of the A Co., Ltd. and the B Co., Ltd. Prepared on 31st December 1986. On 1st January 1986, the A Co., Ltd., acquired all the shares in the B Co., Ltd., when the latter had a credit balance of Rs.35,000 on its profit and loss account.

Liabilities	A Co., (Rs.)	B Co., (Rs.)	Assets	A Co., (Rs.)	B Co., (Rs.)
Share capital:			Sundry Assets	2,20,000	4,00,000
Eqty. Sh. of 10 each	3,00,000	2,00,000	Investment	3,60,000	-
Reserve	1,50,000	1,00,000	(shares in the		
P & L a/c	1,00,000	80,000	B Co., Ltd.)		
Creditors	30,000	20,000			

Prepare consolidated balance sheet.

25. The particulars relate to a company which has gone into liquidation is as follows:

Preferential Creditors - Rs.10,000
Unsecured Creditors - Rs. 32,000
Debentures - Rs. 10,000

Assets realized Rs.39,650, liquidation expenses amounted to Rs.1,000. The liquidators are entitled to a remuneration of 2% on amounts paid to unsecured creditors other than preferential creditors.

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SEMESTER EXAMINATIONS – APRIL 2021

CLASS: B.Com., (Professional Accounting) **COURSE CODE : 17U4AMC8**

COURSE TITLE : Company Accounts **QN.NO : 0229**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Premium on issue of shares can be used for _____.
   a) Distribution of dividend b) Writing off capital losses
   c) Transferring to General Reserve d) Paying fees to directors
2. According to Section 76 of the Companies Act, 1956, the commission payable to underwriter for underwriting shares should not exceed_____.
   a) 5% b) 10% c) 2.5% d) 1.5%
3. Good will is shown in company's balance sheet under the head_____.
   a) Fixed assets b) Investments
   c) Current assets d) Miscellaneous expenditure
4. The total capital employed in the company is Rs.8,00,000 a reasonable rate of return is 15% and the profit of the year is 4,12,00,000. The value of goodwill of the company as per the capitalization method will be
   a) Rs.82,00,000 b) Rs.12,00,000 c) Rs.72,00,000 d) Rs.42,00,000
5. The excess of purchase consideration over net assets is _____.
   a) Securities premium b) Capital reserve
   c) Goodwill d) Preliminary expenses
6. Under Net Assets method, the value of a share depends on the amount that would be available to_____.
   a) Preference shareholders b) Equity shareholders
   c) Creditors d) Debenture holders
7. Any decrease in the value of assets, at the time of internal reconstruction, will be charged to _____.
   a) Goodwill a/c b) Capital reduction a/c
   c) Revaluation a/c d) Share Capital a/c
8. The capital reduction scheme can be implemented only after getting permission from _____
   a) Central Government b) Controller of capital issues
   c) Shareholders d) The competent court

Contd…

9. List ∈ in statement of affairs gives the list of _____.
   a) Preferential Creditors b) Debenture holders
   c) Unsecured Creditors d) Secured Creditors
10. Preferential Creditors are shown in the statement of affairs under_____
    a) List D b) List B c) List C d) List A

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a)The directors of Z Co Ltd., forfeit 10 shares of Rs.50 each belonging to Karthik who had paid Rs.5 per share on application, Rs.10 on allotment and Rs.15 on first call but failed to pay the final call of Rs.20. The same shares are then reissued to Raj as fully paid on receipt of Rs.400. Pass journal entries to record the forfeiture and the reissue of shares.

(OR)

b) From the following data, calculate profit prior to incorporation

Time Ratio 1:2
Sales Ratio 1:3
Gross profit Rs.1,70,500
Administrative expenses Rs.69,600
Expenses relating to sales Rs.18,600
Preliminary expenses Rs.11,560

12. a) The net profit of a business, after providing for taxation, for the past five years are : Rs.80,000, Rs.85,000, Rs.92,000, Rs.1,05,000 and Rs.1,18,000. The capital employed in the business is Rs.8,00,000. The normal rate of return expected in this type of business is 10%. It is expected that the company will be able to maintain its super profit for the next 5 years. Calculate the value of goodwill on the basis of 5 years purchase of super-profit method.

(OR)

b)What are the factors determining the value of goodwill?

13. a) X Ltd. is negotiating to sell its business to Y Ltd. Its assets are agreed to be worth Rs.40,00,000. Its share capital consists of 10,000 equity shares of Rs.10 each and it has reserves of Rs.50,000. Workmen's compensation fund amounts to Rs.25,000 (estimated liability 10,000) and provident fund Rs.20,000 Employees security deposits amounts to Rs.10,000. Trade Creditors amounted to Rs. 80,000. Ascertain the Purchase consideration, it is paid 75% in Rs. 10 equity shares of the Transferee company and the balance in cash.

(OR)

Contd…

b) Vaigai Ltd., was formed with an authorized capital of Rs.10,00,000 divided into equity shares of Rs.10 each, to acquire the business of X and Y whose balance sheet on the date of acquisition was as follows:

Liabilities	Rs.	Assets	Rs.
Capital	6,00,000	Freehold premises	7,00,000
General Reserve	4,00,000	Stock	2,00,000
Sundry Creditors	2,00,000	Sundry debtors 1,60,000	
		(-) Provision 10,000	1,50,000
		Cash at bank	1,50,000
	12,00,000		**12,00,000**

The purchase consideration was agreed upon at Rs.12,00,000 to be paid in Rs.10,00,000 fully paid equity shares of Rs.10 each at Rs.11 and the bance in cash.

Give journal entries to record the above of Vaigai Ltd., assuming the vendor's account is finally settled.

14. a) Suguna Co Ltd., has been suffering heavy losses in the past. So, it has decided to go for reconstruction scheme by reducing 22,000 Equity shares of Rs,100 each into Rs.50 each so as to write off accumulated losses of Rs.10,70,000. Give journal entries to record the above transaction.

(OR)

b) Distinguish between 'Internal' and 'External' Reconstruction.

15.a) Ascertain the amount payable to Liquidator from the following data :

Secured Creditor : Rs.50,000 (Securities realised by secured creditors, Rs.60,000)

Assets realised : Rs. 80,000

Liquidator's remuneration : 3% on the amounts realized

(OR)

b) The liquidator of a company is entitled to a remuneration of 2% on assets realized and 3% on the amount distributed to unsecured creditors. The assets realized Rs.1,00,000 including cash balance Rs.5,000. Amount available for distribution to unsecured creditors before liquidator's remuneration was Rs.43,100. Calculate liquidator's remuneration.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16.A Ltd., invited applications for 10,000 shares of Rs.100 each at discount of 5% payable as follows:

Contd…

On application Rs.25
On allotment Rs. 34
On first & final call Rs.36

Applications were received for 9,000 shares and all of these were accepted. All moneys due were received except the first and final call on 100 shares which were forfeited. Of these forfeited shares, 50 shares were reissued at the rate of Rs.90 as fully paid. Show necessary journal entries in the books of the company.

17. Enumerate the various methods of valuation of goodwill.
18. Ram Ltd., and Shyam Ltd., have agreed to amalgamate. A new company Rajesh Ltd., has been formed to take over the combined concern as on 31st December 2008. After negotiations, the assets of the two companies have been agreed upon as show below:

Balance Sheet as on 31.12.2008					
Liabilities	**Ram Ltd.,**	**Shyam Ltd.,**	**Assets**	**Ram Ltd.,**	**Shyam Ltd.,**
	Rs.			**Rs.**	
Share Capital :			Land & Buildings	5,00,000	3,00,000
Shares of			Plant & Machinery	2,00,000	2,50,000
Rs.10 each	10,00,000	5,00,000	Goodwill	-	50,000
Reserve Fund	-	50,000	Furniture	1,10,000	-
P & L A/c	50,000	50,000	Stock	1,50,000	20,000
Creditors	80,000	50,000	Debtors	1,20,000	20,000
			Bank	50,000	10,000
	11,30,000	**6,50,000**		**11,30,000**	**6,50,000**

Prepare the balance sheet of Rajesh Ltd., assuming

a. The entire purchase price is paid off in the form of equity shares of Rs.100 each in Rajesh Ltd.,
b. The amalgamation is in the nature of Merger.

19. The following is the Balance sheet of Weak Co Ltd., as on 31st March 2005.

Liabilities	**Rs.**	**Assets**	**Rs.**
1,00,000 equity		Land	1,00,000
shares of Rs.10 each	10,00,000	Plant& Mech	2,30,000
Sundry creditors	1,73,000	Furniture	68,000
		Stock	1,50,000
		Debtors	70,000
		Cash at Bank	5,000
		P& L A/C	5,50,000
	11,73,000		**11,73,000**

The approval of the Court was obtained for the following scheme of reduction of capital :

Contd…

i. The equity shares to be reduced to Rs.4 per share
ii. Plant & Machinery to be written down to Rs.1,50,000
iii. Stock to be revalued at Rs.1,40,000
iv. The provision on debts for doubtful debts to be created Rs.2,000
v. Land to be revalued at Rs.1,42,000

Pass Journal entries to give effect to the above arrangement and also prepare reconstruction a/c.

20. ABC Ltd., went into voluntary liquidation on 30-10-1991. Below given is Balance sheet on that date;

Liabilities	**Rs.**	**Assets**	**Rs.**
2,000 eq shares of Rs.100 each	2,00,000	Land and Buildings	1,40,000
6% Debentures	1,00,000	Machinery	60,000
Mortgage loan (*secured on machinery)*	50,000	Stock	1,22,500
Sundry creditors	1,50,000	Debtors	1,10,000
		Cash	2,500
		P & L A/c	65,000
	5,00,000		**5,00,000**

Sundry creditors include Rs.6,000 payable as preferential creditors. Assets realized as follows:

Land and buildings Rs.60,000; machinery Rs.63,500; Stock Rs.90,000; Debtors 40% of book value.

Liquidation expenses amounted to Rs. 1,800. Liquidator's remuneration: 3% on assets realized including cash and 2% on the amount paid to unsecured creditors including preferential creditors. Debenture holders were repaid on 31.12.1991 along with 2 months interest. Prepare liquidator's final statement of account.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., (Professional Accounting) **COURSE.CODE : 17U4AMC10**

COURSE TITLE : Operations Research **QN.NO : 0231**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option..

1. Operations research is the application of _____ methods to arrive at the optimal solutions to the problems.
   a) economical b) scientific c) both a and b d) artistic
2. Decision variable in an O.R model are _____
   a) controllable b) parameters
   c) uncontrollable d) constants
3. Linear programming is _____
   a) A constrained optimization model b) A constrained decisiom-making model
   c) A mathematical programming model d) All of the baove
4. Feasible solution satisfies _____
   a) Only constraints b) only non-negative restriction
   c) both (a) and (b) d) (a),(b) and Optimum solution
5. The penalty in VAM represents difference between _____ cost of respective row/column
   a) Two larghest b) largest and smallest
   c) smallest two d) none of them
6. The _____ method's solution for transportation problem is sometimes an optimal solution itself
   a) NWCM b) LCM c) Row minimia d) VAM
7. When the maximin and minimax values of the game are same, then _____
   a) there is a saddle point b) starategis are mixed
   c) solution does not exist d) none of the above
8. A mixed strategy game can be solved by _____
   a) matrix method b) graphical method
   c) algebraic method d) all of the above
9. Burst and merge are types of _____ in networking
   a) tools b) arrow c) activity d) event
10. Activity which starts only after finishing other activity is called _____
    a) dummy b) successor
    c) predecessor d) none of these

Contd…

PART – B **(5 x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Explain the applications of Operation research.

(OR)

b) Discuss the limitations of Operation research.

12. a) Explain the steps involved in setting up of a Simplex method.

(OR)

b) A manufacturer produces two types of products A and B. Each A requires 3 man hours and 4 machine hours, while each B requires 6 man hours and 4 machine hours. The available man hours and machine hours are 340 a week 540 a week respectively. Per unit profit on A is Rs.7, whereas B is Rs.8. Formulate the above problem into an LPP.

13. a) Solve the following Assignment problem:

		Machine			
		M1	M2	M3	M4
	W1	5	7	11	6
Job	W2	8	5	9	6
	W3	4	7	10	7
	W4	10	4	8	3

(OR)

b) A firm manufacturing a single product has three plants at locations X, Y and Z. The three plant have produced 60,35 and 40 units respectively during this week. The firm has made commitments to sell 22,45,20,18 and 30 units of the product to customers A,B,C,D and E respectively. The net unit cost of transporting from the three plants to the five customers is given in the table below:

Customer

	A	B	C	D	E
X	4	1	3	4	4
Y	2	3	2	2	3
Z	3	5	2	4	4

Use Vogel's approximation method to determine the cost of shifting the product from plant locations to the customers. Does your solution provide a least cost transportation schedule?

14. a) Solve the following game using saddle point method.

Player B

$$\begin{array}{c} \\ \text{Player } A \end{array} \begin{array}{c} \begin{array}{ccc} \text{I} & \text{II} & \text{III} \end{array} \\ \begin{bmatrix} 3 & -2 & 4 \\ -1 & 4 & 2 \\ 7 & 6 & 7 \end{bmatrix} \end{array}$$

Contd…

(OR)

b) Customers arrive at the first class ticket counter of a theatre at a rate of 12 per hour. There is one clerk serving the customers at a rate of 30 per hour. Assuming the conditions for use of the single-channel queuing model, evaluate:

(i) the probability that there is no customer at the counter (i,e., that the system is idle)

(ii) the probability that there are more than 20 customers at the counter.

(iii) the probability that there is no customer waiting to be served

(iv) the probability that a customer is being served and nobody is waiting.

15. a) Draw a network diagram and find the critical path from the following:

Activity	:	1-2	1-3	2-3	2-4	3-4	4-5
Time(days)	:	25	20	10	15	8	10

(OR)

b) Differentiate PERT and CPM.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Explain the techniques of operation research.

17. Solve the following LPP using Simplex Method:

Maximize Z=3x1+2x2

Subject to

$X1 + X2 \leq 4$

$X1 - X2 \leq 2$

$x1, x2 \geq 0$

18. Solve the following Assignment problem:

		Machine				
		M1	M2	M3	M4	M5
Job	J1	10	3	3	2	8
	J2	9	7	8	2	7
	J3	7	5	6	2	4
	J4	3	5	8	2	4
	J5	9	10	9	6	10

19. Solve the following Game problem using Dominance Property:

		Player B		
	I	II	III	
Player A	3	−2	4	
	−1	4	2	
	2	2	6	

20. The following table gives the activities in a construction project and other relevant information:

Activity	1-2	1-3	2-3	2-4	3-4	4-5
Duration	20	25	10	12	6	10

(a) Draw the network for the project

(b) Find the critical path

(c) Find free, total and independent floats for each activity.

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RE-ACCREDITED (3rd Cycle) WITH "A" GRADE BY NAAC

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., Professional Accounting **COURSE CODE : 17U4AAC5**

COURSE TITLE : Business Economics **QN.NO : 0233**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The scope of managerial Economics is _____
   a) Limited b) Unlimited c) Infinite d) endless
2. Managerial Economics deals with problem of _____
   a) global economy b) an industry
   c) an economy d) an individual firm
3. Law of Diminishing marginal utility states that utility is continuously constant
   a) increasing b) decreasing c) diminishing d) no change
4. Consumers' surplus is highest ion case of
   a) comforts b) necessaries of life
   c) Luxuries d) Conventional necessaries
5. The demand curve has a _____ slope
   a) Undefined b) Zero c) negative d) Positive
6. The demand for a given product will rise if
   a) incomes rise for a normal goods or fall for an interior goods
   b) the price of a complement falls
   c) the price of a substitute rises d) all of these
7. When a firm's average revenue is equal to its average cost, it gets _____
   a) super profit b) normal profit
   c) sub normal profit d) none of the above
8. A cost that does not affect a decision is called an
   a) opportunity cost b) incremental cost
   c) avoidable cost d) irrelevant cost
9. Setting a price below that of the competition is called
   a) skimming b) penetration pricing
   c) competitive pricing d) none of these
10. When prices are rising and there is unemployment and recession in the economy, then the phenomenon is called _____
    a) deflation b) cost-push inflation
    c) demand-pull inflation d) stagflation

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Explain the discounting principle.

(OR)

b) Indicate the principle of time in managerial economics.

12. a) What are the limitations of law of equi-marginal utility.

(OR)

b) What is consumer's surplus? How will you measure it?

13. a) What are the types of elasticity of demand?

(OR)

b) What are the determinants of elasticity of demand?

14. a) Write note on: a) TC b) AC c) MC

(OR)

b) What is Isoquant? What are its types?

15. a) Explain the objectives of pricing.

(OR)

b) What is skimming pricing? Under what circumstances would you recommend it.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain the scope of managerial economics in the area of operational issues.
17. Explain the law of Diminishing marginal utility. Discuss its importance in economic theory.
18. Critically examine the different methods of forecasting demand for established products.
19. What is the law of Diminishing Returns? Explain the conditions under which it operates.
20. Explain the pricing of a lifecycle of a product.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., Professional Accounting **COURSE.CODE : 17U4AAC6**

COURSE TITLE : Company Law – II **QN.NO : 0235**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Corporate social responsibility is positively correlated with revenue and profit
   a) Consumers do not respond positively to links
   b) Increase in demand will reduce revenue and liability
   c) Being ethical costs money
   d) Consumers respond positively to links
2. Opportunities for social innovation are greatest
   a) CSR is aligned with firm core
   b) CSR spending of a firm is larger than competitors
   c) CSR is pursued by a firm to improve its reputation
   d) CSR is pursued by a firm to enhance human capital
3. _____ is a systematic examination of the books and records or a business
   a) Vouching b) Auditing c) Verification d) Checking
4. An auditor who accepts an audit but does not possess the industry expertise of the business entity should _____
   a) Engage experts b) Inform management about it
   c) Knowledge of matters that relate to nature entity business
   d) Take any help of other auditors
5. The information content of dividend refer to _____
   a) It change as indicator of a firm future
   b) Non-payment of dividend by corporations
   c) A stable and continuous dividend
   d) It paid as a percent of current earnings
6. SEBI has allowed endorsing which products?
   a) Stocks & Shares b) Mutual funds c) Dividends d) Insurance
7. Liquidator's statement of receipts and payment is known as _____
   a) Cash flow statement b) Cash book
   c) Deficiency account d) Final statement
8. A voluntary winding up means winding up by _____
   a) Members b) Contributors c) Creditors d) Shareholders

Contd…

9. Which of the following is not one the underlying principles of the corporate governance combined code of practices
   a) Openness b) Integrity c) Acceptability d) Accountability
10. E-Government is _____
   a) Controlling the operation
   b) As the same internet governance
   c) The application of e-commerce technology to public services
   d) Increasing the participation in internet use by socially

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11. a) Explain the statutory provisions relating to appointment of managing director.

(OR)

   b) Describe the duties of directors.

12. a) Explain how the casual vacancy an reappointment of auditor made?

(OR)

   b) State the contents of auditor's report.

13. a) State the SEBI guidelines for bonus shares.

(OR)

   b) Explain the provisions for payment of unpaid or unclaimed dividend.

14. a) Describe powers and duties of company liquidator in voluntary winding up.

(OR)

   b) What are the consequences of voluntary winding up?

15. a) Explain the powers and rights of shareholders.

(OR)

   b) What are the concepts of corporate measures?

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Discuss briefly the director's liabilities.
17. Explain the important rules regarding dividend.
18. Discuss the procedure for voluntary winding up.
19. List out the qualifications and disqualifications of auditors.
20. Enumerate the evaluation of corporate governance.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., (PA) **COURSE.CODE : 4PA3 (Upto 2016)**

COURSE TITLE : Operations Research **QN.NO : 0238**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(15 x 1 = 15)**

Answer all questions.

I. True or False

1. A typical Linear Programming Problem must have atleast two decision alternatives.
2. Decision variables in a standard LPP should have either zero or positive values.
3. In a transportation problem, north west corner rule gives a better starting solution that Vogel's Approximation Method.
4. Saddle point is the point of intersection of one pure strategies.
5. A PERT network is activity oriented while a CPM network is event oriented.

II. Short answers

6. Who coined the term Operations Research?
7. Define non- degenerate basic solution
8. What do you mean by a balanced assignment problem?
9. What do you understand by a value of the game?
10. What is PERT and CPM?

III. Multiple Choice Questions

11. Operations Research approach is
    a) multi-disciplinary b) scientific
    c) intuitive d) collect essential data
12. If there is no non-negative replacement ratio in solving a Linear Programming Problem then the solution is
    a) feasible b) bounded c) unbounded d) infinite
13. An optimal assignment requires that the maximum number of lines which can be drawn through squares with zero opportunity cost should be equal to the number of
    a) rows or columns b) rows and columns
    c) rows+columns- 1 d) rows-columns.
14. (M/M/M1) : (∞ / FCFS) is known as
    a) Poisson model b) Birth death model
    c) Exponential model d) Multiserver model

Contd…

15. The objective of network analysis is to

a) minimize total project duration b) minimize total project cost

c) minimize production delays, interruption and conflicts

d) maximize total project duration

PART – B (5x 6=30)

Answer all questions by choosing either (a) or (b).

16.a) What are the applications of operation research?

(OR)

b) Write the limitations and characteristic of operation research.

17. a) Find solution using graphical method

$$MAX\, z = 15x_1 + 10x_2$$

Subject to the constraint

$$4x_1 + 6x_2 \leq 360$$

$$3x_1 \leq 180$$

$$5x_2 \leq 200 \text{ and } x_1, x_2 \geq 0$$

(OR)

b) Explain the algorithm of penalty method.

18.a) Find the solution of Assignment problem using Hungarian method.

Work\Job	1	2	3	4
A	10	5	13	15
B	3	9	18	13
C	10	7	2	2
D	7	11	9	7

(OR)

b) Find the initial basic feasible solution for the following transportation problem by LCM

	A	B	C	D	Supply
P	19	30	50	10	7
Q	70	30	40	60	9
R	40	8	70	20	18
Demand	5	8	7	14	34

19. a) The local one-person barber shop can accommodate a maximum of 5 people at a time (4 waiting and I getting hair-cut). Customers arrive according to a Poisson distribution with mean 5 per hour. The barber cuts hair at an average rate of 4 per hour (Exponential service time).

i) What percentage of time is the barber idle?

ii) What fraction of the potential customers are turned away?

iii) What is the expected number of customers waiting for a hair-cut?

(OR)

Contd…

b) A T.V repairman finds that the time spent on his jobs has an exponential distribution with mean 30 min. If the repair sets in the order in which they came in and if the arrival of sets is approximately Poisson with an average rate of 10 per 8hr day, What is the repairman's expected idle time each day? How many jobs are a head of average set just brought?

20. a) Write down the basic difference between PERT and CPM.

(OR)

b) Describe the three Phases of project management.

PART – C (3 x 10 = 30)

Answer any THREE questions.

21. What are the various phases in the study of operations research?

22. Find solution using Simplex method

$$MAX\ Z = 40x_1 + 30x_2$$

Subject to the constraint

$$x_1 + x_2 \leq 12$$

$$2x_1 + x_2 \leq 16$$

$2x_1 + x_2 \leq 18$ and $x_1, x_2 \geq 0$

23. Find the initial basic feasible solution for the following transportation problem by Vogel's Approximation Method.

	A	B	C	D	Supply
P	19	30	50	10	7
Q	70	30	40	60	9
R	40	8	70	20	18
Demand	5	8	7	14	34

24. Find Solution of game theory problem using 2Xn Games

Player A\Player B	B1	B2	B3
A1	1	7	2
A2	6	2	7
A3	5	1	6

25. Calculate the total float, free float and independent float for the project whose activities are given below:

Activity:	1-2	1-3	1-5	2-3	2-4	3-4	3-5	3-6	4-6	5-6
Duration :	8	7	12	4	10	3	5	10	7	4

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., (Professional Accounting) **COURSE CODE : 4APA2 (Upto 2016)**

COURSE TITLE : Industrial Law **QN.NO : 0242**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer all Multiple choice questions by choosing the correct option.

1) Canteen is to be provided if engaging employees more than __persons.
a) 250 b) 350 c) 300 d) 275

2) A person who has ultimate control over the affairs of the factory under Factories Act, 1948 is called as _
a) Occupier b) Manager c) Foreman d) Chairman

3) 'First come last go and last come first go' is the principle of
a) Lay off b) Closure c) Retrenchment d) Dismissal

4) The main object of Industrial Dispute Act is
a) To Provide investigation and settlement of Industrial disputes.
b) To regulate the conditions of work in manufacturing establishments
c) to regulate the relations between workmen and workmen
d) to regulate the relations between the workmen and employers.

5) Abosulate deafness is an example of
a) Permanent disablement b) partial disablement
c) Temporary disablement d) None of these

6) When the employer shall not be liable under the Workmen's Compensation Act, 1923?
a) The employee was at the time of accident, under the influence of drink
b) When the injury does not result in disablement for a period exceeding 3 days
c) The employee was at the time of accident, under the influence of drugs
d) All of the above.

7) Section 2 (1) of The Payment of Bonus Act, 1965 defines
a) Accounting year b) Allocable Surplus
c) Available Surplus d) Appropriate Government

8) The maximum fine payable by the employer under the Minimum Wages Act
a) 5000 b) 1000 c) 500 d) 250

9) The _____ adjudicate disputes or claims related to ESI Act

a) Civil Judge b) Employees' Insurance Court

c) ESI Corporation d) Civil Court

10) The pensionable Salary means

a) Average of last 6 months pay b) Average of total salary received

c) Average of last12 months pay d) Average of last 5 years pay

PART – B (5x6=30)

Answer all questions by choosing either (a) or (b).

11) a) Discuss the restrictions regarding the adult female workers according to the Factories Act 1948.

(OR)

11) b) What are the powers of the Inspectors ?

12) a) What are the different matters over which an Industrial Tribunal can exercise Jurisdiction?

(OR)

12) b) What are the duties and powers of conciliation officer laid down in Industrial Disputes Act?

13) a) Explain the nature and scope of Employees' Compensation Act 1923.

(OR)

13) b) How is compute compensation for death and disablement under Workmen's Compensation Act 1923?

14) a) Give the procedure for fixing of minimum rates of wages.

(OR)

14) b) What are the circumstances in which gratuity becomes payable to an employee under the payment of Gratuity Act 1972?

15) a) Explain the features of Employees' Provident Fund.

(OR)

15) b) What are the provisions of the Shops and Establishment Law?

PART – C (3 x 10= 30)

Answer any THREE questions.

16) Enumerate any ten safety measures imposed by the Factories Act 1948.

17) Under What circumstances the employer employed the Unfair Labour Practices?

18) How far is an employer liable for compensation to an employee injured by an accident arising out of and in the course of his employment?

19) Explain the items which is to be added with the gross profits according to Payment of Bonus Act?

20) What are the different types of benefits provided by the ESI Act 1948?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., Professional Accounting **COURSE.CODE : 4SPA (Upto 16)**

COURSE TITLE : E-Filing and Secretarial Practice **QN.NO : 0244**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(15 x 1 = 15)**

Answer all questions

I. True of False

1. For Registering with e- Filling application surname is mandatory.
2. Return filed after the due date is called belated return.
3. Section 140 (C) deals with PAN.
4. Single language support is not a features of XBRL.
5. The term 'CA' stands for Certification of Approval.

II. Fill in the blanks

6. For Registering with e-Filling application there are _____ no of secret questions.
7. An Individual should have a valid _____ for registering with the e-Filing application.
8. Compulsory filing of loss return has been defined u/s _____.
9. PAN Stands for _____.
10. XBRL for _____.

III. Multiple choice Questions

11. For e- filling of ITR _____ file is uploaded
    a. .xls b. .xml c. .pdf d. .doc
12. While Registering with e-Filling application, for Non-Resident Indian, _____ is exempted.
    a. PAN b. Mobile PIN c. Current Address d. Name
13. Legally valid Digital Signature Certificates are issued through _____
    a. NSDI / CDSL b. State Govt.
    c. Licensed Certifying Authorities (AC) d. All of these
14. A company and an assessee being individual or HUF who is liable to audit u/s 44AB are required to furnish Form BB _____.
    a. Electronically under digital signature
    b. Electronically without digital signature
    c. Manually
    d. All of the above
15. Which of the following uses XBRL _____.
    a. Regulatory bodies only b. Data providers only
    c. Analyst and Investors only d. All of these

Contd…

PART – B (5x 6=30)

Answer all questions by choosing either (a) or (b).

16. (a) Distinguish between E-filing and regular filing of returns.

(OR)

(b) What are the benefits of E- filing? Explain.

17. (a) Briefly explain the procedure for filing IT return e-form.

(OR)

(b) Discuss the process of e-filing.

18. (a) Explain the different types of income tax payers.

(OR)

(b) What are the advantages of filing income tax return? Explain.

19. (a) Briefly explain about the digital signature.

(OR)

(b) Discuss about the XBRL.

20. (a) What are the steps for e-filling of XBRL documents? Explain.

(OR)

(b) Explain the functions of ROC.

PART – C (3 x 10 = 30)

Answer any THREE questions.

21. Enumerate the types of e-filing.
22. Discuss about the E-Filing Security.
23. How to file a IT return in e-form? Explain.
24. Elaborate the steps involved in the filing of an income tax return.
25. Deliberate the procedures for XBRL.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., Professional Accounting **COURSE.CODE : 17U6AMC13**

COURSE TITLE : Indian Accounting Standards **QN.NO : 0249**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Accounting standards in India are issued by _____
   a) Central government b) State government
   c) Reserve bank of India d) Institute of chartered accountants of India
2. Accounting standards refers to specific accounting _____
   a) Principles b) Methods of applying those principles
   c) Both a & b d) None of the above
3. Ind AS – 2 refers to _____
   a) Disclosure of accounting policies b) Valuation of inventories
   c) Revenue recognition d) Depreciation accounting
4. Inventory should be stated at _____
   a) Lower of cost and fair value
   b) Lower of cost and net realisable value
   c) Lower of cost and nominal value
   d) Lower of cost and net selling price
5. Cash flow statement is also known as _____
   a) Statement of changes in financial position on cash basis
   b) Statement accounting of variation in cash
   c) Both a & b d) None of the above
6. Deferred research and development expenditure is shown in the balance sheet under the head of _____
   a) Fixed asset b) Miscellaneous expenditure
   c) Current asset d) Investments
7. For the companies that prepares financial statement in according with Indian accounting standard, plant, property, and equipment should be valued using which model?
   a) The Cost model or the revaluation model
   b) The Cost model or the fair value model
   c) The Cost model or the fair value through profit or loss model

Contd…

8. The revenue from sales to external customers as reported in the profit and loss account is known as:
   a) Enterprise revenue b) Segment revenue
   c) Segment asset d) None of these
9. What is the correct treatment for all eligible borrowing ?
   a) Expensed b) Capitalised c) Revenue d) None of these
10. Which of the following is not qualifying asset under AS 23 borrowing cost?
   a) Mass produced inventory b) Manufacturing plants
   c) Made to order inventory d) Investment property

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11. a) What is meant by accounting standards and explain its objectives and benefits?

(OR)

b) What do you understand by the term IFRS ? and Describe its features.

12. a) Explain the disclosure of accounting policies with reference to IndAS-1.

(OR)

b) Z Limited ordered 13,000 kg. of chemicals at Rs. 90 per kg. The purchase price includes GST at 18% on which full Input Tax credit is admissible. Freight incurred amounted to Rs. 30,000. Normal transit loss is 4%. The company actually received 12,400 kg and consumed 10,000 kg. The company has received trade discount in the form of cash amounting to Rs. 1 per kg. The chemicals were delivered in containers. The containers were not reusable, hence sold for Rs. 500. Administrative expenses incurred to bring the chemicals were Rs. 10,000. Compute the value of inventory as per Ind AS 2.

13. a) Make a note on reporting of foreign currency cash flow.

(OR)

b) Describe the adjusting and non- adjusting events after the reporting period with examples.

14. a) Explain how will you make account the revaluation of fixed asset.

(OR)

b) Describe the timing of recognition of revenue with example.

15. a) What is the meaning of borrowing cost? Explain its nature, scope and its types.

(OR)

b) What do you meant by related party disclosure ? and State its objective and purpose.

Contd…

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. What are the advantages and disadvantages of setting of accounting standard ?

17. From the following data, find out the value of inventory as per IndAS-2 on 30.04.2019 using (a) LIFO method (b) FIFO method

    i) 1.4.19 purchased 10 units @ Rs 70 per unit

    ii) 06.4.19 sold 6 unit @ Rs 90 per unit

    iii) 09.4.19 purchased 20 units @ Rs 75 per unit

    iv) 18.4.19 sold 14 units @ 100 per unit

18. Draw the format of cash flow statement and explain its components.

19. Discuss the norms relating to property, plant and equipment on:

    a) Recognition of assets b) Measurement at recognition

    c) Measurement after recognition

20. What are the standards applied to related party ? and Explain the conditions related to a reporting entity.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., Professional Accounting **COURSE CODE : 5PA3 (Upto 2016)**

COURSE TITLE : Presentation of Corporate Accounts **QN.NO : 0250**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (15 x 1 = 15)

Answer all questions.

True or False

1. In revised schedule VI is a statutory format.
2. As per AS-9 revenue recognition dividends should be recognized as expenses.
3. Settlement by the issue of equity instrument affects its classification.
4. The term "cash and bank balances" in the old schedule VI is replaced with" cash and cash equivalents" in the revised schedule VI.
5. Auditor is required to mention the extend of examination of cost records.

Fill in the Blanks

6. _____requires a change in the treatment and disclosure in the financial statements provided revised schedule VI.
7. If the borrowers does not have such right, the classification would be _____ .
8. In revised schedule VI requires, the maturity of bank deposits for period _____months.
9. Loan payable on demand should be treated as part of _____.
10. Financial statements are _____ records of a business financial situation.

Multiple Choice Questions

11. The Ministry of Corporate Affairs has issued a revised form of schedule VI on _____ .
    a) April 1,2011 b) March 18,2011
    c) June 11,2000 d) February 28,2011.
12. Current maturities of a long term borrowings will have to be classified under _____.
    a) Current liabilities b) Current assets
    c) Other current liabilities d) Other current assets
13. Donation made to political parties under which section_____ .
    a) 291 A b) 292 A c) 293 A d) 294 A

Contd…

14._____ is the reserve which is suitable for distribution through the statement of profit and loss a/c.

a) Capital reserve b) Revenue reserve

c) Capital redemption reserve d) Revaluation reserve

15.Physical verification of the assets in the responsibility of the _____

a) Auditor b) Management

c) Government d) Shareholders

PART – B **(5 x 6 = 30)**

Answer all questions by choosing either (a) or (b).

16.a) Write down the important features of revised schedule VI.

(OR)

b) Explain the major changes related to Balance Sheet in schedule VI.

17.a) List out the removed disclosure in Revised schedule VI.

(OR)

b) Discuss the revised provisions of Employee benefit obligations with example.

18.a) Discuss how the non- current assets are defined and presented.

(OR)

b) Explain the various classifications of reserves as per revised schedule VI.

19.a) Explain the disclosure requirements pertaining to share of profit/loss in partnership firm.

(OR)

b) Illustrate the tax expenses disclose the statement of profit and loss.

20.a) Draw a model of part-II form of statement of profit and loss.

(OR)

b) Discuss about the components of published accounts?

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

21.Distinct between old schedule VI and revised schedule VI.

22.Explain the principles of revised schedule VI.

23. Discuss the Provisions relating to current assets appearing in the Balance sheet under schedule VI.

24.Briefly explain the disclosure provision of revenue and expenses in the statements of profit and loss.

25.Why do shareholders need financial statements? Explain in detail.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., Professional Accounting **COURSE CODE : 5PA5 (Upto 16)**

COURSE TITLE : Indian Accounting Standards **QN.NO : 0254**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (15 x 1 = 15)

Answer all questions.

1. Accounting standards and accounting principle is one and the same thing.
2. The cost of inventory should be assigned by first-in and first-out.
3. Cash flow are requires disclosures of non-cash financing and investing activities as foot note.
4. As per AS-6 change of method of depreciation with retrospective effect is not permitted.
5. Type of asset does borrowing cost are required to be capitalized as part of qualifying.

II. Fill in the Blanks

6. Accounting standards are beneficial not only to the business concern but also to the _____.
7. The primary consideration in the selection of accounting policies by an _____.
8. The result in changes in the size and composition of the owners' capital and borrowings of the companies are in _____ activities.
9. The charging of depreciation assets is adopted in _____ assets.
10. Borrowing costs are recognised in the period in which they are incurred _____.

III. Multiple Choice Questions

11. Accounting standards boards of India was established in the year _____.
    a) 1968 b) 1970 c) 1973 d) 1977
12. Disclosure of accounting polices is deals in _____.
    a) AS-1 b) AS-2 c) AS-4 d) AS-6
13. Cash flow statements are discussed under which accounting standards?
    a) AS-8 b) AS-4 c) AS-5 d) AS-3 (revised)
14. What aspect has special consideration for revenue recognition?
    a) Revenue arising from government grants
    b) Revenue arising from hire purchase
    c) Revenue arising from construction contracts
    d) All of these
15. Assets which are acquired for own use and not for resale are known as _____.
    a) Fixed assets b) wasting assets
    c) Current assets d) Fictitious assets

contd...

PART – B

(5x6=30)

Answer all questions by choosing either (a) or (b)

16. a) Write notes about accounting standards and its needs?

(Or)

b) What is meant by IFRS and discuss about its features?

17. a) Explain about the fundamental accounting assumptions.

(Or)

b) Describe the measurement of valuation of inventories.

18. a) Discuss the cash flow statement and operatives activities.

(Or)

b) How the contingencies are lays down in accounting standards?

19. a) Mention the main features of depreciation accounting as per AS-6 revised.

(Or)

b) Enumerate the revenue recognition and scope it.

20. a) Explain the accounting fixed assets and disclosure.

(Or)

b) Define the borrowing cost and detail its scope,

PART – C

(3 x 10 = 30)

Answer any THREE questions.

21. Brief and explain about applicability of accounting standards.
22. Explain the conversion cost in valuation is inventories.
23. Following is the cash flow abstract of Alpha Ltd. for the year ended 31th March 2018:

Cash flow Statement

Inflows	Rs.	Outflows	Rs.
Opening balance:		Payment for amount payable	90,000
Cash	10,000	Salaries and wages	25,000
Bank	70,000	Payment of overheads	15,000
Share capital – shares issued	5,00,000	Property, plant and equipment acquired	4,00,000
Collection on account of trade receivables	3,50,000	Debentures redeemed	50,000
Sale of property, plant and equipment	70,000	Bank loan repaid	2,50,000
		Taxation	55,000
		Dividends	1,00,000
		Closing balance:	
		Cash	5,000
		Bank	10,000
	10,00,000		**10,00,000**

Prepare cash flow statement for the year ended 31st March 2018 in accordance with accounting standard 3.

24. Discuss the method of depreciation and its benefits.
25. Describe the fixed asset and explain it features.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., Professional Accounting **COURSE.CODE : 6PA3 (Upto2016)**

COURSE TITLE : Income Tax-II **QN.NO : 0262**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (15 x 1 = 15)

I .True or False

1. All Long term capital asset are held for more than 36 months.
2. LTCL can be set off against LTCG only.
3. Deduction U/S 80CCC is allowed for any amount paid towards pension scheme without any limit.
4. An Indian Company is always resident.
5. The highest Administrative Authority for Income Tax in India is Central Board of Direct Taxes.

II. Fill in the Blanks

6. Long term capital gain is taxable at _____ percentage.
7. House Property loss can be set off for _____ years only.
8. Deduction Under Section 80C is restricted to Rs. _____
9. Persons are super citizens if they are of _____ years of age.
10. Advance tax is to be paid in _____ installments.

III. Multiple Choice Questions

11. Listed shares held for less than 12 months are
    a) Short term capital asset b) Long term capital asset
    c) Exempted capital asset d) None of these
12. Intra- head or Inter -source set off (i.e.)set -off of a loss against income from any source under the same head can be done under Income Tax Act 1961
    a) Section 50 b) Section 60 c) Section 70 d) Section 80
13. Donation to Rajiv Gandhi Memorial Fund is allowed as deduction at the rate of
    a) 10% b) 50% c) 100% d) 25%
14. Rebate under section 87A is given if income does not exceed
    a) Rs.2,50,000 b) Rs.3,50,000 c) Rs.4,00,000 d) Rs.5,00,000
15. The scheme of filing returns by salaried employees through their employer is done by getting form
    a) No.10 b) No.16 c) No.12A d) No.25C

Contd…

PART – B (5x 6=30)

Answer all questions by choosing either (a) or (b).

16.a) A HUF sells a property on 5-12-2019 for Rs.18,00,000(cost of acquisition on 10-2-2012 was Rs 1,00,000).Expenses on purchase and transfer are Rs.1,000 and Rs.10,000 respectively. On 25-3-2020 the HUF acquired bonds issued by the Rural Electrification Corporation Ltd., for Rs.8,00,000 and also acquired bonds issued by National Highways Authority for Rs.7,00,000 on 20-7-2020.

Find out the amount of capital gain chargeable to tax for the assessment year 2020-2021. CII for 2011-12 is 184, for 2019-2020 is 289.

(OR)

b) Mr.Suresh ,a resident Indian ,sold gold for Rs.30,00,000 on 20-5-2018 which he acquired on 16-4-1977 at a cost of Rs.1,70,000.The Fair market value of gold on 1-4-2001 was Rs.1,50,000.He has invested Rs.4,00,000 in buying a residential house on 15-6-2020.Ascertain the capital gains chargeable to tax during the Assessment year 2020-2021.CII for 2001-2002 is 100,for 2019-2020 is 289.

17.a)What is the treatment of Minor's income under the head "Clubbing of Income".

(OR)

b) From the following particulars , compute the total income of Mr. David for the assessment year 2020-2021.

Loss from house property	Rs. -10,000
Short term Capital gain on sale of shares	Rs.1,05,000
Long term Capital loss on sale of bonds	Rs. -85,000
Other sources:Interest on Government Securities	Rs. 10,000

The assessee has unabsorbed depreciation of Rs.25,000 being brought forward from 2017-2018.Assessee had closed the business and all the assets have been disposed of.

18.a) Calculate the deduction allowable under section 80GG to an assessee having the following incomes for the assessment year 2020-2021

Business Income	- Rs.55,000
Interest from Bank	-Rs. 5,000
Total Income	Rs.60,000

Rent paid by him for a house occupied by him for the purpose of his residence is Rs.1,250 per month.

(OR)

b) Calculate the deduction allowable under section 80D to an assesses having the following incomes for the AY 2020-2021(Age 30 years) Business Income Rs.83,000

Interest on Debentures Rs.49,000

Payment of medical insurance premium on own life Rs.3,000

Preventive medical check –up of wife Rs.4,500

An Expenditure of Rs.27,000 is incurred for medical purpose of his father who is 82 years.

Contd…

19.a) A resident for income tax purposes , HUF had three members : Karta Shri Mukesh and his two brothers – Shri Rajesh and Shri Mahesh. The family owned three factories – of Sugar, of Oil and of Textiles. On 1.4.2019, Shri Rajesh separated from the family and he got the Textile mill on partition. The Karta showed the following in the return of income of the family for the A.Y.2020-2021.The total income of Rs. 14,00,000.-Profit of Sugar mill Rs.6,00,000 and of Oil mill Rs.8,00,000 and claimed that partial partition has taken place on 1.4.2019. Shri Rajesh in his separate return for the same year showed total income of Rs.75,000-From house property Rs.25,000 and from Textile mill Rs.50,000. Compute the tax payable by the family and also State who will be liable to pay it. Out of the family assets, Rs.40,000 is deposited in PPF.

(OR)

b) Following are the incomes of a domestic company for the year ending on 31st March 2020:

i) Business profit (including export undertaking profit Rs.1,72,000)	Rs.4,20,000
ii) Income from unit Trust of India	Rs. 5,000
iii) Royalty received from a foreign concern for providing technical Knowledge	Rs. 16,000
iv) Fee from an Indian Company for technical advice	Rs. 12,000
v) Dividend from a foreign company	Rs. 8,000
vi) Company has donated to National Rural Development Fund during the previous year	Rs. 8,800

Compute the total income of the company for the Assessment year 2020-2021. The company has distributed 12% dividend on its paid up capital of Rs.5,00,000 on 1-9-2020 before filing of its return of income.

20. a) Explain the procedure for payment of Advance Tax.

(OR)

b) Explain the following: i) Belated Return ii) Revise Return

PART – C (3 x 10 = 30)

Answer any THREE questions.

21.Mr. Paneerselvam owned two motor cars which were mainly used for business purposes. The written down value on 1-4-2019 of these cars is Rs.1,81,000. The block of assets comprising of only these two cars, was sold in June 2019 for Rs.1,50,000. In September 2019, he sold 1,000 shares in X ltd (unlisted) an Indian Company, for Rs.30,00,000. He had purchased the same during March, 2005 for Rs.3,10,000. A house plot purchased in March 2011 for Rs.3,00,000 was sold by him for Rs.9,35,000 on 18-1-2019. (CII 2010-2011 :167; 2004-2005 :113; 2019-2020-289) Compute the capital gains chargeable to tax in respect of the above transactions for the Assessment year 2020-2021.

Contd…

22.Mr. Ravi, a resident of India ,submits the following particulars of his income for the AY : 2020-2021

Income from Salary (computed)	Rs.32,400
Income from house let out	Rs. 7,000
Profit from Hardware business	Rs. 1,600
Profit from Printing business	Rs.19,000
Speculation Income	Rs. 2,200
STCG	Rs.11,000
LTCG	Rs. 3,000
Current year Depreciation of Hardware business	Rs. 1,200

The following items have been brought forward from preceding assessment year:

Loss from Automobile business discontinued in 2017-2018	Rs. 1,200
Loss from Hardware business (2006-2007)	Rs. 1,100
Loss from printing business (2014-2015)	Rs. 1,200
Unabsorbed depreciation of business	Rs. 1,000
Speculation loss of AY 2013-2014	Rs. 5,000
Unabsorbed family planning expenditure	Rs.11,000
STCL from the year 2015-2016	Rs.15,000
LTCL from the year 2008-2009	Rs.16,000
Speculation loss of AY 2018-2019	Rs. 2,000

Compute the total Income of Mr. Ravi for the AY:2020-2021

23. Srivatsan has earned gross total income of Rs.8,00,000 in the previous year 2019-2020 and made the following donations during the year.

i) Rs.60,000 to chief Minister's Earthquake Relief fund ,Gujarat
ii) Rs.30,000 to National Foundation for Communal harmony.
iii) Rs.38,000 to a University (of national Eminence)
iv) Rs.41,000 to Jawaharlal Nehru Memorial Fund
v) Rs.35,000 to Government of India for promotion of Family planning
vi) Rs.70,000 to State Government
vii) Rs.45,000 to Municipal Committee
viii) Mediclaim premium paid by cheque to GIC Rs.35,000

Contd…

Compute the Total Income for the Assessment year 2020-2021. He has incurred Rs.5,000 for Medical treatment of his handicapped brother. He has incurred Rs.70,000 for treatment of his mother for a notified disease. He has paid Rs.10,000 to LIC for pension fund.

From the following facts, compute total Income and Tax Liability of Kumar, General manager of Diva Ltd., for the Assessment year 2020-2021. His previous year ended on 31st March 2020.

i) Salary RS.90,000 ii) Dearness Allowance Rs.25,000

iii) Bonus Rs.70,000

iv) House rent allowance from employer

(actual rent paid by him Rs.6,000) Rs.3,750

v) Dividends on Bank deposits Rs.4,00,000

vi) He owns a house with annual income at Rs.10,000

vii) Dividends on units of UTI Rs.18,000

He incurred the following expenses: Local tax Rs.1,000 ; Ground rent Rs.500; Interest on loan taken on construction. (The house completed on 5-4-91) Rs.1,000.

i) He deposited Rs.31,800 in a PPF account and paid life insurance premium amounting to Rs.66,000 on a sum assured being Rs.3,00,000

ii) Paid unit –linked insurance premium of Rs.6,000 during the year. The Unit Trust of India has credited dividend of Rs.3,500 in this account.

24. What do you mean by "Tax deducted at source". What are the provisions in IT Act 1961 relating to Tax deducted at source from Interest from salary.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., Professional Accounting **COURSE.CODE : 6PA4 (Upto 16)**

COURSE TITLE : Indirect Tax **QN.NO : 0265**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(15 x 1 = 15)**

Answer all questions.

I. True (or) False

1. Indirect Tax is calculated on every purchases and consumption.
2. Customs duty is a tax imposed on import and exports of goods.
3. GST was implemented in India from 1st July 2017.
4. Input Tax Credit cannot be availed against IGST.
5. IGST is applicable when there is intrastate supply.

II. Fill up the blanks

6. Direct tax is levied on a_____.
7. The word 'customary' is derived from ____.
8. Expand the IGST _____.
9. Input Tax Credit is the credit available of taxes paid on _____.
10. The rate of IGST is equal to the rate of _____.

III. Multiple Choice Questions

11. Indirect tax is _____in nature.
    (a) Progressive (b) Regressive
    (c) Both (a) and (b) (d) None of the above
12. The custom Act is _____.
    (a) 1952 (b) 1962
    (c) 1961 (d) 1960
13. Import/Export is treated as _____ in GST.
    (a) Intra-state supply (b) Inter-state supply
    (c) Both (a) and (b) (d) None of the above
14. Input Tax Credit is to be availed only if _____.
    (a) The person is a registered supplier
    (b) There is a proper tax invoice
    (c) Both (a) & (b)
    (d) None of the above
15. 1,000 bags of sugar are supplied by a sugar mill in Chennai to a wholesaler in Ernakulam. The sugar bags are sent by the mill to Ernakulam. Payment made by cheque payable at SBI Madurai. The place of supply is ____.
    (a) Ernakulam (b) Chennai
    (c) Madurai (d) Any of these

Contd…

PART – B

Answer all questions by choosing either (a) or (b). **(5×6 =30)**

16. (a) What is Indirect Tax? Briefly explain its types.

(OR)

(b) Explain the kinds of canons of taxation.

17. (a) Some goods are imported by Arun from USA for CIT value of US $6000. Freight and insurance actually paid is US $2000 and $700 respectively. CBEC notified rate of exchange is Rs.45.50 per US $. Calculate assessable value.

(OR)

(b) What is customs duty? Explain its types.

18. (a) Write short notes on GST. Point out the scope of GST.

(OR)

(b) What is SGST? How do distinct Interstate and Intrastate?

19. (a) List out the any five points of ineligible of ITC under GST.

(OR)

(b) Write short notes on "Zero Rate".

20. (a) When will you use debit note and credit note by supplier in GST?

(OR)

(b) Write the terms of "Tax Invoice".

PART – C

Answer any THREE questions **(3×10 =30)**

21. Explain the different between Direct tax and Indirect tax.

22. From the following details, find out the assessable value of the imported goods under the customs Act.

1. Cost of the machine – Rs.10,000.
2. Transportation charges – Rs.500
3. Handling charges – Rs.50
4. Commission paid by the importer – Rs.50
5. Freight charges – Rs.1,000
6. Exchange rate to be 1$=Rs.45

23. Explain the importance concept of time, place and value of supply under GST.

24. Discuss the eligible of Input Tax Credit under GST.

25. Distinguish between CGST and SGST?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A. ,Sociology **COURSE CODE : 6SG (2012 on)**

COURSE TITLE : Human Rights **QN.NO : 1356**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all questions.
Objective type with multiple choice answers.

1. When is Human Rights Day observed?
   a) 11 December b) 10 December c) 16 December d) 19 December
2. After the second World War_____ has taken several measures to protect the human rights.
   a) UNO b) Supreme Court c) International Court of Justice d) None
3. Where was the Universal Declaration adopted?
   a) London b) Myanmar c) Africa d) Franch

Fill in the blanks

4. Legal theory of rights propounded by _____
5. The architect of Indian Constitution is _____
6. Human Rights Day is celebrated in _____

Match the following

7. Fundamental rights	-	1953
8. Declaration of rights of the child	-	1975
9. Child Rights	-	Justiciable
10. International year of women	-	ICCPR (24)

PART – B (5x 3 = 15)

Answer all questions

11. What is UDHR?
12. What is monogamy?
13. Bounded labour.
14. Legal rights.
15. Capital punishment

Contd....

PART – C (4x 5 = 20)

Answer any FOUR questions

16.Define human rights?

17.Distinguish between convention and declaration.

18.Write a note on right to life?

19.Write the meaning of right to liberty.

20.Write a note on fundamental rights.

21.Give an account on moral human rights.

PART – D (2x1 5 = 30)

Answer anyTWO questions

22.Distinguish between human rights and fundamental rights.

23.Write an essay on refugees.

24.Illustrate with example the different problems faced by Indian women?

25. Give an account on human rights and gender stereotypes?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Mathematics **SUB.CODE : 1PGM4 (2015 on) / 3PGM2 (Upto 14)**

COURSE TITLE : Differential Equations **QN.NO : 1407**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer all the questions.

1. Form a differential equation from $y = ae^{4t} + be^{-3t}$ by eliminating the constants $a$and b.
2. Show that $e^{i\alpha t}$, $\sin\alpha t$, $\cos \alpha t$, $-\infty < t < \infty$, α being a real number , are linearly dependent.
3. Define analytic function.
4. Form a partial differential equation from $ax^2 + by^2 + cz^2 = 1$ by eliminating arbitrary constants.
5. Classify the second order p.d.e. u_{xx} - $x^2u_{yy} = 0$.

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

6. (a)Solve the IVP , for $\frac{\pi}{2} \leq t \leq \pi$, $x' + (\cot t)x = 2cosect, x\left(\frac{\pi}{2}\right) = 1$

(OR)

(b)Solve the equation $(1 - e^{-x})\, x' = 3t^2$

7. (a)Solve the IVP $x'' + x' + 2x = 0, x(0) = 0, x'(0) = 2.$

(OR)

(b)Prove that there are three linearly independent solutions of the third order equation$x''' + b_1(t)\, x'' + b_2(t)\, x' + b_3(t)x = 0, t \in I$, where b_1,b_2 , b_3 arefunctions defined and continuous on an interval I.

8. (a)If $P_n(t)$ and $P_m(t)$are Legendre polynomials, then prove that

$$\int_{-1}^{1} P_n(t)\, P_m(t)dt = 0 \ \ if\ m \neq n.$$

(OR)

(b)Show that $\frac{d}{dt}\left[t^p J_p(t)\right] = t^p J_{p-1}(t)$and $\frac{d}{dt}[\, t^{-p} J_p(t)\,] = -t^{-p} J_{p+1}(t)$.

9. (a)Find the general solution of $x^2\frac{\partial z}{\partial x} + y^2\frac{\partial z}{\partial y} + z^2 = (x + y)z.$

(OR)

(b)Find the integral surface of the linear partial differential equation $x(y^2 + z)p - (x^2 + z)q = (x^2 - y^2)z$, which contains the straight lin $x + y = 0, z = 1$

10. (a)Find the general solution of the p.d.e. $\left(D^2 - D'^2\right)z = x - y.$

(OR)

(b)Reduce the equation $u_{xx} + x^2u_{yy} = 0$ to canonical form .

Contd…

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

11.If M and N are two real-valued functions defined and having first order continuous partial derivatives on a rectangle R : $|t - t_0| \leq$ a, $|x - x_0| \leq b, a > 0, b > 0, a$ and $b$being constants , (t_0 , x_0) being a given point in R. State and prove the necessary and sufficient condition for the equation $M(t,x)dt + N(i,x)dx = 0$.

12.State and prove Abels formula.

13.Find the power series solution of the Legender equation of order p.

14..If u_i (x_1 , x_2 , ...x_n ,z) = c_i , i = 1,2,3,...n are independent solutions of $\frac{dx_1}{P_1} = \frac{dx_1}{P_1}$=.....=$\frac{dx_1}{P_1}$= $\frac{dz}{R}$, then prove that the relation φ (u_1, u_2 ,.....u_n) = 0 in which $\varphi$is arbitrary is a general solution of the given partial differential equation.

15. Explain the method of solving a second order partial differential equation of the form $R\frac{\partial^2 z}{\partial x^2}$ +S$\frac{\partial^2 z}{\partial x \partial y} + T\frac{\partial^2 z}{\partial y^2} + f(x,y,z,p,q) = 0$.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Mathematics **COURSE CODE : 2PGM1(15 On & Upto 14)**

COURSE TITLE : Measure Theory **QN.NO : 1411**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer all the questions.

1. Define measurable set.
2. Define measurable simple function.
3. Write a formula for $D^+ f(x)$ and $D^- f(x)$.
4. Define Strictly Convex.
5. Define Signed Measure.

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

6. a) Prove that the class M is a σ -algebra.
   b) State and prove countable subadditivity theorem.
7. a) Let f and f non-negative measurable functions. Prove that
   (i) if $f \le g$ then $\int f dx \le \int g dx$
   (ii) If A is a measurable set and $f \le g$ on A then $\int_A f dx \le \int_A g dx.$
   (iii) If a>0 then $\int af dx = a\int f dx$.
   b) State and prove Lebesques dominated convergence theorem. Let f be defined by $f(x) = x\sin(\frac{1}{x})$ for $x \neq 0$ f(0)=0. Find the four derivatives at $x = 0.$
8. a) If f is Riemann Integrals and bounded over the finite interval $[a,b]$ then prove that f is integrable and $R\int_a^b f dx = \int_a^b f dx.$ b
   b) Let f be defined by $f(x) = x\sin(\frac{1}{x})$ for $x \neq 0$, f(0)=0. Find the four derivatives at $x = 0.$

Contd…

9. a) State and prove Holder's inequality.

(OR)

b) Let ψ be convex on (a,b), a<s<t<u<b and prove that $\psi(s,t) \le \psi(s,u) \le \psi(t,u)$.

10. a) If v be a signed measure on $[[X,S]]$ .Let $E \in S$ and $v(E) > 0$ then prove that there exist A, a set positive with respect to v such that $A \subseteq E$ and $v(A) > 0$.

(OR)

b) i) Define mutually singular.

ii) Let $[[X,S,\mu]]$ be a measure space and let $\int f d\mu$ exist. Define v by $v(E) = \int_E f d\mu$ for $E \in S$. Find a Hahn decomposition, while v^+, v^- given by $v^+(E) = \int_E f^+ d\mu, v^-(E) = \int_E f^- d\mu$ from the Jordan decomposition.

PART – C (3 x 10 = 30)

Answer any THREE questions.

11. If $m^*(E) < \infty$ then E is measurable iff there exits a finite disjoint open intervals $I_1, I_2, ...I_n$ such that $m^*(E\Delta \cup I_i) < \in$.

12. State and prove Fatous lemma.

13. Show that $\int_0^\infty \frac{\sin t}{e^t - x} dt = \sum_{n=1}^\infty \frac{x^{n-1}}{1+n^2}$.

14. State and prove Jensen's inequality.

15. State and prove Radon-Nikodym theorem.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Mathematics **COURSE CODE : 2PGM2 (2015 On & Upto 2014)**

COURSE TITLE : Linear Algebra **QN.NO : 1413**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer all questions.

1. Prove that $\|\alpha u\| = |\alpha|\|u\|$.
2. For any $f(x),\ g(x) \in F[x]$ and any $\alpha \in F$, find $\left(f(x) + g(x)\right)'$.
3. Define the fixed field of G.
4. Suppose that $m(S) - \begin{pmatrix} 1 & 2 \\ 3 & 4 \end{pmatrix}$ and $m(T) - \begin{pmatrix} -1 & 0 \\ 2 & 3 \end{pmatrix}$. Compute the matrix of the product of two linear transformations.
5. If T is unitary and if λ is a characteristic root of T, show that $|\lambda| = 1$.

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

6. a) Let V be a finite dimensional vector space and W be a subspace of V. Prove that $A\left(A(W)\right) = W$.

(OR)

b) If $v_1, v_2, \ldots\ldots\ldots, v_n$ is a basis of V over F and if $w_1, w_2, \ldots\ldots\ldots, w_m$ in V are linearly independent over F, show that $m \leq n$.

7. a) If $p(x) \in F[x]$ and if K is an extension F, prove that for any element $b \in K$, $p(x) = (x - b)\,q(x) + p(b)$, where $q(x) \in K[x]$ and where $\deg q(x) = \deg p(x) - 1$.

(OR)

b) Prove that it is impossible, by straightedge and compass alone, to trisect 60°.

8. a) Show that S_n is not solvable for $n \geq 5$.

(OR)

b) If F is a finite field and $\alpha \neq 0, \beta \neq 0$ are two elements of F, prove that $1 + \alpha a^2 + \beta b^2 = 0$, where $a, b \in F$.

9. a) If $\lambda \in F$ is a characteristic root of $T \in A(V)$, prove that λ is a root of the minimal polynomial of T. Also prove that T only has a finite number of characteristic roots in F.

(OR)

Contd…

b) Let V be a finite dimensional vector space over F and $S, T \in A(V)$. Prove that the following:

(i) $r(ST) \leq r(T)$ (2 Marks)

(ii) $r(ST) = r(TS) = r(T)$ for S regular in $A(V)$. (5 Marks)

10. a) If F is a field of characteristic 0, and if $T \in A_F(V)$ is such that $tr\, T^i = 0 \forall\, i \geq 1$, prove that T is nilpotent.

(OR)

b) Prove that interchanging two rows of A changes the sign of its determinant.

PART – C (3 x 10 = 30)

Answer any THREE questions.

11. If V and W are of dimensions m and n, respectively, over F, prove that $Hom(V, W)$ is of dimension mn over F.

12. If L is a finite extension of K and if K is a finite extension of F, prove that L is a finite extension of F. Also prove that $[L : F] = [L : K][K : F]$.

13. Let $q(x)$ be an irreducible polynomial of degree p, p a prime, over the field Q of rational numbers. Suppose that $q(x)$ has exactly two non real roots in the field of complex numbers. Show that the Galois group of $q(x)$ over Q in S_p, the symmetric group of degree p.

14. If V is n-dimensional over F and if $T \in A(V)$ has all its characteristic roots in F, prove that T satisfies a polynomial of degree n over F.

15. Show that $\det(AB) = (\det A)(\det B)$, where $A, B \in F_n$.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Mathematics **COURSE CODE : 2PGM3(15 on & 1PGM4 (Upto 14)**

COURSE TITLE : Classical Mechanics **QN.NO : 1415**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(5 x 2 = 10)**

Answer all questions.

1. State conservation theorem for the Angular momentum of a particle.
2. Define configuration space and monogenic.
3. Write Euler – Lagrange differential equations.
4. Define elliptic and circular orbit.
5. Write the magnitude of e of the following orbits.

   i) hyperbola ii) Parebola iii) Ellipse iv) circle

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

6. a) State and prove conservation theorem for the linear momentum of a system of particles.

   (OR)

   b) State and prove energy conservation theorem for a particle.

7. a) Find the equation of motion for the Atwood's machine.

   (OR)

   b) Find the shortest distance between two points in a plane.

8. a) Derive the Lagrange's equation from Hamilton's principle for non – holonomic system.

   (OR)

   b) Show that the generalized momentum conjugate to a cyclic co – ordinate in conserved.

9. a) Explain the concept of reduction to the equivalent one body problem.

Contd…

(OR)

b) Explain the types of orbit classification.

10. a) State and prove Bertrand's theorem.

(OR)

b) Explain about the motion in time in the Kepler problem.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

11. State D' Alembert principle and derive the Lagrange's equation from that principle.
12. Derive the Euler Lagrange's equation using calculus of variations.
13. Derive the Lagrange's equation from Hamilton's principle for Holonomic system.
14. State and prove virial theorem.
15. Explain briefly about the Laplace – Runge – Lenz vector.

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SEMESTER EXAMINATIONS – APRIL 2021

CLASS: M.Sc., Mathematics **COURSE CODE : 2PGM4 (2015 On / 2PGM3 (Upto 2014)**

COURSE TITLE : Numerical Analysis **QN.NO : 1417**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer all the questions.

1. What is Transcendental equation?
2. What do you mean by Jacobi method?
3. Define finite elements and knots.
4. Write the error of approximation.
5. State stability theorem.

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

6. a) Using Chebyshev method, find the root of the equation $f(x) = \cos x - xe^x = 0$ correct to six decimal places. Take the initial approximation as $x_0 = 1.0$.

(OR)

b) Perform three iterations of the multipoint iteration method, find the smallest positive root of the equation $f(x) = x^3 - 5x + 1 = 0$. Take the initial approximation as $x_0 = 0.5$.

7. a) Find all the Eigen values of the matrix $A = \begin{bmatrix} 4 & 3 \\ 1 & 2 \end{bmatrix}$ using the Rutishauser method.

(OR)

b) Using the Householder's transformation reduce the matrix $A = \begin{bmatrix} 2 & 1 & 1 \\ 1 & 1 & 0 \\ 1 & 0 & 1 \end{bmatrix}$ into a tridiagonal matrix.

8. a) Obtain the piecewise linear interpolating polynomials for the function f(x) defined by the data.

x	1	2	4	8
f(x)	3	7	21	73

Estimate the values of f(3) and f(7).

(OR)

b) Given the data

x	0	1	2	3
f(x)	1	2	33	244

Fit quadratic splines with $M(0) = f''(0) = 0$. Find an estimate of f(2.5).

Contd…

9. a)

x	-1	1	2	3	4	5	7
f(x)	1	1	16	81	256	625	2401

Using the formula $f'(x_1) = (f(x_2) - f(x_0)) / (2h)$ and the extrapolation method, find $f'(3)$.

(OR)

b) Find the approximate value of $I = \int_0^1 \frac{dx}{1+x}$ using

(i) Trapezoidal rule. (ii) Simpson's rule. Obtain a bound for the errors.

The exact value of I = In2 = 0.693147 correct to six decimal places.

10.a) Find the solution of the system of equations $\frac{du}{dt} = Au$ where $u = [u_1, u_2]^T$

and $T = \begin{bmatrix} -3 & 4 \\ -2 & 3 \end{bmatrix}$.

(OR)

b) Solve the initial value problem $u^1 = -2tu^2$, u(0) = 1 with h = 0.2, on the interval [0, 0.4],

using the backward Euler method.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

11. Perform three iterations of the Muller method to find the smallest positive of the equation $f(x) = x^3 - 5x + 1 = 0$.

12. Using the Jacobi method find all the eigen values and the corresponding eigenvectors of the matrix $A = \begin{bmatrix} 1 & \sqrt{2} & 2 \\ \sqrt{2} & 3 & \sqrt{2} \\ 2 & \sqrt{2} & 1 \end{bmatrix}$.

13. Obtain the piecewise quadratic interpolating polynomials for the function f(x) defined by the data .

x	-3	-2	-1	1	3	6	7
f(x)	369	222	171	165	207	990	1779

Find an approximate value of f(-2.5) and f(6.5).

14. Derive the formulas for the first derivative of y=f(x) of $O(h^2)$ using
(i) forward difference approximations.
(ii) backward difference approximations.
(iii) central difference approximations.

15. Find the solution of the initial value problem $\frac{du}{dt} = Au, u(0) = [1, 0]^T$ where

$A = \begin{bmatrix} -2 & 1 \\ 1 & -20 \end{bmatrix}$ and $u = \begin{bmatrix} u_1 \\ u_2 \end{bmatrix}$. Is the system asymptotically stable?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Mathematics **COURSE CODE : 2PGM5(2015 On & Upto 2014)**

COURSE TITLE : Fuzzy Mathematics **QN.NO : 1419**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(5 x 2 = 10)**

Answer all the questions.

1. Define scalar cardinality of a fuzzy set.
2. State the Axiomatic skeleton for fuzzy set unions.
3. Define Cylindric extension.
4. If $A \subset B$, prove that $Bel(B) \geq Bel(A)$.
5. Define Measure of Fuzziness.

PART – B **(5 x 7 = 35)**

Answer all questions by choosing either (a) or (b).

6. a) Define Extension principle and explain it with suitable illustration.

(OR)

b) Explain the following terms of fuzzy sets A and B.
(i) Complement (ii) Union (iii) Intersection

7. a) (i) Prove that every fuzzy complement has atmost one equilibrium.
(ii) If c is a continuous fuzzy complement, then prove that c has a unique equilibrium.

(OR)

b) Let $h_\alpha(a_1, a_2, \ldots, a_n) = \left(\frac{a_1^\alpha + a_2^\alpha + \cdots + a_n^\alpha}{n}\right)^{1/\alpha}$ is given, then prove that

$$\lim_{\alpha \to 0} h_\alpha = (a_1 . a_2 \ldots a_n)^{1/n}.$$

8. a) Let a binary fuzzy relation R is defined by the following membership matrix: $M_R = \begin{bmatrix} .7 & .4 & 0 \\ .9 & 1 & .4 \\ 0 & .7 & 1 \\ .7 & .9 & 0 \end{bmatrix}$. Find its Resolution form.

(OR)

b) Determine the transitive max-min closure $R_T(X,X)$ for a fuzzy relation R(X,X) defined by the membership matrix $M_R = \begin{bmatrix} .7 & .5 & 0 & 0 \\ 0 & 0 & 0 & 1 \\ 0 & .4 & 0 & 0 \\ 0 & 0 & .8 & 0 \end{bmatrix}$.

Contd…

9. a) Explain Plausibility measure.

(OR)

b) Prove that every possibility measure π on $\wp(X)$ is uniquely determined by a possibility distribution function $r : X \to [0, 1]$ via the formula $\pi(A) = \max_{x \in A} r(x)$ for each $A \in \wp(X)$.

10. a) Prove that $0 \leq H(p_1, p_2, \ldots, p_n) \leq \log_2 n$.

(OR)

b) Prove that the function $I(N) = \log_2 N$ is the only function that satisfies Hartley information axioms.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

11. Show that a fuzzy set A is convex if and only if $\mu_A(\lambda r + (1-\lambda)s) \geq \min[\mu_A(r), \mu_A(s)]$, for all r, s $\in \mathbb{R}^n$ and all $\lambda \in [0,1]$.

12. Prove that the following: For all a, b $\in$ [0, 1] ,

(i) $u(a, b) \geq \max(a, b)$ (ii) $u(a, b) \leq u_{max}(a, b)$

(iii) $i(a, b) \leq \min(a, b)$ (iv) $i(a, b) \geq i_{min}(a, b)$.

13. Solve the matrix equation of the form $p \circ Q = r$, where

$$Q = \begin{bmatrix} .1 & .4 & .5 & .1 \\ .9 & .7 & .2 & 0 \\ .8 & 1 & .5 & 0 \\ .1 & .3 & .6 & 0 \end{bmatrix} \text{ and } r = [.8 \quad .7 \quad .5 \quad 0] .$$

14. Prove that a belief measure Bel on a finite power set $\wp(X)$ is a probability measure if and only if its basic assignment m is given by $m(\{x\}) = Bel(\{x\})$ and $m(A) = 0$ for all subsets of X that are not singletons.

15. Prove that the following: (i) $H(X / Y) = H(X, Y) - H(Y)$

(ii) $H(X, Y) \leq H(X) + H(Y)$.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Mathematics **SUB.CODE : 3PGMNM (15 On & Upto 14)**

COURSE TITLE :Statistical Methods **QN.NO : 1433**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer all the questions.

1. Write the types of Averages.
2. Calculate the coefficient of range from the following data.

x	10-20	20-30	30-40	40-50	50-60
f	8	10	12	8	4

3. Find the coefficient of skewness from the following information:
   Difference of two quartiles = 8, Mode = 11, Sum of two quartiles = 22, Mean = 8.
4. In a question on correlation, the value of r is 0.917 and its probable error is 0.034. What would be the value of N?
5. From the following data, construct an index for 2003 taking 2002 as base by the average of relatives method using arithmetic mean of price relatives.

Commodity	Price in 2002(Rs.)	Price in 2003(Rs.)
A	50	70
B	40	60
C	80	90
D	110	120
E	20	20

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

6. a) Find the Arithmetic mean for the following data.

x	0-10	10-20	20-30	30-40	40-50	50-60
F	5	10	25	30	20	10

(OR)

b) Find the numbers whose arithmetic mean is 12.5 and geometric mean is 10.

7. a) Compute coefficient of quartile deviation from the following data.

Marks	10	20	30	40	50	60
No.of students	4	7	15	8	7	2

(OR)

b) Calculate the mean deviation from the mean for the following data:

Contd…

size	2	4	6	8	10	12	14	16
Frequency	2	2	4	5	3	2	1	1

8.a) Calculate Pearson's coefficient of skewness:

x	12.5	17.5	22.5	27.5	32.5	37.5	42.5	47.5
f	28	42	54	108	129	61	45	33

(OR)

b) For a moderately skewed data, the arithmetic mean is 200, the coefficient of variation is 8 and Karl Pearson's coefficient of skewness is 0.3. Find the mode and the median.

9.a) Calculate the correlation coefficient by Karl Pearson's method:

x	6	2	10	4	8
y	9	11	?	8	7

Arithmetic means of X and Y are 6 and 8 respectively

(OR)

b) In a correlation study the following values are obtained:

Mean	65	67
Standard deviation	2.5	3.5
Coefficient of Correlation	0.8	

Find the two regression equations that are associated with the above values.

10.a) The following are the index numbers of wholesale prices of a commodity based on 1994: Prepare new Index numbers taking 1999 as base:

Year	1997	1998	1999	2000	2001	2002	2003
Index numbers	100	108	120	150	210	225	240

-OR-

b) Construct a cost of living index from the following indices, the weights being food 55, clothing 15, rent 20 fuel and lighting 15 and miscellaneous 5:

Year	Food	Rent	Clothing	Fuel and lighting	Miscellaneous
2000	100	100	100	100	100
2001	105	104	98	100	110
2002	110	112	102	101	115
2003	112	115	105	103	120

Contd…

PART – C (3 x 10 = 30)

Answer any THREE questions.

11. Find the missing frequency if the arithmetic mean is 28 of the data given below. Find the median of the series later.

x	0-10	10-20	20-30	30-40	40-50	50-60
f	12	18	27	--	17	6

12. X Ltd. is actively considering the following two mutually exclusive projects for adoption. Which is the most risky project(use coefficient of variation)?

Year	Project X	Project Y
	Cost Profit(Rs. In lakhs)	Cost Profit(Rs. In lakhs)
1	10	5
2	5	25
3	20	45
4	40	30
5	60	30

13.From the following data of the wages of 50 workers of a factory, compute the first four moments about mean and also the value of β_1, β_2 . Comment on the results.

Daily wages(Rs.)	100-110	110-120	120-130	130-140	140-150	150-160	160-170
No.of workers	1	3	7	20	12	4	3

14. Obtain the rank correlation coefficient between the variables X and Y from the following data.

X	50	55	65	50	55	60	50	65	70	75
Y	110	110	115	125	140	115	130	120	115	160

15. Construct index numbers of price from the following data by applying (i) Laspeyres (ii) Paasche (iii) Bowley's (iv) Fisher's ideal & (v) Marshall-Edgeworth methods.

Commodity	2002		2003	
	Price	Quantity	Price	Quantity
A	2	8	4	6
B	5	10	6	5
C	4	14	5	10
D	2	19	2	13

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Mathematics **SUB.CODE : 4PGM1 (2015 on / 3PGM1 (Upto 2014)**

COURSE TITLE :Graph Theory **QN.NO : 1435**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer all the questions.

1. Define complete bipartite graph.
2. Define Spanning tree.
3. Write the $Euler$ Identity.
4. Define $Tait$ Colorable.
5. Define minimal dominating set.

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

6. a) Define the following**:**

   (i) Diameter of a graph G (ii) Walk (iii) Regular graph

   (OR)

   b) Prove that, for every graph G and every integer $r \geq \Delta(G)$, there exists an r-regular graph H containing G as an induced subgraph.

7. a) Prove that**,** a graph G is a tree iff every two vertices of G are connected by a unique path.

   (OR)

   b) Prove that, every two distinct blocks B_1 and B_2 in a nontrivial connected graph G have the following properties:

   (i) The blocks B_1 and B_2 are edge-disjoint.

   (ii) The blocks B_1 and B_2 have at most one vertex in common.

8. a) Prove that, every r-regular bipartite graph $r \geq 1$ has a perfect matching.

   (OR)

Contd..

b) If G is a connected plane graph of order n, size m and having r regions, then prove that $n - m + r = 2$.

9. a) For every graph G of order n, then prove that, $\chi(G) \geq \omega(G)$ and $\chi(G) \geq \frac{n}{\beta(G)}$.

(OR)

b) Define the following:

(i) Edge chromatic number (ii) State vizing's theorem

(iii) State heawood map coloring theorem

10. a) Solve: In any non-trivial connected graph

$$Grad_D(G) \leq diam_D(G) \leq 2rad_D(G)$$

(OR)

b) Let G be a graph without isolated vertices. If S is a minimal dominating set of G, then prove that $V(G) - S$ is a dominating set of G.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

11. Prove that, a non-trivial graph G is a bipartite graph iff G contains no odd cycle.
12. Prove that, a graph of order at least 3 is non-separable iff every two vertices lie on a common cycle
13. Prove that, a graph G contains a 1-factor iff $k_o(G - S) \leq |S|$ for every proper subset S of $V(G)$.
14. State and prove the $Five$ color theorem.
15. Prove: A non-trivial graph G is the eccentric subgraph of some graph iff every vertex of G has eccentricity 1 or no vertex of G has eccentricity 1.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Mathematics **SUB.CODE : 4PGM2 (2015 on & Upto 2014)**

COURSE TITLE :Functional Analysis **QN.NO : 1437**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer ALL the questions.

1. Define open ball.
2. Define equivalent norms.
3. State open mapping theorem.
4. State Polarization identity.
5. Define sesquilinear functional.

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

6. a) State and prove Holder's inequality.

(OR)

b) Prove that the set of polynomials in one variable is uniformly dense in $C[a,b]$.

7. a) Let X be a *nls*. If Y is a subspace of X, then prove that $Y \neq X$ iff $Y^{\circ} = \phi$.

(OR)

b) Let be a *nls* over K and E a convex subset of X with non-empty interior. Prove that if $b \notin E^{\circ}$, then there exists a non zero $f \in X'$ such that $Re\, f(x) \leq Re\, f(b)$ for every $x \in E$

8. a) State and prove Closed graph theorem.

(OR)

b) Let X be a Banach space and $F \in BL(X)$. Prove that F^{-1} exists and belongs to $BL(X)$ iff F is one to one and onto

9. a) State and prove Gram- Schmidt orthonormalization process.

(OR)

b) State and prove Bessel's inequality.

10. a) Let $A, B \in BL(H)$ and $k \in K$, then prove that the followings:

(i) $(A+B)^* = A^* + B^*$ (ii) $(kA)^* = kA^*$ (iii) $(AB)^* = B^*A^*$ (iv) $(A^*)^* = A$

(OR)

b) If $A \in BL(H)$, , then prove that there is a unique $B \in BL(H)$ such that for all $x, y \in H, (A(x), y) = (x, B(y))$

Contd…

PART – C (3 x 10 = 30)

Answer any THREE questions.

11. Let X be a metric space. Prove that the following conditions are equivalent :
    i) X is compact
    ii) Every sequence in X has a convergent subsequence
    iii) X is complete and totally bounded.
12. Lt X be a *nls* over K and Y a subspace of X of finite dimension n. Then prove that every bijective linear map $F: K^n \to Y$ is also a homeomorphism and Y is closed in X.
13. Let X be a *nls*. $U = \{x \in X : \|x\| < 1\}$ *and* $\delta > 1$. Let E be a subset of X such that for every $x \in U$,prove that there exists $a \in E$ with $\|x - a\| < \frac{1}{\delta}$.Also for every $x \in U$, prove that there exists a sequence (a_n)in E such that $\left\| x - \sum_{j=0}^{n} \left(\frac{a_j}{\delta^j}\right) \right\| < \frac{1}{\delta^{n+1}}$, n = 0,1,2…
14. State and prove Riesz- Fischer theorem.
15. Let H be a Hilbert space.If $A \in BL(H), \varphi(x,y) = \langle A(x), y\rangle, x, y \in H$ then prove thatφ is a bounded sesquilinear functional on H. Also if φ is any bounded sesquilinear functional on H then prove that there is a unique $A \in BL(H)$ such that $\varphi(x,y) = \langle A(x), y\rangle \forall x, y \in H$.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Mathematics **SUB.CODE : 4PGM3 (2015 on & Upto14)**

COURSE TITLE : Advanced Statistics **QN.NO : 1439**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer all the questions.

1. Define a Non – central χ^2 distribution.
2. Define a Non – parametric test.
3. Define Sufficient statistic for 0.
4. State Rao – Cramer inequality.
5. Define Efficient estimator.

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

6. a) Derive the pdf of a Non – Central χ^2 distribution.

(OR)

b) Find the mean and variance of a Non – central x^2 distribution.

7. a) Briefly explain the sign test.

(OR)

b) Discuss the Mann-Whitney Wilcoxon test.

8. a) Let $x_1, x_2, \ldots\ldots x_n$ be a r.s. from a uniform population on $[0, \theta]$. Find a Sufficient estimator for '0' .

(OR)

b) Let $x_1, x_2, \ldots.. x_n$ be a r.s from a normal distribution has pdf

$f(x,0) = \frac{1}{\sigma\sqrt{2\pi}} e^{\frac{-1}{2}\left(\frac{x-\theta}{\sigma^2}\right)^2}$, $-\infty < x < \infty; -\infty < 0 < \infty$ .Prove that $\bar{X}$ is complete sufficient statistic for 0.

9. a) State and prove Rao – Cramer inequality.

(OR)

b) Prove that $\bar{X}$, the mean of a r.s.of size n from a distribution that is $n(0,r^2)$, $-\infty < 0 < \infty$ for every known $r^2>0$, an efficient estimator of θ .

Contd…

10. a) Obtain a Non – singular multivariate normal pdf of 'n' r.v^{s} from a normal distribution.

(OR)

b) Prove that $f(x_1, x_2, ...x_n) = \frac{1}{(2\pi)^{n/2}\sqrt{|A^y|}} e^{-\frac{(x-\mu)'A(x-\mu)}{2}}$ *if* $-\infty < x; < \infty\ i = 1,2,....,n$.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

11. Explain briefly the Analysis of variance.
12. State and prove Neyman Factorization theorem.
13. State and prove Rao – Blackwell theorem.
14. Given the pdf $f(x;\theta) = \frac{1}{\pi[1+(x-\theta)^2]}, -\infty < x < \infty; -\infty < \theta < \infty$ .Prove that the Rao – Cramer lower bound is $\frac{2}{n}$,where n is the size of a r.s. from this Cauchy distribution.
15. Explain about the independence of certain quardratic forms.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : M.Sc., Mathematics **COURSECODE : 4PGM4 (2015 on & Upto 2014)**

COURSE TITLE : Stochastic Processes **QN.NO : 1441**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer all the questions.

1. State and prove first translation property.
2. Define Poisson distribution and its L.T.
3. State the classification of one – dimensional processes.
4. Define matrix of Transition probabilities.
5. State any two postulates of Poisson process.

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

6. a) Solve the difference equation $F_n = F_{n-1} + F_{n-2}$ $(n \geq 2)$ with the initial conditions $F_0 = 0$, $F_1 = 1$.

(OR)

b) Find the approximation for an eigen value of $A = \begin{bmatrix} 1 & 2 & 1 \\ 2 & 1 & 3 \\ 3 & 2 & 1 \end{bmatrix}$

7. a) Find the d.f, moments and moment generating function of normal distribution.

(OR)

b) Let S_n be the total number of successes in n Bernoulli trials with (fixed) probability of success p. Find uniform mixture of binomial distribution if

$$P_r = (s_n = k) = \binom{n}{k} p^k (1-p)^{n-k}, k = 0,1,..... .n$$

8. a) Let {Zi}, i = 1,2,…… be a sequence of identically independent random variables with mean o and let $Xn = \sum_{i=1}^{n} Z_i$ show that $\{X_n / n \geq 0\}$ is a martingale.

Contd…

(OR)

b) Show that Poisson process is evolutionary.

9. a) Let $\{X_n, n \geq 0\}$ be a Markov chain with the states 0,1,2 and with transition matrix $\begin{pmatrix} 3/4 & 1/4 & 0 \\ 1/4 & 1/2 & 1/4 \\ 0 & 3/4 & 1/4 \end{pmatrix}$ and the initial distribution $\Pr\{X_0 = i\} = 1/3, i = 0,1,2$ show that $P_r\{X_3 = 1, X_2 = 2, X_1 = 1, X_0 = 2\} = 3/64$

(OR)

b) State and prove Ergodic theorem.

10. a) State and prove Additive property of Poisson process.

(OR)

b) Prove that the interval between two successive occurrences of a Poisson process $\{N(t), t \geq 0\}$ having parameter λ has a negative exponential distribution with mean $1/\lambda$.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

11. Solve the difference equation $U_n = qU_{n-1} + P(i-U_{n-1})$, $n \geq 1$, $p+q = 1$ given the initial condition $U_0 = 1$.
12. State and prove convolution theorem.
13. Explain the processes with independent increments.
14. Prove that state j is persistent if and only if $\sum_{n=0}^{\infty} P_{jj}^{(n)} = \infty$.
15. Prove that the p.g.f of a non – homogenous process $\{N(t), t \geq 0\}$is given by $Q(s,t) = \exp\{m(t)(s-1)\}$ where $m(t) = \int_0^t \lambda(x)\,dx$ is the expectation of N(t).

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : M.Sc., Mathematics **COURSECODE : 4PGM5 (2015 on)/ 3PGM5(B) (2011-2014)**

COURSE TITLE :Programming with Java **QN.NO : 1443**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer all the questions.

1. What is Java development kit?
2. Define Variables.
3. Write the basic form of a class.
4. Define Interfaces.
5. What are the tools required to run an applet?

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

6. a) Write a note on Web browsers.

   (OR)

   b) How to implement a Java program?
7. a) Explain 'for' statement with examples.

   (OR)

   b) Explain about the 'while' and 'do' statements and distinguish them.
8. a) Explain single and multi level inheritances.

   (OR)

   b) How to access class members.
9. a) How to extending the thread class?

   (OR)

   b) How to create and access a package?
10. a) How to design a web page?

    (OR)

    b) Explain about the Applet tag.

PART – C (3 x 10 = 30)

Answer any THREE questions.

11. Explain the command line arguments with an example program.
12. Explain the operators that are available in Java.
13. Explain the creation and initialization of one and two dimensional arrays.
14. Explain the life cycle of a thread.
15. Discuss about the shapes of rectangle, oval and polygons with suitable examples.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : M.Sc., Statistics **COURSE CODE : 19P2SMC5**

COURSE TITLE : Sampling Theory **QN.NO : 1507**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. In a _____ population all sampling units are imagined.
   a) Restricted Sampling b) Hypothetical c) Sample d) Large
2. The errors in a survey other than sampling errors are called
   a) Formula errors b) Planning error
   c) Non-Sampling error d) None of the above
3. In simple random sampling with replacement, the same sampling unit may be included in the sample _____.
   a) Only once b) Only twice
   c) More than once d) None of the above
4. Probability of drawing a unit at each selection remains same in____.
   a) SRSWOR b) SRSWR
   c) both (a) and (b) d) None of (a) and (b)
5. Stratified sampling comes under the category of
   a) Unrestricted sampling b) Subjective sampling
   c) Purposive sampling d) Restricted sampling
6. Which of the following statements does not hold good in case of stratified sampling?
   a) Stratified sampling is convenient
   b) Stratified sampling is always good
   c) Enables to gather information about different stratum separately
   d) Reduces error for fixed cost
7. Systematic sampling means____.
   a) Selection of n contiguous units
   b) Selection of n units situated at equal distances
   c) Selection of n largest units
   d) Selection of n middle units in a sequence
8. A systematic sample does not yield good results if:
   a) Variation in units is periodic
   b) Units at regular intervals are correlated
   c) Both (a) and (b)
   d) None of (a) and (b)

Contd…

9. In a sample of n units is drawn with probabilities Z_i and with replacement, then _____ is an unbiased estimate of Y.

a) $\hat{Y}=\frac{\Sigma y_i}{z_i}$ b) $\widehat{y_{ppz}}=\frac{1}{n}\sum_{i=1}^{n}\frac{y_i}{z_i}$ c) $\widehat{y_{ppz}}=\frac{\Sigma y_i}{n}$ d) $\hat{y}=\bar{X}$

10. The Horvitz-Thompson estimator of the population total is

a) $\widehat{y_{HT}}=\sum_{i}^{n}\frac{y_i}{\pi_i}$ b) $\widehat{y_{HT}}=\sum y_i$ c) $\widehat{y_{HT}}=n\bar{X}$ d) $\hat{y}=n\bar{Y}$

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Explain mean square error of the estimate.

(OR)

b) Elucidate the bias and its effects.

12. a) Prove that the sample mean $\bar{y}$ is an unbiased estimate of $\bar{Y}$.

(OR)

b) Explain estimates of means over subpopulations.

13. a) Explain about Neyman's allocation in stratified random sampling.

(OR)

b) Prove that $V(P_{st})=\frac{1}{N^2}\sum\frac{N_h^2(N_h-n_h)}{N_h-1}\frac{P_hQ_h}{n_h}$.

14. a) Explain variance of the estimated mean is systematic sample.

(OR)

b) Prove that $V(\bar{y}_{sy})=\frac{s^2}{n}\left(\frac{N-1}{N}\right)[1+(n-1)\rho_w]$

15. a) Elucidate the Horvitz-Thompson estimator.

(OR)

b) Explain the selection with unequal probabilities with replacement.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Describe the principal steps in a sample survey.

17. Prove that, $V(\hat{R})=\frac{1-f}{n\bar{X}^2}\frac{\sum_{i=1}^{N}(y_i-Rx_i)^2}{N-1}$

18. Prove that, if terms is $1/N_h$ are ignored relative to using,

$$V_{opt}\leq V_{prop}\leq V_{ran}$$

19. Describe the populations with linear trend in systematic sample.

20. Prove that, if $\pi_i>0$, (i=1,2,…,N),

$\widehat{Y_{HT}}=\sum_{i}^{n}\frac{y_i}{\pi_i}$ is an unbiased estimator of Y, with variance

$V(\widehat{Y_{HT}})=\sum_{i=1}^{N}\frac{(1-\pi_i)}{\pi_i}y_i^2+2\sum_{i=1}^{N}\sum_{j>i}^{N}\frac{(\pi_j-\pi_i\pi_j)}{\pi_i\pi_j}y_iy_j$ Where π_{ij} is the probability that units i an j both are in the sample.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : M.Sc., Statistics **COURSE CODE : 19P2SMC6**

COURSE TITLE : Statistical Estimation Theory **QN.NO : 1508**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. If Θ denotes the collection of all possible values of the parameter, then $\{f(x,\theta) \mid \theta \in \Theta\}$ is the family of distribution under investigation. Θ is called the
   a) Sample space b) Parameter space
   c) Interval space d) Image space
2. A statistic T is sufficient for θ if, in the equality $p_\theta(x) = g_\theta(t)\, h(x,t)$ the second factor in the RHS, viz., h(x,t), the conditional joint p.d.f. of $\{X \mid T = t\}$ is
   a) Independent of t b) Independent of x
   c) Independent of θ d) Independent of T
3. The quantity $\{ \psi'(\theta) \}^2 / I_\theta(x)$ is called the
   a) Cramer-Rao lower bound b) UMVUE
   c) Variance d) Unbiased estimator
4. If T is sufficient for θ then, by the factorization theorem, we have $p_\theta(x) = g_\theta(t)$ h(x,t) where h(x,t) does not depend on
   a) t b) θ c) x d) 1/t
5. Generally, the estimators obtained by the method of moments as compared to ML estimators are:
   a) Less efficient b) More efficient
   c) Equally efficient d) None of these
6. Minimum Chi-Square estimators are not necessarily:
   a) Efficient b) Consistent c) Unbiased d) all the above
7. Least square estimators under linear set up are:
   a) Unbiased b) UMVUE's c) BLUE's d) all the above
8. Pitman's estimator for location parameters are generally:
   a) Unbiased b) Consistent
   c) A function of Sufficient statistics d) None of the above
9. Confidence limits for the population mean difference can be found out only when:
   a) The observations on two variables are paired
   b) When the two variables are correlated
   c) Both (a) and(b) d) Neither (a) nor (b)

Contd…

10. For a fixed confidence coefficient $(1 - \alpha)$, the most preferred confidence interval for the parameter θ is one

a) With shortest width b) With largest width

c) With an average width d) None of the above

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Explain the role of Mean-Squared Error.

(OR)

b) Elucidate Fisher – Neyman factorization theorem.

12. a) State and prove Lehmann-Scheffe theorem.

(OR)

b) State and prove Rao-Blackwell's theorem.

13. a) If x is a Poisson variate with parameter μ, find the maximum likelihood estimate of μ.

(OR)

b) Estimate the parameters μ and σ^2 of the Normal distribution by the method of moments.

14. a) Describe the least square method of estimation of the parameters of simple linear model.

(OR)

b) Find the Pitman estimator of the mean μ of a Normal population $N(\mu,1)$.

15. a) Explain about One-sided confidence interval.

(OR)

b) Describe confidence limits for the difference between the means of two Normal populations.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Explain the concept of sufficiency of an estimator.
17. State and prove Chapman-Robbins inequality.
18. How can one estimate the parameters of distribution by the method of minimum Chi-square?
19. Describe the expression for Pitman's estimator for location and scale parameters of a distribution.
20. Delineate the inequality for finding out the confidence limits for the variance σ^2 of Normal population, $N(\mu, \sigma^2)$ when its mean μ is unknown?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Statistics **COURSE CODE : 19P2SMC7**

COURSE TITLE : Demography **QN.NO : 1509**

TIME :3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Vital statistics is grandly utilized by,
   a) Actuaries b) Social reformers
   c) Planners d) All the above
2. The death rate obtained for a segment of a population is known as:
   a) Specific death rate b) Standardized rate
   c) Crude death rate d) Vital index
3. Fertility rates mainly depend on:
   a) Total female population b) Total population
   c) Female population of child bearing age
   d) Number of newly burned babies
4. Life table has also been named as:
   a) Mortality table b) Life expectancy table
   c) Survival table d) All the above
5. Normally a life table is constructed for an age interval of,
   a) Five years b) One year
   c) Five to 10 years d) None of the above
6. In general :
   a) GRR = NRR b) GRR ≥ NRR c) CRR ≤NRR
   d) There is no relationship between GRR and NRR
7. NRR = 1 implies:
   a) Female population will exactly replace itself
   b) Population remains constant
   c) There is no mortality in female births
   d) All the above
8. A population maintaining a constant growth rate is said to be a:
   a) Stable population b) Mobile population
   c) Stationary population d) None of these
9. In life table lx+n is equal to:
   a) $l_x+{}_nP_x$ b) $l_x \cdot {}_nP_x$ c) $l_x - {}_nP_x$ d) $l_x / {}_nP_x$
10. The standardising factor C is given by:
    a) p/q b) p*q c) q/p d) p+q

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Write short note on:

i) Balancing equation and ii) Dependency ratio

(OR)

b) Explain Chandra Sekaran and deming Index method?

12. a)Write down the methods of collection of the vital statistics?

(OR)

b) Calculate General Fertility Rate, Specific Fertility Rate, Total Fertility Rate for the following data:

Age groups (in years)	No. Of women (P^f_x)	Total live births (B_x)
15-20	10000	25
20-25	16000	60
25-30	20000	84
30-35	14000	37
35-40	12000	15
40-45	8000	10
45-50	5000	5

13. a) i) Define life table and

ii) Write complete life table and abridged life table.

(OR)

b) Given the following table for l_x. Complete whatever part of the life table is possible to be completed:

X	0	1	2	3	4	5
l_x	1000	880	876	867	824	642

14. a) Explain standardised birth rate?

(OR)

b) From the following data find out the Gross Reproduction Rate and Net Reproduction Rate:

Age group	No. of children born to 1000 women passing through the age group	Mortality rate
16-20	180	150
21-25	1800	100
26-30	2200	200
31-35	1000	250
36-40	600	200
41-45	100	250
46-50	80	300

Sex Ratio being male: female = 52:48.

Contd…

15. a) What is migration and also explain the kinds of migration.

(OR)

b) Explain: i) out migration rate ii) In- migration rate
iii) Net migration rate

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16.i) What do you understand by population composition?
ii) What is the significance of age structure?
iii) How is sex ratio measure?

17. Give details vital statistics and also write the uses of vital statistics.

18. In constructing of a life table the ages of three men A, B and C are 90, 91 and 92 respectively. Using the following table, find the probability:
i) That A, b and C will be live in two years time(i.e., at the end of two years)
ii) All will be dead within two years.
iii) That one atleast of the three will be alive for two years or more.
iv) That exactly one of the three will be alive in two years time.
v) That exactly two of the three will be alive in two years time.

That C will be alive for 6 years time given the following table:

Age x:	90	91	92	93	94	95	96	97	98
Number living at age x(l_x)	16090	11490	8012	5448	3607	2320	1447	873	509

19. Explicate the following:
i) Crude Birth Rate
ii)General Fertility Rate
iii) Age- Specific Fertility Rate
iv) Total Fertility rate

20. Clarify population projection and also its importance.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Mathematics **COURSE CODE : 19P2SMC8**

COURSE TITLE : Programming in C **QN.NO : 1510**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. C programs are converted into machine language with the help of
   a) An Editor b) A compiler
   c) An operating system d) None of the above
2. Which of the following is allowed in a C Arithmetic instruction
   a) [ ] b) { } c) ( ) d) None of the above
3. What is right way to Initialization array?
   a) int num[6] = { 2, 4, 12, 5, 45, 5 } ; b) int n{} = { 2, 4, 12, 5, 45, 5 } ;
   c) int n{6} = { 2, 4, 12 } ; d) int n(6) = { 2, 4, 12, 5, 45, 5 }
4. What is C Tokens?
   a) The smallest individual units of c program
   b) The basic element recognized by the compiler
   c) The largest individual units of program
   d) A & B Both
5. What is the work of break keyword?
   a) Halt execution of program b) Restart execution of program
   c) Exit from loop or switch statement d) None of the above
6. Recursive functions are executed in a?
   a) First In First Out Order b) Load Balancing
   c) Parallel Fashion d) Last In First Out Order
7. The Default Parameter Passing Mechanism is called as
   a) Call by Value b) Call by Reference
   c) Call by Address d) Call by Name
8. What will be the output of the following arithmetic expression in C?
   5+3*2%10-8*6
   a) -37 b) -42 c) -32 d) -28
9. What will be the output of the following statement?
   printf ("%X%x%ci%x",11,10,'s',12);
   a) error b) basc c) Bas94c d) None of these
10. What will be the output of the following statement ? printf(3 + "goodbye");
    a) goodbye b) odbye c) bye d) dbye

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Explain the keywords in C Programming.

(OR)

b) Explain the various Datatypes used in C Programming.

12. a) What is Type Casting in C? Explain with an example.

(OR)

b) List any three built-in String functions in C and illustrate with an example.

13. a) Write a simple C program to add two Matrices A and B of order 2 x 2 using 'FOR' Loop.

(OR)

b) What is the difference between Recursion and Iteration? Explain with suitable examples.

14. a) What is the difference between One Dimensional Array and Multi-Dimensional Array?

(OR)

b) Write a C Program to illustrate the concept of 'Switch' statement.

15. a) What is the difference between a 'Structure' and a 'Union'? Give examples.

(OR)

b) What is the need for headers file 'stdio.h' in C Programming?

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. How will you declare Constant Data type in C Programming? Illustrate with an example.

17. Write a simple C Program to illustrate the usage of Logical Operators in C.

18. What is the difference between 'IF' and 'NESTED IF' statements in C? Explain with the help of a sample program in C.

19. Write a C program to simulate a Calculator using function.

20. Describe the benefits of files in C programming.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Statistics **COURSE CODE : 19P2SME2(B)**

COURSE TITLE : Actuarial Statistics **QN.NO : 1514**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. At what rate percent per annum will a sum of money double in 8 years
   a) ¼ b) 8 c) 1/8 d) 4
2. The _____ premium system of insurance is unsuitable and unworkable.
   a) Assessment b) net c) natural d) office
3. Life table has also been named as:
   a) Mortality table b) Life expectancy table
   c) Survival table d) All the above
4. Life table consists of _____ columns
   a) 5 b) 11 c) 8 d) 10
5. Reel merrel of construction of abridge life-tables utilies_____
   a) Age specified mortality age b) both (a) and (b)
   c) central mortality rates d) neither (a) and (b)
6. Life table gives for all interval values of age is called_____
   a) Complete life table b) cohort life table
   c) abridged life table d) none of the above
7. Fertility rates mainly depend on:
   a) Total female population
   b) Total population
   c) Female population of child bearing age
   d) Number of newly burned babies
8. The annuity benefit ceases on the first death of the couple is _____
   a) Joint life annuity b) Reversionary annuity
   c) last survivor annuity d) multiple life annuity
9. Mekeham's law provides a good fit for ages
   a) < 20 b) ≤ 20 c) >20 d) ≥ 20
10. Normally a life table is constructed for an age interval of,
    a) Five years b) One year
    c) Five to Ten years d) None of the above

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Clarify the complete life table and abridged life table.

(OR)

b) Give explanation the life table functions?

12. a) Explain the classification of annuities?

(OR)

b) What are the uses of life table?

13. a) A series of 8 annual sums of money is payable, the first payment taking place at the end of one year from now. The first five payments are Rs. 300 each and the last three payments are Rs. 200 each. Find the present value of the eight payments @ 8% p.a.

(OR)

b) Calculate the present value of a deferred annuity payable for 10 years certain, the first payment falling due at the end of 6 years from the present time. The annuity is payable at the rate of Rs. 100 p.a. for the first 5 years and Rs. 200 p.a. thereafter. Given $a_{5\neg} = 4.3295$, $a_{10\neg} = 7.7217$, $a_{15\neg} = 10.3797$.

14. a) Give expressions for the prospective policy value and retrospective policy value at the end of 5 years under an Endowment Assurance Policy, for a sum assured of Rs. 5000, effected on the life of a person at age 25 for term of 30 years. Annual premiums under the policy are limited to 15 years. Show that the two expressions are equal. Ignore expenses.

(OR)

b) Delineate policy values and also explain two kinds of policy values.

15. a) Elucidate multiple- Decrement life table.

(OR)

b) On the basis of LIC (1970-73) table and 6% interest. Calculate the installment half-yearly premium for an Endowment Assurance of Rs. 5000/- on life of (40) for 20 years. Death benefit is payable at the end of year of death.

PART – C (3x10=30)

Answer any THREE questions.

16. Briefly explain the Makeham's laws of mortality?
17. Why is an abridged life table prepared? Enumerate the columns of an abridged life table and describe the steps in their construction.
18. Explain: i) Deferred temporary life annuity?
    ii) Variable life annuity?
    iii) Increasing life annuity?

Contd…

19. Clarify: i) Surrender Values?
    ii) Paid –up Policies?
    iii) Alteration of policy contracts?
20. On 1st January 1973, an office issued a number of annual premium without profit policies to a group of lives each of whom was then aged 35. All the policies were for a term of 20 years and were of the following types:
    i) Endowment Assurances under which the sum assured was payable on survival to the end of the term of on previous death.
    ii) Temporary Assurances under which the sum assured was payable only on death within the policy term Calculate the profit or loss from mortality for the calendar year 1983 in respect of the policies issued to this group of lives given the following data:

Types of policy	Sums assured exiting on 31st December 1988	Sums Assure discontinued by death during 1988
Endowment assurance	Rs. 27,00,000	Rs. 17,000
Temporary Assurance	Rs. 15,40,000	Rs. 4,000

Basis : LIC (1970 – 73) ultimate table and 6% interest.

Assume that there is no source of decrement other than death and that all claims are paid at the end of the year of death.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Statistics **COURSE CODE : 19P4SMC13**

COURSE TITLE : Linear Models and Design of Experiments **QN.NO : 1523**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The best linear unbiased estimator is obtained using _____
   a) Gauss Markov Theorem b) Fisher's inequality
   c) both d) none of the above
2. The equation $Y= a+bx_1+cX_2$ is _____
   a) intercept form b) non intercept form
   c) non-linear d) none of the above
3. Identify the confounded effect in a 2^4 factorial experiment _____

B1	(1)	abcd	ac	bd	acd	abc	b	d
B2	abd	ad	c	ab	bc	cd	bcd	a

   a) ABCD b) BCD c)ACD d)AC
4. In a 2 level factorial experiment the principal block will always have _____
   a) highest order interaction b) (1)
   c) all the single order d)none of the above
5. The method of confounding is a device to reduce the size of _____
   a) Experiment b) treatments c) blocks d) all the above
6. In a 2^k factorial design confounded in 2^p blocks how many generalized interactions are confounded apart from independent confounded effects?
   a) 2^p b) 2^p-p-1 c) 2^{k-p} d) none of the above
7. In a PBIBD the following statement_____ is true
   a) vr = bk b) vr≠bk c) vr= b(k-1) d)V(r-1)=b
8. In a 3^3 factorial experiment the interaction component A^2B^2C is equivalent to the interaction component_____
   a) ABC b) AB^2C c) ABC^2 d) AB^2C^2
9. Efficiency of BIBD is _____ RBD
   a) greater than b) lesser than c) equal to d)none of the above
10. In a Strip plot design importance is given to _____
    a) Whole plot treatment b) subplot treatment
    c) interaction d) all of the above

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Explain the testing of linear hypothesis.

(OR)

b) Describe Best linear unbiased estimator$(BLUE)$.

12.a) Present the analysis of 2^3 partial confounding in factorial design with example.

(OR)

b) Discuss the analysis of partial confounding in 3^2 factorial design.

13.a) Discuss about quarter fractional factorial of2^k design.

(OR)

b) Describe about Two-level fractional factorial designs with example.

14.a) Describe about balanced incomplete block designs

(OR)

b) Illustrate Lattice design with example

15.a) Describe about Youden square design.

(OR)

b) Explain the analysis on Split-plot design.

PART – C (3x10=30)

Answer any THREE questions.

16.State and prove Gauss –Markov Theorem.

17.Discuss the analysis of Total confounding in 3^3 factorial design.

18.Describe the analysis of one-half fraction of 2^kdesign.

19.Discuss the analysis of partially balanced incomplete block designs with 2 associate classes.

20.Give the brief notes and analysis on Split-split plot design.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Statistics **COURSE CODE : 19P4SMC14**

COURSE TITLE : Stochastic Processes **QN.NO : 1524**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. The state 'i' is aperiodic if
   a) $P_{ii} = 0$ b) $P_{ii} \neq 0$ c)$P_{ii} > 0$ d) $P_{ii} < 0$
2. A persistent, non – null and aperiodic state of a Markov chain is said to be
   a) transitive b) irreducible c) ergodic d) absorbing
3. The process corresponding to $\lambda_n = n\lambda$ is called
   a) Yule process b) Birth & death process
   c) Birth immigration process d)immigration-emigration process
4. The process corresponding to $\lambda_n = \lambda$ and $\mu_n = \mu$ is known as
   a) Yule process b) Birth & death process
   c) Birth immigration process d) immigration-emigration process
5. For the sequence $\{X_i\}$ if the event $\{N = x\}$ is independent of $X_{n+1}, X_{n+2}, \ldots$ for all $n = 1,2, \ldots$, then an integer valued random variable N is said to be
   a) Renewal equation b) stopping time
   c) Wald's equation d) black replacement
6. For aPoisson process, the renewal function is
   a) approximately linear b) asymptotically linear
   c) exactly linear d) None of these
7. The objects generated by the objects of the 0th generation are called the
   a) offsprings b) ancestors
   c) branching d) direct descendants
8. The Galton Watson process is
   a) Markov chain b) ancestors c) Poisson d) Ergodic
9. The diffusion coefficient is denoted as
   a) a(t, x) b) b(t, x) c) a(x, t) d) b(x,t)
10. If $X(t)$ has independent increments that the Weiner process is a
    a) Markov chain b) Gaussian
    c) Markov process d) ergodic process.

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11.a) Let $\{X_n, n \geq 0\}$ be a Markov chain with three states 0,1,2 and with transition matrix $\begin{pmatrix} 3/4 & 1/4 & 0 \\ 1/4 & 1/2 & 1/4 \\ 0 & 3/4 & 1/4 \end{pmatrix}$ and the initial distribution $\Pr\{X_0 = i\} = \frac{1}{3}, i = 0,1,2$. Find $\Pr\{X_3 = 1, X_2 = 2, X_1 = 1, X_0 = 2\}$.

(OR)

b) Explain the classification of chains and classification of states of a Markov chain.

12.a) Explain Yule process.

(OR)

b) Derive Kolmogorov differential equation.

13.a) Prove the renewal function M satisfies the equation $M(t) = F(t) + \int_0^t M(t-x)dF(x)$.

(OR)

b) State and prove the central limit theorem for renewals.

14.a) Prove that $P_n(s) = P\big(P_{n-1}(s)\big)$.

(OR)

b) If $m \leq 1$, the probability of ultimate extinction is 1. If $m > 1$, then prove that the probability of ultimate extinction is the positive root less than unity of the equation $s = P(s)$.

15.a) Discuss about Weiner process.

(OR)

b) Derive the forward diffusion equation of the Weiner process.

PART – C **(3 x 10 = 30)**

Answer any THREE questions

16.Determine the nature of the following t.p.m.

$$P = \begin{pmatrix} \frac{1}{3} & \frac{2}{3} & 0 & 0 \\ 1 & 0 & 0 & 0 \\ \frac{1}{2} & 0 & \frac{1}{2} & 0 \\ 0 & 0 & \frac{1}{2} & \frac{1}{2} \end{pmatrix}.$$

17.Derive the equations of Birth and death process.

18.State and prove elementary Renewal theorem.

19.Prove that the p.g.f. $R_n(s)$ of Y_n satisfies the recurrence relation $R_n(s) = sP\big(R_{n-1}(s)\big)$, $P(s)$ being the p.g.f. of the offspring distribution.

20.Explain the Kolmogorov forward and backward diffusion equation.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Statistics **COURSE CODE : 19P4SMC15**

COURSE TITLE : Programming in Python **QN.NO : 1525**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Who developed the Python language?
   a) Zim Den b) Guido van Rossum
   c) Niene Stom d) Wick van Rossum
2. Which one of the following is the correct extension of the Python file?
   a).py b).python c) .p d) .z
3. Which character is used in Python to make a single line comment?
   a) / b) // c) # d) !
4. What is the method inside the class in python language?
   a) Object b) Function c) Attribute d) Argument
5. Which of the following is not a keyword in Python language?
   a) val b) raise c) try d) with
6. What happens when '2' == 2 is executed?
   a) False b) True
   c) ValueError occurs d) TypeError occurs
7. Which of the following is the use of id() function in python?
   a) Every object doesn't have a unique id
   b) Id returns the identity of the object
   c) Id returns the identity of the class
   d) Id returns the identity of the pointer
8. Which of the following data types is not supported in python?
   a) String b) Numbers c) Slice d) List
9. What is the maximum possible length of an identifier?
   a) 32 characters b) 63 characters c) 79 characters d) 31 Characters
10. Which of the following function headers is correct?
    a) def fun(a = 2, b = 3, c) b) def fun(a = 2, b, c = 3)
    c) def fun(a, b = 2, c = 3) d) def fun(a, b, c = 3, d)

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a)List the DATA TYPES of Python programming language.

(OR)

b)How will you perform NAME CONVERSIONS in Python?

12. a) Explain briefly the various operators in Python.

(OR)

b) Explain the need for User Defined Data Types in Python.

13. a) Write a simple Python program to illustrate the control statements.

(OR)

b) Explain the important attributes of an array.

14. a) How will you use recursive function in Python?

(OR)

b) How to insert an element in tuples?

15. a) How will you open and close files in Python?

(OR)

b) Explain briefly the concept of correlation.

PART – C **(3x10=30)**

Answer any THREE questions.

16. Write down the installation procedure in Python.
17. Explain the WHILE statement in Python.
18. How to create multi-dimensional arrays in Python?
19. Describe the various operations that could be done on Tuples.
20. Explain briefly the concept of standard deviation and variance in Python.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Statistics **COURSE CODE : 19P4SME4(A)**

COURSE TITLE : Applied Regression Analysis **QN.NO : 1528**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The standard error of the $\hat{\beta}_1$ is _____

   a) $\frac{\hat{\sigma}}{\sqrt{\sum x_i^2}}$ b) $\frac{\sqrt{\frac{\sum e_i^2}{n-1}}}{\sqrt{\sum x_i^2}}$ c) $\frac{\sqrt{\frac{SSE}{n-1}}}{\sqrt{\sum x_i^2}}$ d) All the above

2. State which of the following statements are correct

   i) R^2 is equal to the square of the correlation coefficient between the response variable and the predictor.

   ii) Smaller the$|t|$or larger the p- value, shows the stronger the relationship between response variable and the predictor variables.

   iii) Closer the set of points to the straight line, the stronger the linear relationship between response variable and the predictor variables.

   a) I and II b) II and III c) I and III d) I, II, III

3. The influence of an observation is measured by using _____measure

   a)Welsch and kuh b) Barnett c) Vellaman d) Draftsman's

4. In linear regression, the predictor variables are assumed to be_____ each other.

   a) Linearly dependent b) Non-linearly Independent

   c) Linearly independent d) Non-linearly dependent

5. When the observations have a natural sequential order, the correlation is referred to as

   a) Multiple correlation b) Negative correlation

   c) Sequence correlation d) Autocorrelation

6. The evidence ofno autocorrelation is present in the error is identify when _____

   a) d = 2 b) d = 0 c) d = 4 d) d ≠2

7. The abbreviation of VIF is _____

   a) Variance influence factor b) Variable influence factor

   c) Variance inflation factor d) Variable inflation factor

Contd…

8. Muticollinearity may be present if, coefficients of variables that are expected to important have _____
   a) Small standard deviation b) Large correlations
   c) Large standard deviation d) Small correlations
9. The logarithm of the odds ratio is called _____
   a)logit b) logistic c) log ratio d) none of these
10. The 100(1 - ∝)%confidence interval for the slope coefficient are given by _____
   a) $\beta_1 \pm Z_{1-\alpha/2}\, SE\,(\beta_1)$ b)$\hat{\beta}_1 \pm Z_{1-\alpha/2}\widehat{SE}\,(\hat{\beta}_1)$
   c) $\hat{\beta}_1 \pm Z_{1-\alpha/2}\, SE\,(\hat{\beta}_1)$ d) $\hat{\beta}_1 \pm Z_{1-\alpha/2}\widehat{SE}\,(\beta_1)$

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Describe the method of testing the equality of regression coefficients.

(OR)

   b) State the properties of least square estimations.

12. a) Define a residual. Explain various types of residuals.

(OR)

   b) Identify the unusual observation for the below data set.

Row	Y	X	Row	Y	X
1	8.11	0	7	9.60	19
2	11.00	5	8	10.30	20
3	8.20	15	9	11.30	21
4	8.30	16	10	11.40	22
5	9.40	17	11	12.20	23
6	9.30	18	12	12.90	24

13. a) What is hetrosecedastic? Explain weighted least square.

(OR)

   b) Explain the logarithmic and power transformation.

14. a) How the multicollinearity is detected? Explain it.

(OR)

   b) Explain forward selection procedure in detail.

15. a) What is an odds ratio? Compute the odds ratio from below table.

Variable	Coefficient	Std. Err	Z	p
X	0.111	0.0241	4.61	0.001
Constant	-5.309	1.137	-4.68	0.001
Log-likelihood = -53.676546				

(OR)

   b) Explain the confidence interval estimation for logistic regression.

Contd…

PART – C (3x10=30)

Answer any THREE questions.

16. Describe briefly about the measuring the quality of model fit in regression.
17. State the methods used to measure of influence of the observations and explain them with suitable illustration.
18. What is auto correlation? Explain how it can be removed by transforming the variables.
19. What is the effect of multicollinearity on inference and forecasting?
20. Explain the test procedure of testing of hypothesis in logistic regression.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Physics **COURSE CODE : 2PGP2 (2008 On)**

COURSE TITLE : Electromagnetic Theory **QN.NO : 1612**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(8 x 2 = 16)**

Answer any EIGHT questions.

1. Name the three symmetries for which Gauss law is applicable.
2. Give Poisson equation. When it is reduced to Laplace equation?
3. Write the expressions of divergence and curl of B**.**
4. Mention Faraday's law in integral form.
5. What is polarization current?
6. State Poynting's theorem.
7. Relate wave number and wave length.
8. Define skin depth.
9. Write the expression of Poynting vector.
10. Give Larmor formula.

PART – B **(4x 11 = 44)**

Answer any FOUR questions.

11. (i) Explain Gauss Law.

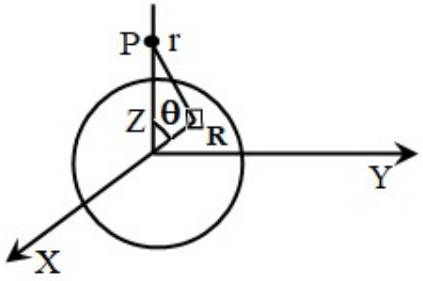
    (ii) Brief divergence of E.
12. State and prove first and second uniqueness theorem.
13. Write a note on magnetic vector potential.
14. Explain Faraday's law and inductance.
15. Brief Maxwell's equations in matter.
16. Obtain wave equation in one dimension.
17. Brief electric dipole radiation.

Contd…

PART – C (2x 7.5=15)

Answer any TWO questions .

18. Find the potential of a uniformly charged spherical shell of radius R shown in the figure.



19. Find the vector potential of an infinite solenoid with n turns per unit length, radius R and current I.
20. Find the self inductance of a toroidal coil with rectangular cross section 9inner radius a, outer radius b, height h), which carriers a total of N turns.
21. Find the potentials of a point charge moving with constant velocity.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Physics **COURSE CODE : 2PGP3 (2008 On)**

COURSE TITLE : Quantum Mechanics – I **QN.NO : 1614**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (8 x 2 = 16)

Answer any EIGHT questions.

1. Give the physical interpretation of Schrödinger wave function.
2. Explain the concept of probability current density.
3. What do you mean by box normalisation?
4. List down the postulates of quantum mechanics.
5. Give the physical significane of zero point energy of harmonic oscillator.
6. Explain eigen value and eigen function.
7. What do you mean by Hilbert space?
8. Define projection operator.
9. Give the commutation relation with J^2 with J_+ and J_-.
10. Define spin angular momentum.

PART – B (4x 11 = 44)

Answer any FOUR questions.

11. State and prove Ehrenfest theorem.
12. A particle is moving in one-dimensional square well potential, given by

$$V(x) = \begin{cases} 0 & for\ x < 0 \\ -V_0 & for\ 0 < x < a \\ 0 & for\ x > a \end{cases}$$

a) Write down the Schrödinger wave equation for the particle and solve it.
b) Find the reflection and transmission coefficients for the case $E > V_0$.

13. State and prove Schwarz inequality.
14. Eloborate on i) Reality of energy eigen values
    ii) Probability function and expectation values.
15. Obtain Schrödinger equation for spherically symmetric case of three dimensional haromonic oscillators. Solve it to obtain eigen functions and eigen values.
16. Compare Schrodinger's picture with Heissenberg's picture. Obtain the equation of motion in Heissenberg's picture.

Contd…

17. Deduce the Clebsch-Gordan coefficients and obtain their values when two angular momenta $j_1 = ½$ and $j_2 = ½$ are coupled.

PART – C (2x 7.5=15)

Answer any TWO questions.

18. For a one-dimensional wave function of the form $\Psi(x,t) = A\, exp[i\phi(x,t)]$. Show that the probability current density can be written as $j = \frac{\hbar}{m}|A|^2\frac{\partial\phi}{\partial x}$.

19. The wave function of the hydrogen for 1s state is $\Psi(1s) = \frac{1}{\sqrt{\pi}}\left(\frac{1}{a_0}\right)^{3/2} e^{-r/a_0}$ Where $a_0 = \frac{\hbar^2}{me^2}$ is the Bohr's radius. Calculate the algebraic expression of the expectation value of the potential energy of electron in 1s state.

20. If $|i\rangle$ forms a complete orthonormal set of basis vectors using the corresponding projection operator, show that $\sum_{i=1}^{n}|i\rangle\langle i| = 1$.

21. For Pauli's spin matrices, prove the following relations:

    i) $\sigma_x^2 = \sigma_y^2 = \sigma_z^2 = 1$

    ii) $\sigma_x\sigma_y = i\sigma_z$; $\sigma_y\sigma_z = i\sigma_x$ $\sigma_z\sigma_x = i\sigma_y$

    iii) $\sigma_x\sigma_y + \sigma_y\sigma_x - \sigma_y\sigma_z + \sigma_z\sigma_y - \sigma_z\sigma_x + \sigma_x\sigma_z - 0$.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Physics **COURSE CODE : 3PGP1 (2008 On)**

COURSE TITLE : Solid State Physics – I **QN.NO : 1622**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (8 x 2 = 16)

Answer any EIGHT questions.

1. What are Schottky and Frenkel defects?
2. What are Miller indices?
3. State Bragg's law.
4. What is the significance of Madelung constant?
5. Write down the dispersion relation of a phonon in a diatomic lattice.
6. What is crystal momentum?
7. Write a note on exciton condensation.
8. What are Frenkel and Mott – Wannier excitons?
9. Brief on Meissner effect?
10. What is the origin of energy gap in a superconductor?

PART – B (4 x 11 = 44)

Answer any FOUR questions.

11. Find out the atomic packing fractions of (a) hcp (b) SC structures.
12. Explain in detail any two techniques of recording the X – ray diffraction pattern.
13. Discuss in detail, the Debye model of heat capacity of a solid.
14. Explain Raman effect in crystals.
15. Discuss in detail on DC Josephson effect.
16. Arrive at the London equations for a superconductor.
17. Explain in detail on the dislocations in crystals.

PART – C (2 x 7.5 = 15)

Answer any TWO questions.

18. Metallic iron changes from BCC to FCC form at 910°C. At this temperature, the atomic radii of the iron atoms in the two structures are 1.258Å and 1.292Å respectively. Calculate the percent volume change during this structural change.
19. Calculate the number of atoms per meter square on the planes i) 100 and ii) 110 for a simple cubic lattice build up of spherical atom of radius R.
20. The superconducting transition temperature of Lead is T_c=7.26K. If the constant characteristic field of the lead material at 0K is $H_0 = 64 \times 10^3$ A/m. Calculate the magnetic field in the lead at 5K.
21. The critical temperature for mercury with isotopic mass 199.5 is 4.185K. Calculate its critical temperature when its isotopic mass changes to 203.4.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Physics **COURSE CODE : 3PGP3 (2013 On)**

COURSE TITLE : Molecular Spectroscopy **QN.NO : 1629**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(8 x 2 = 16)**

Answer any EIGHT questions.

1. What are symmetric and spherical tops?
2. What is the principle of working of a microwave oven?
3. Mention the breakdown of Born – Oppenheimer approximation.
4. Write down the selection rule for symmetric top molecules if the vibrations are parallel to the main symmetry axis.
5. Mention the various stretching modes of a water molecule?
6. What is the rule of mutual exclusion?
7. State Franck – Condon principle.
8. Define pre-dissociation.
9. What is nuclear magnetic resonance?
10. What is population inversion?

PART – B **(4 x 11 = 44)**

Answer any FOUR questions.

11. Discuss on the rotational spectra of a rigid diatomic rotator and arrive at the selection rule for the same.
12. Explain in detail the construction and working of a IR spectrometer with necessary diagram.
13. Elaborate on the vibration – rotation spectrum of carbon monoxide molecule.
14. Explain how the structure of a molecule is determined using Raman and IR spectroscopy.

15. Explain the rotational fine structure of electronic – vibrations transitions and arrive at the energy levels of the various branches.

16. With necessary diagrams, explain the construction and working of (i) Ruby laser (ii) He – Ne laser.

17. Discuss in detail the principle and working of a ESR spectrometer.

PART – C (2 x 7.5 = 15)

Answer any TWO questions.

18. The rotational constant for $H^{35}Cl$ is observed to be 10.5909cm^{-1}. What are the values of B for $H^{37}Cl$ and for $^{2}D^{35}Cl$?

19. The vibrational wave numbers of the following molecules in their $\nu = 0$ states are: HCl:2885 cm^{-1}; DCl:1990 cm^{-1}; D_2:2990 cm^{-1}; HD: 3627 cm^{-1}. Calculate the energy change in $kJmol^{-1}$ of the reaction

$$HCl + D_2 \rightarrow DCl + HD$$

and determine whether energy is liberated or absorbed.

20. With which type of spectroscopy would one observe the pure rotation spectrum of H_2? If the bond length of H_2 is 0.07417 nm, what would be the spacing of the lines in the spectrum?

21. The absorption spectrum of O_2 shows vibrational structure which becomes a continuum at 56876 cm^{-1}; the upper electronic state dissociates into one ground state atom and one excited atom with the excitation energy of 15875 cm^{-1}. Estimate the dissociation energy of ground state O_2 in $kJmol^{-1}$.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : M.Sc., Physics **COURSE CODE : 4PGP1(2008 On)**

COURSE TITLE : Nuclear Physics **QN.NO :1632**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (8 x 3 = 24)

Answer any EIGHT questions.

1. Derive the general solution of the Q- value equation.
2. Give a reasonable classification of nuclear reactions?
3. Describe an experiments to determine the range of α - particles.
4. Discuss Pauli's Neutrino hypothesis.
5. What do you mean by chain reaction?
6. Explain the decay probabilities of Spontaneous fission.
7. Write an expression for Yukawa potential also represent Yukawa Potential graphically.
8. Give a brief description of exchange forces.
9. State the conservation laws of baryons and leptons.
10. State the CPT theorem.

PART – B (4 x 10 = 40)

Answer any FOUR questions.

11. Obtain an expression for the Rutherford Scattering formula.
12. Give an account of Fermi's theory of β- decay.
13. Define Parity. Explain the violation of parity conservation during β- decay process. How has this been experimentally verified?
14. Discuss semi- empirical mass formula explaining meaning of each term in it and State its limitations.
15. Describe the construction and working of a nuclear reactor. Mention some of its uses. Give a Simple theory of deuteron.
16. What are quarks? Give quantum number associates with each quark. How are these quark combine to form baryons and mesons.
17. Obtain and plot the wave function for the deuteron ground state taken as an S- state

Contd…

PART – C (2 x 5.5 = 11)

Answer any TWO questions.

18. What is the distance of closest approach of a 2 Mev proton to a gold nucleus? How does this distance compute with those for a deuteron and an alpha particle of the same energy.
19. What are the expected types of gamma ray transitions between the following states of odd A nuclei. $g_{\frac{9}{2}} \rightarrow p_{\frac{1}{2}}$, $f_{\frac{5}{2}} \rightarrow p_{\frac{3}{2}}$
20. The meson theory of nuclear forces assumes the virtual exchange of pions. If a nuclear emits a virtual pions of rest mass 270 m_e. Calculate the range of the nuclear force.
21. Which of the following reactions are allowed and forbidden

    i) $\pi^+ + n \rightarrow \pi^0 + k^+$ ii) $\pi^+ + n \rightarrow k^0 + k^+$

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : M.Sc., Physics **COURSE CODE : 4PGP2 (2008 on)**

COURSE TITLE : Microprocessors **QN.NO : 1634**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (8 x 2 = 16)

Answer any EIGHT questions.

1. List out the different types of 8086 addressing modes.
2. Write an assembly language program to multiply two 16 bit unsigned numbers to provide a 32 bit result. Assume that the two numbers are stored in CX and DX.
3. Classify the predefined 8086 interrupts.
4. What is DMA?
5. Mention out the Intel X86 register set.
6. What are the three types of descriptor tables?
7. Differentiate between RISC and CISC.
8. Write a note on Pentium.
9. Distinguish between i486 and i386 microprocessor.
10. Write down the advantages and disadvantages of large CPU register file.

PART – B (4x 11 = 44)

Answer any FOUR questions.

11. Explain 8086 internal architecture in detail with block diagram.
12. Draw 8086 printout diagram and elaborate the functions of pin and signals.
13. Discuss briefly about assemble directives with suitable example.
14. Explain about real and virtual mode execution in Intel X86 architecture
15. Explain 80486 architecture in detail with neat diagram
16. Explain i860 architecture in detail.
17. Explain about RISC properties and its evaluation.

Contd…

PART – C (2 x 7.5= 15)

Answer any TWO questions.

18. Write an 8086 assembly language program to add two 64 bit numbers. Assume SI and DI contains the starting addresses of the numbers. Store the result in memory pointed to by [DI].
19. Write a subroutine program in 8086b assembly language program that can be called by a main program in a different code segment. The subroutine will multiply a signed 16 bit number by a signed 8 bit number. The main program will call this subroutine, store the results in two consecutive memory words and stop. Assume SI and DI point to the signed 8 bit and 16 bit data, respectively.
20. Discuss briefly about Intel X86 family architecture.
21. Compare between on chip register file and cache evaluation.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : M.Sc., Physics **COURSE CODE : 4PGP3 (2013 on) / 3PGP1 (Upto 2012)**

COURSE TITLE : Modern Optics **QN.NO : 1637**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (8 x 2 = 16)

Answer any EIGHT questions.

1. What is retardation plate? When does the retardation plate behave like a quarter wave plate and a half wave plate?
2. What is a thick lens?
3. Write a note on anti reflecting films.
4. What is partial and spatial coherence?
5. Compare Kirchhoff and Rayleigh Sommerfeld theory of diffraction.
6. State Huygens Fresnel Principle.
7. How does a thin lens act as a phase and holography.
8. Differentiate between photography and holography.
9. Define self focusing effect.
10. Mention the applications of optical mixing.

PART – B (4x 11 = 44)

Answer any FOUR questions.

11. Describe the production of right circularly polarized light using rotator.
12. Describe the spectral resolution of finite wave train and obtain the expression for coherence time and coherence length.
13. Explain Fabry Perot interferometer and derive an expression for free spectral range.
14. Describe the Kirchhoff theory of diffraction using plane screen.
15. Explain Rayleigh Somerfield formulation of diffraction by a plane screen and discuss the inconsistencies of Kirchhoff theory.
16. Describe the Fourier transforming properties of lenses when the objects placed against the lens and object placed behind the lens.
17. Explain the second and third harmonic generation with suitable examples.

Contd…

PART – C (2 x 7.5= 15)

Answer any TWO questions.

18. Analyze the Jones vector given by $\begin{bmatrix} 3 \\ 2+i \end{bmatrix}$ to show that it represents elliptically polarized light.
19. A Fabry Perot interferometer has a 1 cm spacing between mirrors and a reflection coefficient of r =0.95 for a wave length around 500nm. Determine mode number ,its finesse, its minimum eversible wavelength interval and its resolving power.
20. Using Fraunhofer approximation show that the intensity distribution from a circular aperture is $I(r) = \left(\frac{A}{\lambda z}\right) 2J_1\left(\frac{(kwr/z)}{kwr/z}\right)^2$.
21. Derive the integral theorem of Helmholtz and Kirchhoff.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME :M.Sc., Physics **COURSE CODE: 4PGP4 (2008 On)**

COURSE TITLE : Solid State Physics - II **QN.NO : 1638**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (7 x 3 = 21)

Answer any SEVEN questions.

1. Define the concept of Hall effect.
2. Give the short notes on thermal conductivity with example.
3. Describe the concept of effective mass.
4. Distinguish between direct and indirect band gap.
5. Give the short notes on Fermi surface.
6. Define the concept of paramagnetism with example.
7. Describe the Hund's rule.
8. Write a short note on Curie-Weiss law.
9. Define the concept of dielectric constant.
10. What is mean by insulating materials, give some examples.

PART – B (4 x 10 = 40)

Answer any FOUR questions.

11. Explain in details of theoretical and experimental heat capacity of electron gas.
12. Explain in more details of intrinsic carrier concentration. Also explain about thermo electric effect in semiconductors.
13. Explain about Pseudo potentials. Moreover, describe the concept of quantization of orbits in magnetic fields with examples.
14. Explain in details of Weiss theory of Ferromagnetism with suitable examples.
15. Explain in details of Langevin theory of diamagnetism with examples.
16. Describe in details of the dielectric constant and polarizability. Also, explain the concept of dielectric polarization.

Contd…

17. Explain in more details of electronic, ionic and orientation polarizations with examples.

PART – C (2 x 7 = 14)

Answer any TWO questions.

18. a) A paramagnetic material has 10^{28} atoms/m^3. The magnetic moment of each atom is 1.8×10^{-23} A.m^2. Calculate the paramagnetic susceptibility at 300 K.

    b) A magnetic materials has a magnetization of 3300 A/m and flux density of 0.444 Wb/m^2. Calculate the magnetizing force.

19. At what temperature we expect 10% probability of the electron in silver have energy 1% above Fermi level EF = 5.5 eV.

20. Mobilities of electrons and holes in a sample of intrinsic germanium at 300 K are 0.36 $m^2V^{-1}s^{-1}$, and 0.17 $m^2V^{-1}s^{-1}$ respectively. If the conductivity of the specimen is 2.12 $ohm^{-1}m^{-1}$, estimate the intrinsic carrier density.

21. If an ionic crystal is subjected to an electric field of 1000 Vm^{-1} and the resulting polarization 4.3×10^{-8} cm^2. Calculate the relative permittivity of NaCl.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - English **COURSE CODE : 3NNM (Upto 2016)**

COURSE TITLE : English for Employability **QN.NO : 1824**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. An Interviewer must practice before _____
   a) a mirror b) his teacher c) his friend.
2. The projector is placed _____ of the audience
   a) far away b) on one side c) in front.
3. Why are some people not able to express their views
   a) They lack wisdom b) they cannot speak
   c) they lack courage.
4. Shy participant listens _____
   a) with concentration b) without concentration
   c) without interest.
5. _____ has to be maintained while using visuals
   a) consistency b) inconsistency c) Relevance.
6. Maintaining eye contact with _____ type of audience is dangerous as it will encourage them.
   a) dominating b) arguing c) talkative d) careless.
7. The arguable people of an audience to do because they want to _____
   a) go home quickly b) while away their time c)
   c) show themselves as very smart
8. _____ language will confuse the audience
   a) High brow b) low brow c) eye brow.
9. Man listens 90 % of what he learns through _____
   a) reading b) hearing c) sayings & doings
10. What is an e-mail ?
    a) an electro-mail b) an electronic mail
    c) a kind of fax.

(P.T.O)

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Why should a Interviewer disclose details about his/her deformity to the audience?

(Or)

b) Give a case wherein Idea has become a thing of reality.

12. a) What are the advantages and disadvantages of group discussion?

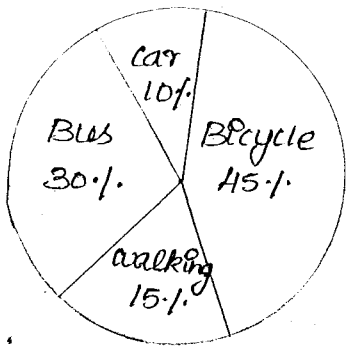
(Or)

b) The pie chart below shows the percentages of types of transportation used by 800 students to come to school.

(i) How many students, in the school, come to school by bicycle

(ii) How many students do not walk to school?

(iii) How many students come to school by bus or in a car.



13. a) Why should we avoid the irritating body language.

(Or)

b) How do you develop your self-esteem?

14. a) Write an e-mail to your friend asking him to look for a book in his college library.

(Or)

b) Write about the use of graphics

15. a) What are the uses of visual aids?

(Or)

b) Write a letter to your friend inviting him to spend the Diwali holidays with you.

(P.T.O)

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. comment on the language & comfort words of filming oneself.

17. Discuss learning as multi-sensory & not merely verbal

18. write an essay on the various types & methods of verbal communication.

19. Explain the role of audio-visual aids for effective presentation.

20. Describe the need for group discussion.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 4N1 (Upto 2016)**

COURSE TITLE : Classical Mythology & Literature **QN.NO : 1826**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. _____ is the Greek goddess of sexual love
   a) Aphrodite b) Athena c) Eros d) Hera
2. _____transformed himself into a bull and carried off Europa
   a) Aphrodite b) Zeus c) Eros d) Apollo
3. Orpheus's musical instrument is _____
   a) lyre b) flute c) harp d) violin
4. _____is a story from Ovid's book of poetry, *Metamorphoses*
   a) Orpheus and Eurydice b) Echo and Narcissus
   c) Daphne and Apollo d) Tale of Dedalus
5. What is the name of the woman who is said to have started the Trojan War
   a) Hecuba b) Helen c) Andromache d) Cassandra
6. At the end of the war, who killed King Priam?
   a) Neoptolemus b) Zeus c) Hecuba d) Diomedes
7. Where does Zeus go to watch the battle?
   a) Mount Helicon b) Mount Abora c) Mount Ida d) Mount Olympus
8. The Greek lyric poet Pindar produced odes to celebrate victories at all _____ Panhellenic games
   a) five b) six c) four d)seven
9. What is the hamartia of Oedipus?
   a) procrastination b) hubris c) wrong judgment d) suspicion
10. Who is Jocasta?
    a) queen b) princess
    c) chorus d) mother of oedipus

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a)Write a short note on the sons of Europa

(OR)

b) Write a short note on names, roles and meanings of Fates.

Contd…

12.a)Write a short note on the fall of Icarus

(OR)

b) How does Orpheus bring back his beloved wife to the earth?

13.a) Give your views on the Trojan War.

(OR)

b) How does the union of Cupid and Psyche take place?

14.a) How does Bion describe the gods' annual mourning for the death of Adonis**?**

(OR)

b) Write a short note on symbols in *Aeneid.*

15.a) What details about Jocasta in *Oedipus Rex* make her part in the story tragic?

(OR)

b) How do Oedipus's anger and pride cause his downfall in Odedipus Rex ?

PART – C (3 x 10 = 30)

Answer any THREE questions.

16.Discuss the depiction of Erichthonius in Greek mythology

17.Illustrate the power of music in Orpheus and Eurydice.

18.Write an essay on adventurers of Hercules.

19.Describe the shield of Achilles, The Achaean Ships and explain the symbolism.

20.In Oedipus Rex how does Creon serve as a foil to Oedipus?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English | **COURSE CODE : 4SN (Upto 2016)**

COURSE TITLE : Translation | **QN.NO : 1832**

TIME : 3 Hours | **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer ALL questions.

1. Translation studies was born in late _____.
   a) 1990 b) 1870 c) 1970 d) 1960
2. _____ translation is the texts within the field of law.
   a) Legal b) Judicial c) Literary d) Scientific
3. _____ translation deals with the translation of law documents.
   a) Judicial b) Literary c) Scientific d) Legal
4. Similarity in the meaning or impact of the expressed text is called _____.
   a) Linguistic b) Paradigmatic c) Stylistic d) Textual
5. Similarity in the structure and form of the texts is called _____ equivalence.
   a) Linguistic b) Paradigmatic c) Stylistic d) Textual

PART – B (5 x 7 = 35)

Answer any FIVE QUESTIONS.

6. What are the differences between the translator and an artist?
7. Bring out the functions of translation.
8. What are the types of translations?
9. Trace out the history of translation.
10. What are the problems of equivalence in translation?

P.T.O

11. What is meant by literary and Scientific translation?

12. Explain the differences between Transcreation and Transliteration.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

13. Define Translation and bring out the Significances of translation.

14. Explain the pitfalls in Translation.

15. Write an essay on the role of a translator.

16. Do you think that the translation is very important? If so, Substantiate your answer.

17. Compare and contrast the following passages.

Original:

கவலைப்பட வேண்டாம். அவன் நல்ல பையன். அவன் நல்ல குணத்தால் அவனுக்கு நிறைய நண்பர்கள் இருக்கிறார்கள்.

Translated:

Don't worry. He is a nice boy. He has many friends due to his good nature.

—— x ——

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English — **COURSE CODE : 5N1 (Upto 2016)**

COURSE TITLE : Introduction to Literary Criticism and Literary Forms — **QN.NO : 1836**

TIME : 3 Hours — **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1) The two main functions of Criticism are _____ and interpretation.

a) Creative power b) Judgement c) establisment d) different levels of values.

2) According to _____, Criticism is the art of interpreting art.

a) Carlyle b) Hudson c) walter pater d) Arnold

3) Dr. Johnson's most mature piece of critical work is _____

a) Lives of the poets b) London c) The vanity of Human wishes d) The Edition of Shakespeare.

4) In the year 1978, with the publication of the epoch-making book, _____, by wordsworth and Coleridge, a new taste in literature and art set in.

a) Tintern Abbey Lines b) Resolution and Independence c) Michael d) The Lyrical Ballads.

5) Which writer, once declared that he was "a royalist in Politics, Anglo catholic in religion and classical in literature".

a) George Eliot b) T.S. Eliot c) I.A. Richards d) Matthew Arnold.

Contd...

b) As a Critic of life, Matthew Arnold wanted to devote his time to enlarging the mental and _____ horizon of the English Public.

a) humanity b) truth c) Moral d) physical

7) The _____ idea of the lyric suggests its intimate Connection with music.

a) Latin b) Greek c) French d) Italian.

8) The term 'biography' was first used by _____ defining its as the history of particular men's lives.

a) Dryden b) Johnson c) plato d) wordsworth

9) Like tragedy, Comedy also originated in ancient Greece form of festivals celebrateing the nature-god _____

a) Apollo b) Zeus c) Dionysus d) Hades

10) _____ Says that Science fiction provides a realistic Speculation and possibles.

a) Arthur C. Clarke's b) H.G. wells c) R.A. Heinleins d) Bradbury

PART – B

Answer all questions by choosing either (a) or (b) **(5x 7=35)**

either a or b (150 words)

11) a) write a short note on Literary Criticism.

or

b) Explain the features of analysis of Literary text.

Contd...

CODE : 5N1 (2012 on) QN.NO : 1836

TITLE : Introduction to Literary Criticism and Literary Forms.

12 a) Describe William Wordsworth's Theory of poetry.

or

b) Explain Sir Philip Sidney's Contribution to English Poetry.

13) a) Discuss T.S. Eliot's Contribution to English Literature.

or

b) Explain Matthew Arnold as a literary Critic.

14) a) Write a Short note on Epic.

or

b) What is an Autobiography?

15) a) Give an account of Historical Novels.

or

b) Explain the Miracle and Mystery plays in the Elizabethan period.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16) Explain the origins of literature and also the aims of the study of literature.

17) Can you Compare and Contrast Plato's and Aristotle's theories of Society?

18) Criticise any one of the work by F.R. Leavis.

19) Describe about the psychological Novels aims at expressing the inwardness of experience.

20) Write a short essay on Elements of Drama.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 5N2 (Upto 2016)**

COURSE TITLE : Indian Writing in English **QN.NO : 1838**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The ---------- and the rose vied for the title of 'queen of flowers.'
   a) the dahlia b) the amaranth c) the lily d) the daffodil

2. With every movement that the scorpion made, the poison ---------- in Mother's blood.

   a) increased b) decreased c) moved d) released

3. The earliest known translation of *The Panchatantra* was from Sanskrit to ----------

   a) Syrian b) Pahlavi c) Arabic d) Roman

4. ---------- fish were found in the deep pools in the middle of the river in Nirad C. Chaudhri's birthplace.

   a) salmon b) flying c)chital d) catla

5. The astrologer's professional equipment included ----------.

   a) a computer b) cowrie shells c) sweet smelling herbs. d) printer

6. Which of the following attractions tempted the child most at the fair?

   a) the sweetmeat shop b) the roundabout c) the snake charmer. d) the biscute shop

7. Anand narrates to Prakriti, an incident from the life of ----------

   a) Urmila b) Draupadi c) Janaki d) Bhama

8. Prakriti urges her mother to bring back Ananda through ----------

   a) a humble plea b) violence c) a magic spell d) iron stick

9. The term 'rasa' is closest in meaning to ----------

   a) aesthetic appreciation b) aesthetic relish c) critical appreciation d) critical review

... P.TO

10. Tholkapiar's contribution is mainly in the field of ----------.

a) Literature b) Politics c) Linguistics. d).compassion

PART – B

(5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Comment on the title of Jayanta Mahapatra's poem, "Hunger."

OR

b) How does A.K. Ramanujan present the struggle between the mind and the flesh in his poem, "Still Another View of Grace?"

12. a) Give an account of the myth surrounding the creation of 'Woman' as is described in *Discovery of India.*

OR

b) Write a note on how people made use of the river in Nirad C Chaudhuri's "My birthplace."

13. a) Attempt a brief analysis of Nirode's character in "Voices in the City."

OR

b) How does Mulk Raj Anand portray the priorities of a child's world in the story titled, "The Lost Child."

14.a) Write a note on the use of the mirror in heightening the dramatic effect in the play, *Chandalika.*

OR

b) Attempt an analysis of Prakriti's character.

15. a) What does Tolkappiyar say on 'Diction?'

OR

b) Summarise Tolkappiar's views on 'Symbols.'

PART – C

(3 x 10 = 30)

Answer any THREE questions.

16. Discuss the autobiographical elements in the poem, "An Introduction" by Kamala Das.
17. Give an account of Nirad C Chaudhuri's description of his birthplace.
18. Describe how the astrologer frees himself from his guilt and fear about his past.
19. Give an account of the impact of Anand's words on Prakriti's life.
20. Elaborate on Bharatamuni's classification of 'Rasa' with examples.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 5N3 (Upto 2016)**

COURSE TITLE : British Drama **QN.NO : 1840**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1) Volpone is a ____ nobleman
a) British (b) venetian c) French

2) Lady Would-be is the affected wife of an ____ knight.
(a) English b) Indian c) Egyptian

3) The comedy of manners is popularized by ____ in the Restoration age.
a) Oliver Goldsmith (b) William congreve c) Oscar wilde.

4) The play 'the way of the world reflect the ____ cla life.
a) lower (b) upper c) middle

5) Joseph surface is in the real sense, a ____
gentleman (b) scoundrel double-dealer c) knight

6) ____ as antagonist plots with Joseph surface to ensure that Maria and charles breakup.
a) Lady sneerwell b) Moses d) oliver

7) Gwendolen insists that she can only love a man named ____
____ (a) Ernest b) Mr. prism c) Algernon

8) Ernest is forced to admit to living a ____ life

a) double b) Idle c) dull

9) The play 'Pygmalian was staged on —

a) 1912 b) 1929 c) 1922

10) shaw won the — prize for Literature in 1925

a) Pulitzer b) Nobel c) Man Booker

PART – B

Answer all questions by choosing either (a) or (b) (5x 7=35)

11) sketch the character of Mosca

(or)

Analyse the character of celia.

12) sketch the character of Wishfort

(or)

Attempt a character analysis of Fainall

13) The major part of the school for Scandal is rich of rich characters with humorous expositions — Elucidate

(or)

sketch the character of Lady Sneerwell

(Contd...)

14) Attempt a character sketch of Ernest

(or)

Discuss Oscar Wilde's wit and Humour in 'Importance of Being Earnest'.

15) sketch the character of Professor. Higgins.

(or)

Discuss shaw's dramatic techniques in the play "Pygmalion".

(Contd...)

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16) In Volpone, it seems that disguises can reveal more truth than they conceal – Elucidate

17 Discuss 'The Way of the World' as the best example of the Comedy of manners'

18) the school for scandals can be considered as a blend of satire and compassion – Discass.

19) Consider the Importance of Being Earnest as a farcical Comedy.

20) Discuss Pygmalian myth. How does shaw transform myth in his play?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 5N5 (Upto 16)**

COURSE TITLE : Short Stories **QN.NO : 1844**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Sue and Johnsy are ____.
   a) Pianists b) Guitarists c) Artists d) Actors
2. Johnsy suffers of ____.
   a) pneumonia b) cancer c) leg fracture d) malaria
3. The chrysanthemums symbolise
   a) Elisa b) limited scope of Elisa's life
   c) Elisa and her limited scope of her life d) none of these
4. The Salinas Valley symbolises
   a) Elisa's emotional life b) Elisa's attitude
   c) Elisa's behavior d) Elisa's longing
5. Why did Malasha's mother slap Akulya?
   a) splashed muddy water b) threw stone at her
   c) fought with her d) torn her dress
6. Who notices Malasha and Akulya are happily playing in the puddle again?
   a) Malasha's mother b) Akulya's mother
   c) men at church d) an old woman at church
7. What is the working hour of the clerk, Lala Fatechand?
   a) 10 am to 04 pm b) 09 am to 04 pm
   c) 09 am to 05 pm d) 10 am to 05 pm
8. Who is Framton's host?
   a) Vera b) Mrs. Sappleton c) Mr. Sappleton d) Ronnie
9. Who is Pim?
   a) friend b) uncle c) a dentist d) father
10. Eve Fincastle, a ___.
    a) a clerk b) a journalist c) a news agent d) a news reader

Contd..

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) What is Behrman's masterpiece?

(OR)

b) sketch the character of Elisa in "The Chrysanthemums"

12.a) Bring out the irony in "The Photographer"

(OR)

b) Write a paragraph on "Common Entrance"

13.a) Write a note on "One Autumn".

(OR)

b) Explain why Malasha's mother gets into argument with Akulya's family.

14.a) What did Fatechand do in the end in "The Resignation"? Explain the changes in Fatechand.

(OR)

b) Is Vera an antagonist or a protagonist? Explain.

15.a) What role does the diary play in Anne's life?

(OR)

b) A story of a bracelet. Explain.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16.Bring out the theme of inequality of gender in "The Chrysanthemums".

17.Write an essay on "The Photographer".

18.'Wisdom of children' in "Little Girls Wiser than Men". Explain.

19.Describe how the title of the story relates to the themes of the story itself in "The Open Window".

20.Explain the story of bracelet in "A Bracelet at Bruges".

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 5SN (Upto 2016)**

COURSE TITLE : Creative Writing **QN.NO : 1846**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Creativity helps an individual see things
   a) Doubtfully
   b) Hopefully
   c) Within certainty
   d) Differently

2. Creativity encourages
   a) Laziness
   b) Self-expression
   c) Originality
   d) Personality

3. Story telling is one of the most popular types of
   a) Expression
   b) Creative writing
   c) Fiction
   d) Expressing

4. Scanning and skimming are two types of
   a) Listening
   b) Reading
   c) Speaking
   d) Writing

5. Argumentative essay requires the student to
   a) Select a topic
   b) Present a topic
   c) Investigate a topic
   d) Prepare a topic

6. A spec script is also called a
   a) Reading script
   b) Listening script
   c) Revised script
   d) Edited script

Contd...

7. Paraphrasing means to
   a) Quote some words
   b) Mention a few words
   c) Express the meaning of words
   d) Write paragraph

8. Reading is a means for
   a) Understanding
   b) Language acquisition
   c) Improving fluency
   d) Communication

9. Propaganda means to
   a) Collect information
   b) Distribute information
   c) Receive information
   d) Create information

10. The power of imagination helps to
   a) Dive into the sea
   b) Go up the sky
   c) Visualize things that cannot be seen
   d) Gain divine blessings

PART – B

(5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a. Write notes on the importance of creativity

Or

b. Why is art considered immortal?

12. a. How is reading important in enhancing imagination?

OR

b. Write a note on the features of drama

13. a. Give your arguments on the topic: terrorism- a coward act

Or

b. Paraphrase the following:

for oft, when on my couch I lie
In vacant or in pensive mood,

Contd...

They flash upon that inward eye
Which is the bliss of solitude;
And then my heart with pleasure fills,
And dances with the daffodils

14. a. develop the hints into a short story
Once up on ----- a little girl----- in the wood-----little red riding hood---- visit----sick----grandmother---her mother-----basket of cookies---to her grandmother

Or

b. Mention a few characteristics of drama.

15. a. For your college day, prepare a script for a small play to be staged

Or

b. Prepare a script for a scene to be staged during your cultural events

PART – C

(3 x 10 = 30)

Answer any THREE questions.

16. Write an essay on the different types of reading
17. As a party member prepare propaganda for the election campaign.
18. Discuss the art of creative writing
19. What are the important features of fiction writing
20. Paraphrase the following poem

Behold her, single in the field,
Yon solitary Highland Lass!
Reaping and singing by herself;
Stop here, or gently pass!
Alone she cuts and binds the grain,
And sings a melancholy strain;
O listen! for the Vale profound
Is overflowing with the sound.

No Nightingale did ever chaunt
More welcome notes to weary bands
Of travellers in some shady haunt,
Among Arabian sands:
A voice so thrilling ne'er was heard
In spring-time from the Cuckoo-bird,

Breaking the silence of the seas
Among the farthest Hebrides.

Will no one tell me what she sings?—
Perhaps the plaintive numbers flow
For old, unhappy, far-off things,
And battles long ago:
Or is it some more humble lay,
Familiar matter of to-day?
Some natural sorrow, loss, or pain,
That has been, and may be again?

Whate'er the theme, the Maiden sang
As if her song could have no ending;
I saw her singing at her work,
And o'er the sickle bending;—
I listened, motionless and still;
And, as I mounted up the hill,
The music in my heart I bore,
Long after it was heard no more.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 6N1 (Upto 2016)**

COURSE TITLE : New Literature in English **QN.NO : 1848**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Choose the missing word in the following line of the poem, *Australia.*
   Of _____ demolished, or stone lion worn away.
   a) hills b) sphinx c) paws d) uniform
2. F.R.Scott's *The Canadian author's meet* was published in ____
   a) 1927 b) 1937 c) 1947 d) 1957
3. Anand Coomaraswamy discusses _____ dances of God Shiva.
   a) five b) two c) three d) six
4. The second well known dance of God Shiva is _____
   a) Stotra b) Nadanta c) Sagara d) Tandava
5. The two main characters in *The Double Hook* are
   a) James & Greta b) Felix & Angel
   c) William & Ara d) Theophil & Kip
6. *The Double Hook* marks the start of contemporary writing in _____
   a) Australia b) Europe c) Canada d) India
7. Johnny, in *Home Sweet Home* has plans to return to _____
   a) India b) Canada c) Africa d) Caribbean
8. The ideology presented in *Home Sweet Home* is
   a) Decolonization b) Patriotism
   c) Nationalism d) Creole Nationalism
9. The essay *Colonial Criticism* was written by
   a) Maya Angelou b) Chinua Achebe
   c) James Baldwin d) Richard Wright
10. India: A Wounded Civilisation is the _____ book of V.S.Naipaul's trilogy.
    a) First b) Third c) Fourth d) Second

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Explain the split of cultural identity as presented in Grace Nichols' *Of Course, When They Ask for Poems.*

(OR)

b) Discuss the arising tensions between the master and slave as presented in Walcott's *Ruins of a Great House.*

12.a) Explain the legend behind the dance of Shiva.

(OR)

b) How Anand Coomarasamy exposes the unity between Southeast Asia and Western Europe?

13.a) What is the role and importance of the Old Lady character in Sheila Watson's *Double Hook?*

(OR)

b) Explain the role of James and Greta in Sheila Watson's *Double Hook.*

14.a) Describe the emergence of Creole nationalism as depicted in Sam Selvon's *Home Sweet Home.*

(OR)

b) Explain briefly about the loss of Johnny's culture in *Home Sweet Home.*

15.a) What are Chinua Achebe's attack on Language in his essay, *Colonial Criticism?*

(OR)

b) Explain the historical background and situations that made V.S.Naipaul write *India: A Wounded Civilisation.*

PART – C (3 x 10 = 30)

Answer any THREE questions.

16.Analyse the elements of satire in A.D.Hope's poem, *Australia.* .

17. Explain Coomarasamy's concept of Shiva as the unifying force of different cultures.

18. Bring out the themes of social degeneration and redemption in Sheila Watson's *Double Hook.*

19.Elaborate on the theme of Sam Selvon's *Home Sweet Home* with its relevance to the incidents in the play.

20.Exemplify the plot of V.S.Naipaul's *India: A Wounded Civilisation.*

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 6N2 (Upto 2016)**

COURSE TITLE : History of English Language **QN.NO : 1850**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Language is _____
   a) constant b) stable c) evolutionary d) static
2. Which of the following is not the characteristic of the flux in language?
   a) new words appeared b) changes in the word order
   c) changes in grammatical endings of words
   d) sticking to the old system
3. The dialect of Wessex is otherwise called _____.
   a)West-Saxon b) Western Way
   c) Winchester West d) Wales Saxon
4. What is the corresponding Old-English word for the word 'she'?
   a) he b) heo c) it d) hou
5. The word 'curry' was the sixteenth century loan from _____.
   a) Chinese b) Hindi c) Tamil d) Malay
6. Who made a complaint that 'our language has been gradually departing from its original Teutonic character and deviating towards a Gallic structure and phraseology'?
   a) Addison b) Henry James c) Jonson d) Dr.Johnson
7. Which of the following is not the difficulty encountered by the advocates of English as a world language?
   a) vast vocabulary b) complex vocabulary
   c) difficult to translate
   d) lack of relationship between spelling and its pronunciation
8. The slang was initially employed mainly by _____.
   a) thieves b) writers c) politicians d) shopkeepers
9. Which of the following is an example for the combination of two words?
   a) island b) railway c) posthumous d) perambulator
10. Semantics is a scientific study of meaning of _____.
    a) philosophy b) mathematics c)world d) words

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) State the distinctive characteristics of Germanic group of languages.

(OR)

b) Point out the chief attributes that differentiate man from the other animal species.

12. a) How does the complicated grammar of Anglo-Saxon have its influence in the modern English?

(OR)

b) How was the Standard English established?

13. a) Tyndale's translation of the Bible is influential in fixing the English language. Discuss.

(OR)

b) Write in detail the general characteristics of English.

14. a) Write a note on Samuel Johnson's *Dictionary of the English Language*.

(OR)

b) What were the attempts made to reform English?

15. a) What are the ways with which the vocabulary of English has been enlarged?

(OR)

b) Write a short note on the makers of English.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Describe the Indo-European family of languages.
17. Trace the French influence on the vocabulary during the Middle English period.
18. Narrate the chief changes in pronunciation during the early modern period.
19. Write an essay on the evolution of English as a global language.
20. Examine the methods by which words have changed their meaning.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 6N3 (Upto 16)**

COURSE TITLE : American Literature **QN.NO : 1852**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The words, a gun, a hunter, and a hunting trip in the woods are referred to in the poem _____
   a. My life had stood – a Loaded Gun
   b. Stopping by Woods on a Snowy Evening
   c. Negros speaks of Rivers
   d. From Pent up Aching Rivers
2. *Singing the song of procreation,*
   Singing the need of superb children and therein
   superb grown people,
   Singing the muscular urge and the blending.
   The above lines are taken from _____
   a. My life had stood – a Loaded Gun
   b From Pent up Aching Rivers
   c. Stopping by Woods on a Snowy Evening
   d. Negros speaks of Rivers
3. Thoreau says the majority rules in democracies because _____
   a. The majority is more likely to be correct.
   b. To grant the desires of the majority is the only fair way of conducting government
   c. The majority is stronger than the minority
   d. Minority should respect the majority
4. _____ is used as a metaphor for government by Thoreau
   a. Ship b. Train c. Lighthouse d. Machine
5. Manolin is a character from _____
   a. The Old Man and the Sea.
   b. A Sweatshop Romance
   c. The Real Thing
   d. Cat on a Hot Tin Roof
6. "Honesty is not always as valuable—or saleable—as the capacity to adapt." The above statement is relevant to the theme of _____
   a. The Old Man and the Sea. b. The Real Thing
   b. A Sweatshop Romance d. Cat on a Hot Tin Roof
7. _____ is the occupation of Gooper.
   a. Painter b. Attorney
   c. Corporate Lawyer d. Sports personality

Contd…

8. _____ is a character from *Cat on a Hot Tin Roof.*
   a. Betty b. Eliza c. Big Daddy d. Shaw.
9. Poems should "begin in delight and end in wisdom"
   The above statement is made by _____
   a. Robert Frost b. Walt Whitman c. Thoreau d. Emerson
10. Edgar Allen Poe argues that all literary works should be ____
    a. Long b. Short c. Effective d. Informative

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Critically analyse the poem, "Stopping by Woods on a Snowy Evening"

    (OR)

    b) Examine the river images used in the poem, "From Pent up Aching Rivers"
12. a) Write a short note on Thoreau's views on Government.

    (OR)

    b) Civil disobedience is somewhat at odds with democratic government – Substantiate.
13. a) The Story, *The Real Thing* depicts the contradictions between appearance and reality in relation to art – Illustrate.

    (OR)

    b) "A Sweatshop Romance" addresses the need to stand up for oneself, to stay firm and not yield when our beliefs are trampled upon – Evaluate.
14. a) Sketch the character of Maggie.

    (OR)

    b) Analyse the structure of the play, *Cat on a Hot Tin Roof.*
15. a) "Poems are best evaluated through emotion."
    – Interpret the above statement based on your understanding of Frost's "The Figure a Poem Makes."

    (OR)

    b) Poe dismissed the notion of artistic intuition and argued that writing is methodical and analytical, not spontaneous - Appraise.

Contd..

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Walt Whitman's "From Pent-Up Aching Rivers" is a rhapsodic exultation of wilderness, but more specifically the wilderness of the human body – Discuss.
17. Discuss elaborately on the issues of Slavery and the Mexican-American War as present in Thoreau's essay, "Civil Disobedience"
18. "A Man can be defeated but not destroyed"

- Substantiate the above statement based on your understanding of the novel, *The Old Man and the Sea* by Ernst Hemingway.

19. Examine the significance of the title of the play, *Cat on a Hot Tin Roof.*
20. Poems are eternal as they will forever bear their wisdom and truth – Discuss the above statement based on your understanding of Frost's "The Figure a Poem Makes."

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 6N4 (Upto 16)**

COURSE TITLE : One Act Plays **QN.NO : 1854**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. The Swan song was published in _____.

   a) 1886 b)1887 c)1888 d)1889

2. The play *How He Lied to Her Husband* is set in ____.

   a) London b) Paris c) England d) Russia

3. Who is only speaking character in "Before Breakfast"?

   a) Mrs.Rowland b)Alfred c)Neil d)None

4. The old woman lives in _____.

   a) New Orleans b)New York c)New City d)Aongloy

5. The Kirby family visited ____.

   a) Beaulah b) Arthur c)Caroline d)Oliver

6. Who is the protagonist in William Inge's play?

   a) Teylor b)Nellie c)Lawford d)Bobolink

7. Who is the sister of Nora?

   a) Cathleen b)Maurya c)Bartley d)None

8. Percinet is the only son of _____.

   a)Bergamin b)Sylvette c)Pasquinot d)Juliet

9. The name of the drunkard in *The Trick.*

   A)Kalekezi b)Kazunga c)Kamuli d)None

10. Matsyagandhi is a_____.

    a) dramatic monologue b)tragedy c)Comedy d)Tragicomedy

Contd….

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) How does The Swan story end?

(OR)

b) Summarise the story of the play How He lied.

12. a) Why was the story called *Before breakfast*?

(OR)

b) What is the role of Winston Tutwiler?

13. a) Why does Caroline complain about Arthur?

(OR)

b) Give the short summary of *To Bobolink , to Her spirit*.

14.a) What does the title *Refers To Sea* mean?

(OR)

b) How does Pincet justify his presence in the garden?

15. a) Write a note on the character Kamuli in *The Trick*.

(OR)

b) Bring out the synopsis of *Matsyagandhi*.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Signify the title of *The Swan Song*.
17. Narrate the story of a young women's meeting with Lord Byron.
18. Give the plot Summary of *The Happy Journey*.
19. Analyse the title *Rides to the sea* critically.
20. Summarise the story of *The Trick*.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Chemistry **COURSE CODE : 1PGC1 (Upto 2016)**

COURSE TITLE : Organic Chemistry - I **QN.NO : 2102**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(9 x 3 = 27)**

Answer All questions.

1. Define : Resonance; State the conditions for resonance.
2. State the principle of microscopic reversibility
3. What is neighboring group participation? Give an example.
4. What is Chichibabin reaction ?
5. State the activity and orientation effect of halogens in electrophilic aromatic substitution reactions?
6. Define and give an example for S_Ei reaction.
7. Describe the Birch reduction. Provide the example.
8. What is Perkin's reaction?
9. Define and differentiate syn and anti addition reactions.

PART – B **(4 x 12 = 48)**

Answer all questions by choosing either (a) or (b).

10. (a) (i) Briefly discuss the features of HSAB principle. Give examples.(3)

(ii) Compare the thermodynamic and kinetic controlled reactions.(3)

(iii) Explain the mechanism of B_{AC}-2 reactions.(6)

(OR)

(b) (i) Explain the kinetic and non-kinetic methods for investigation of reaction mechanism.(6)

(ii) Explain the mechanism of A_{AC}-2 reactions.(6)

11. (a) (i) Compare the S_N1 and S_N2 reactions with examples.(6)

(ii) Discuss the synthesis and physiological action of vitamin C.(6)

(OR)

(b) (i) Explain the products formed and the mechanism when chlorobenzene is treated with NaOH.(6)

Contd..

(ii) Discuss the structure and physiological action of vitamin E.(6)

12.(a) (i) Write the products formed and the mechanism when p-nitrotoluene is treated with Br_2 in the presence Fe.(6)

(ii) Compare the S_E1 and S_E2 reactions with examples.(6)

(OR)

(b) (i) Provide the Hammett relationship. Discuss the significance of reaction and substituent constants, application and limitation.(6)

(ii) Explain the structure, stereochemistry & synthesis of camphor.(6)

13.(a) (i) Shortly describe the mechanism of homogenous hydrogenation (Wilkinson' catalyst) and hydroboration.(3+3)

(ii) Briefly explain the Claisen and benzoin condensations reactions (3+3)

(OR)

(b) (i) Discuss the hydroxylation reactions with $KMnO_4$ and OsO_4.

(ii) Explain the reduction reactions using $LiAlH_4$ and $NaBH_4$

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Chemistry **COURSE CODE : 1PGC2 (Upto 16)**

COURSE TITLE : Inorganic Chemistry - I **QN.NO : 2104**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (9 x 3 = 27)

Answer All questions.

1. What are the significance of the modeling constant?
2. What are hydrogen bond? Give an example.
3. How will you distinguish between π bond and σ bond ?
4. Define the following terms
   i) Bond energy ii) Bond length
5. Write the principle of silicate structures.
6. Explain the low molecularity of metal clusters.
7. Give the preparation and structure of boron hydrides.
8. Write the preparation and structure of the borazine.
9. What are siloxanes? Give an example.

PART – B (4 x 12 = 48)

Answer all questions by choosing either (a) or (b).

10.a)Write the following reactions of the non-aqueous solvents.
i) Liquid HF ii) HCN iii) CH_3COOH

(OR)

b) i)Define the term Lattice energy.
ii) How will you determine the lattice energy by using Born-Haber cycle?

11.a) Explain the following
i) Hybridization ii) Resonance iii) Bent's rule

(OR)

b) a) Give the comparative account of the VB and MO theories.
b) Write the electron pair repulsion theory and give its applications.

12.a) Describe the isopoly and hetero poly acids of the vanadium, molybdenum and tungsten.

(OR)

b) What are silicates? Explain the various types of silicates.

13.a) Give the preparation, properties and structure of the diborane

(OR)

b) Write the preparation ,properties and structure of the phosphazenes.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Chemistry **COURSE CODE : 2PGC1 (Upto 16)**

COURSE TITLE : Organic Chemistry -II **QN.NO : 2152**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (9 x 3 = 27)

Answer all questions.

1. Enumerate the stereochemistry of chiral molecules with single chiral carbons.
2. Write a short note on E/Z isomerism with a suitable example.
3. Define enantiomerism and diastereomerism with suitable example.
4. Draw the energy profile diagram for the conformational analysis of cyclohexane.
5. Compare the concept of aromaticity and Antiaromaticity.
6. Write a short note on stability of free radicals.
7. Write any two applications of Gilmans reagent
8. What happens when OsO_4 is treated with cyclohexene?
9. Write a short note on aromaticity of azulenes with a suitable example.

PART – B (4 x 12 = 48)

Answer all questions by choosing either (a) or (b).

10. a) Explain the determination of *R* and *S* nomenclature using C.I.P rules. (12)

(OR)

b) Enumerate the stereo chemistry of allenes and biphenyls with suitable Examples. (6+6)

11. a) Explain Cram's and Prelog's rules in stereochemistry. (6+6)

(OR)

b) Enumerate the concept of α-haloketone and octant rules with suitable examples. (6+6)

12. a) (i) Write a detailed note on Huckel's rule of aromaticity with suitable example. (6)

(ii) Explain the synthesis of Indole and Caffine. (3 + 3)

(OR)

b) Explain in detail about Gomberg and Sandmeyer reactions (6+6)

13. a) Write any two applications of Sodiumcyano borohydride and Feitson reagent with suitable examples. (6+6)

(OR)

b) Write a note on the synthetic applications of DCC and DDQ. (6+6)

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Chemistry **COURSE CODE : 2PGC3 (Upto 16)**

COURSE TITLE : Physical Chemistry - II **QN.NO : 2156**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (9 x 3 = 27)

Answer all questions.

1) What is eigenvalues and eigenfunctions?

2) What is zero point energy harmonic oscillator?

3) Why do we use approximation method in quantum mechanics?

4. What is meant by Hartree - Fock self-consistent field theory?

5) What is kinetic isotope effect?

6) Write the significance of activation energy.

7) Describe the kinetics of chain reaction.

8) What are explosion limits?

9) Compare collision theory with transition state theory.

PART – B (4x 12 = 48)

Answer all questions by choosing either (a) or (b).

10.a) i)Write the postulates of quantum mechanics.

ii) Deduce quantum mechanics of a free particle in linear motion.

(or)

b) Describe the following:

i) Commuting and Non-commuting operators.

ii) Orthogonality and Normalization of wave function

11. a) Write the application of first order perturbation theory and variation method to the ground state of Helium atom.

(or)

b) Elaborate the application MO theory to ethylene and benzene.

12.a) Explain theory of Lindenmann and Hinshelwood unimolecular reactions.

(or)

b) Derive RRKM theory of unimolecular reaction.

13) a) Explain the following fast reaction.

i) 'P' and 'T' method ii) stopped flow method.

(or)

b) i) Explain the chain reaction of hydrogen and bromine.

ii) Give in detail the hydrogen – oxygen explosion reaction.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Chemistry **COURSE CODE : 3PGC1 (Upto 16)**

COURSE TITLE : Organic Chemistry - III **QN.NO : 2166**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (9 x 3 = 27)

Answer All questions.

1. Define : Bathochromic shift and hypsochromic shift.
2. How does hydrogen bonding change the position of absorption in IR spectroscopy?
3. Why is TMS used as a reference standard in NMR spectroscopy?
4. ^{13}C is NMR active whereas ^{12}C is inactive. Explain.
5. Describe sigmatropic rearrangement and its types with examples.
6. Differentiate (4+2) and (2+2) cycloadditions.
7. What is Paterno-Buchi reaction?
8. Define : Rearrangement. Give its types.
9. What is curtius rearrangement?

PART – B (4 x 12 = 48)

Answer all questions by choosing either (a) or (b).

10.a) i) How will you distinguish o-hydroxybenzaldehyde (salicylaldehyde) and m-hydroxybenzaldehyde on the basis of IR spectroscopy? **(6)**

ii) How will you distinguish 3-methylcyclohexene and 4-methylcyclohexene using mass spectroscopy? **(6)**

(OR)

b) i) Discuss the factors affecting the UV spectrum. **(6)**

ii) What is Mclafferty rearrangement? Explain how it is helpful in distinguishing 2-pentanone and 3-pentanone? **(6)**

11.a) i) Acetylene protons are more shielded than ethylene protons. Explain. **(6)**

ii) Using ^{13}C NMR spectroscopy, how will you distinguish the following pairs of compounds: **(6)**

1) 1-butyne and 2-butyne

2) Phthalic acid and terephthalic acid

3) 1,4-dioxane and 1,3-dioxane

(OR)

b) i) What is chemical shift? Discuss the factors affecting it. **(6)**

ii) Define: Nuclear-overhauser effect. **(3)**

iii) What is COSY spectrum? **(3)**

Contd…

12.a) i) State and tabulate Woodward – Hofmann selection rules for electrocyclic reactions. **(6)**

ii) What are symmetry allowed and symmetry forbidden reactions? Explain with suitable examples. **(6)**

(OR)

b) i) Construct the correlation diagram of (4+2) and (2+2) cycloaddition reactions. **(6)**

ii) What are sigmatropic rearrangements? State the Woodward – Hofmann selection rules for such rearrangements. **(6)**

13.i) Discuss the photochemistry of alkenes. **(6)**

ii) Describe the mechanism of Wagner-Meerwein rearrangement with examples. **(6)**

(OR)

b) i) Explain the Norrish type I and II reactions. **(6)**

ii) What is di-pi methane rearrangement? Explain with examples. **(6)**

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Chemistry **COURSE CODE : 3PGC2 (Upto 16)**

COURSE TITLE : Inorganic Chemistry - III **QN.NO : 2168**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (9 x 3 = 27)

Answer All questions.

1. How will you distinguish between lanthanides and actinides?
2. Write a note on lanthanide shift reagents.
3. What is anation reaction ? Give an example.
4. What is trans effect? Give an example.
5. Write a note on photo aquation reaction.
6. What is photo rearrangement reaction? Give an example.
7. What is 'effective atomic number' (EAN)?
   Calculate the effective atomic number of the central metal atom in the $K_4Fe(CN)_6$ compound.
8. What are oxidative addition and reductive elimination reactions?
9. Give the Synthesis of ferrocence.

PART – B (4 x 12 = 48)

Answer all questions by choosing either (a) or (b).

10.a) How will you determine the stability of the complex by the following methods
i)Potentiometric ii) spectrophotometric

(OR)

b)Explain the concept of hard and soft acids and bases and give its applications .

11.a) i) What is base hydrolysis?
ii) Write the outer and inner spheres mechanism of electron transfer reactions.

(OR)

b) Describe the molecular rearrangement of tetrahedral and octahedral complexes.

12.a) Explain the following with suitable examples
i) Photo redox reaction ii) Photo substitution reaction

(OR)

b) a) Discuss the photo chemical conversion and storage of solar energy.
b) Write a note on Photochemistry of organometallic compounds.

13.a) Write the synthesis, structure and bonding in the following
i)Metal carbonyls ii) Metal nitrosyls.

(OR)

b) Describe the following
i) Hydrogenation of olefins ii) Hydroformylation

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Chemistry **COURSE CODE : 3PGC3 (Upto 16)**

COURSE TITLE : Physical Chemistry - III **QN.NO : 2170**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (9 x 3 = 27)

Answer All questions.

1. State the selection rules for Raman scattering.
2. Distinguish: $\pi \rightarrow \pi^*$ and $n \rightarrow \pi^*$ transitions.
3. State the Franck – Condon principle and draw the plot of probability distribution in each vibrational state against intermolecular distance.
4. What is noise decoupling? How is it related to spin pumping?
5. Write a short note on double resonance with an example.
6. How the multiplet structure in ESR can be distinguished?
7. What does NQR mean? What is its range of occurrence?
8. What do you understand about a hydrated electron? Write two of its essential properties.
9. How delayed fluorescence differs from fluorescence?

PART – B (4 x 12 = 48)

Answer all questions by choosing either (a) or (b).

10.a) i) List any five basic differences between Infra-red and Raman spectroscopies (5).

ii) How structures can be determined from Raman and Infra-red spectroscopies (7)

(OR)

b) Discuss the following:

i) Fortrat diagram (6) ii) Pre-dissociation spectra (6)

11.a) Discuss the basic principle and applications for

i) Ultraviolet photoelectron spectroscopy (6)

ii) X – ray photoelectron spectroscopy (6)

(OR)

b) i) Describe the applications of Fourier Transform spectroscopy in NMR. (7)

Contd…

ii) Detail the concept of chemical shift with reference to an organic compound (5)

12. a) i) Explain the occurrence of hyperfine structures in ESR due to electron – electron coupling (7)

ii) Explain the factors which could affect the magnitude of g - values (5)

(OR)

b) Write notes on the following:

i) Quadrupole effects in Mossbauer spectroscopy (6)

ii) Applications of Mossbauer spectroscopy (6)

13.a) i) How the energy transfer takes place in photochemical reactions? Explain (6)

ii) Derive the Stern – Volmer equation (6)

(OR)

b) i) Discuss any four applications of lasers in chemistry (6)

ii) Sketch the apparatus for flash photolysis and detail its working (6)

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Chemistry — **COURSE CODE : 4PGC1 (Upto 2016)**

COURSE TITLE : Organic Chemistry - IV — **QN.NO : 2174**

TIME : 3 Hours — **MAX.MARKS :75**

PART – A

(9 x 3 = 27)

Answer ALL questions.

1. what are activating groups? Give any two examples.
2. what is functional group modification? Give an example.
3. Explain the utility of nitro group as a blocking group in organic synthesis.
4. write short notes on green solvents.
5. Give any two microwave assisted organic synthesis.
6. what are amino sugars? Give any two examples.
7. what are the functions of the following?
   (a) Pheromones, b) Prostaglandins.
8. write a note on basic skeleton of steroids.
9. Draw the structure of the following.
   (a) cholesterol, (b) Testosterone.

PART – B

(4 x 12 = 48)

Answer all questions by choosing either (a) or (b).

10. a)
(i) write a note on Umpolung synthesis.
(ii) Outline retrosynthetic analysis and the designed synthesis of juvabione. (5+7)

(Or)

b) (i) write a brief note on synthons in organic synthesis.
(ii) Applying retrosynthetic analysis, suggest a method of synthesizing longifolene. (5+7)

11. a) (i) Discuss the chemistry of diamantane.
(ii) Describe the synthesis of reserpine.
(iii) Narrate the stereochemistry of lysergic acid. (5+4+3)

(Or)

b) Explain the twelve basic principles of green chemistry.

12. a) (i) Describe the chemistry of the following.
(I) cyanin chloride, (II) Dalbergin. (4+4)
(ii) write briefly on starch. (4)

(Or)

b) Discuss the structure and synthesis of sucrose and lactose.

13. a) Explain the structure and synthesis of the following.

(i) Ergosterol, (ii) Equilenin (6+6)

(Or)

b) Describe the structure and synthesis of the following.

(i) Stigmasterol, (ii) Progesterone. (6+6)

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Chemistry **COURSE CODE : 4PGC2 (Upto 16)**

COURSE TITLE : Inorganic Chemistry -IV **QN.NO : 2176**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (9 x 3 = 27)

Answer all questions.

1. How will you distinguish between crystalline and amorphous solids?
2. Define the following terms
   i) Unit cells ii)Space lattices
3. What is hall effect?
4. How will you distinguish between TGA and DTA ?
5. What is threshold energy of nuclear reaction?
6. What is spallation reaction? Give an example.
7. What are fissile and fertile isotopes with suitable examples?
8. Define the term Nanoparticles.
9. List out the physical properties of the nanomaterials.

PART – B (4 x 12 = 48)

Answer all questions by choosing either (a) or (b).

10.a)Describe the following crystal structures
   i) Wurtzite ii) Rutile iii) Perovskite

(OR)

b) What are crystal defects? Explain the Frenkel ,schotky and point defects with suitable example.

11.a) Discuss the principle and applications of the DSC.

(OR)

b) a)Write a note on Band theory of solids
   b) Explain the para and antiferro magnetic properties.

12.a) Give an account of the following
   i) Liquid drop model ii) GM counter

(OR)

b) a)What is neutron activation analysis? Give its applications.
   b)Bring out the differences between nuclear fission and fusion reactions?
   c) What is stellar energy? Give an example.

13.a) Give the synthesis of the nanoparticles by
   i) Reduction method ii) Sol-Gel method iii) Chemical vapour deposition method

(OR)

b) Give the preparation ,properties and applications of the carbon nanotubes.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Chemistry **COURSE CODE : 4PGC3 (Upto 2016)**

COURSE TITLE : Physical Chemistry -IV **QN.NO : 2178**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (9 x 3 = 27)

Answer all questions

1. Calculate the ionic strength of a solution containing 0.15 molal KCl and 0.25 molal K_2SO_4.
2. What is current density? How is it different from the exchange current density?
3. Calculate the mean ionic activity coefficient of 0.001 M Na2SO4 (A = 0.509 at 298 K)
4. How a cell is said to operate under thermodynamic treatment?
5. The EMF of the cell:
   Ag, AgCl (0.1 M KCl) ‖ *Sat.* NH_4NO_3 ‖ $AgNO_3$ *(0.1 M), Ag* is 0.45 V at 298 K. Calculate the solubility product of AgCl. (0.1 M KCl is 85% dissociated and 0.1 M $AgNO_3$ is 82% dissociated).
6. Define frequency distribution. Write the equation along with the plot for normal modes in a crystal for the Einstein and Debye theories.
7. Distinguish: ^4He and ^3He.
8. What is steady state approximation? Give an example.
9. Draw the types of BET adsorption isotherm (only the graphs).

PART – B (4x 12 = 48)

Answer all questions by choosing either (a) or (b).

10. a) i) Derive the mathematical expression of Debye – Huckel theory of mean ionic activity coefficients (8)

    ii) How the conductance behavior of strong electrolytes is examined under high potential gradient? (4)

(OR)

b) Discuss the structure of electrified interfaces with reference to

i) The Gouy – Chapmann model (6)

ii) The Stern model (6)

Contd…

11.a) i) Derive the Butler – Volmer equation (7)

ii) Explain the theories of over voltage (5)

(OR)

b) i) Discuss the types of potentials with the electrode reactions and suitable diagrams. (9)

ii) Write a short note on Ni/Cd cell (3)

12.a) How the expression for the most probably distribution of N – particles among the variation energy levels is described by

i) Bose – Einstein statistics (6)

ii) Fermi – Dirac statistics (6)

(OR)

b) Elaborate the following thermodynamic properties in terms of the partition function:

i) Internal energy ii) Molar heat capacity

iii) Entropy iv) Gibbs and Helmholtz free energies

(3 + 2 + 3 + 4)

13. a) Discuss the following mechanisms:

i) Acid – base catalyzed reactions (6)

ii) Enzyme catalyzed reactions (6)

(OR)

b) Write a detailed account on:

i) Gibbs adsorption isotherm (6)

ii) Temkin adsorption isotherm (6)

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSE CODE : 4PGC4 (Upto 2016)**

COURSE TITLE : Biochemistry (Elective-III) **QN.NO : 2180**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (9 x 3 = 27)

Answer ALL questions.

1. Describe a metal ion detoxification reaction.
2. what is meant by Bohr effect?
3. How do ferredoxin and rubredoxin differ in their structure?
4. what do you understand by calorific value of foods?
5. Mention the biological importance of fatty acids
6. what is meant by gene mutation?
7. what is multi-stranded DNA? Give one example.
8. what are prosthetic groups? Give any two examples.
9. what do you understand by chiral recognition

PART – B (4 x 12 = 48)

Answer all questions by choosing either (a) or (b).

10. a) (i) Discuss in detail the function of essential and trace elements in biological systems.

(ii) With a schematic diagram explain the function of $Na^+ - K^+$ pump. (6+6)

(or)

b)(i) Narrate the poisoning and inhibition of enzyme activity.

(ii) How are copper protein classified and how do they differ from each other? (6+6)

11.a) Describe the properties and functions of lipid bilayers and liposomes.

(or)

b)(i) write a note on urea cycle.

(ii) Explain the enzymatic hydrolysis of proteins to peptides. (6+6)

12.a)(i) what are the three types of RNA and their functions?

(ii) ~~Discuss~~ DNA sequence determination by any one chemical method. (9+3)

(or)

b)(i) Discuss in detail the chemical and enzymatic hydrolysis of nucleic acids.

(ii) write a note on genetic code. (6+6)

13.a)

(i) Describe the structure and biological functions of coenzyme A.

(ii) write a note on molecular recognition. (8+4)

b)(i) Give a detailed account on crown ethers as enzyme model.

(ii) Discuss the biological functions of pyridoxal phosphate. (3+4)

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Physics **COURSE CODE : 1PGP2 (2014 On)**

COURSE TITLE : Classical & Statistical Mechanics **QN.NO : 3103**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(8 x 2 = 16)**

Answer any EIGHT questions.

1. What is cyclic coordinate?
2. State the principle of least action.
3. What are canonical transformations?
4. Write a short note on Lagrange Bracket.
5. What are coupled oscillators?
6. Define normal modes of vibrations.
7. Define phase space.
8. Write a note on Microstate and Macrostate.
9. Define Fermi gas
10. State Plank's Radiation Law.

PART – B **(4 x 11 = 44)**

Answer any FOUR questions.

11. Obtain Hamilton's equation for motion of a body in central force field.
12. Derive Hamilton's equations from variational principle.
13. What are Poisson's brackets? Discuss equation of motion in Poisson's brackets form.
14. Deduce the Eigen value equation from the theory small oscillations
15. Explain the free vibration of a Linear triatomic molecule
16. Discuss the Entropy of a perfect gas in Microcanonical Ensemble
17. Elucidate the grand canonical ensemble based on quantum mechanics.

PART – C **(2 x 7.5 = 15)**

Answer any TWO questions.

18. The simple pendulum consisting of a mass M attached to a massless string length L,deduce the expression for Hamiltonian equation.
19. A mass m tied to a spring having a force constant k oscillates in one dimension.If the motion is subjected to the force F = -Kx, find expressions for velocity and period of oscillations.
20. Find out the different macrostates and microstates of a system of three particles distributed in three cells assuming the particles to be (i) indistinguishable, (ii) distinguishable.
21. Two particles are to be distributed in three cells. Find out the total number of possible ways both from formula and in tabular form if the particles follow (i) MB statistics (ii)BE statistics (iii) FD statistics.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Physics **COURSE CODE : 1PGP3 (2014 On & Upto 2013)**

COURSE TITLE : Communication System **QN.NO : 3105**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(8 x 2 = 16)**

Answer any EIGHT questions.

1. What is meant by amplitude modulation?
2. Define Pilot carrier.
3. What is known as Carson's rule?
4. Which is known as Armstrong method FM?
5. State sampling theorem.
6. State: Pulse Time Modulation.
7. Write a note on Geostationary orbit.
8. Write the principle of LED works.
9. List the uses of multi cavity Klystron.
10. Mention the applications of Magnetron.

PART – B **(4 x 11 = 44)**

Answer any FOUR questions.

11. Describe Amplitude modulation index.
12. Explain SSB reception with neat diagram.
13. Explain Phase modulation. Write equivalence between PM and FM.
14. Draw a circuit for pulse code modulation and explain it.
15. Write a note on i)Pulse time modulation ii)Pulse position modulation iii)Pulse width modulation.
16. Discuss transponders with satellite wideband receiver.
17. Describe reflex klystron with schematic diagram.

Contd…

PART – C **(2 x 7.5 = 15)**

Answer any TWO questions.

18. A modulating signal consists of a symmetrical triangular wave having zero dc component and peak to peak voltage of 11V.It is used to amplitude modulate a carrier carrier of peak voltage 10V.Calculate the modulation index and the ratio of the side lengths L 1/ L 2 of the corresponding trapezoidal pattern.
19. A 15W unmodulated carrier is frequency modulated with a sinusoidal signal such that the peak frequency deviation is 6KHz.The frequency of the modulating signal is 1 KHz. Calculate the average power output by summing the powers for all the side frequency component?
20. A telephone signal with a cutoff frequency of 4KHz is digitized into 8 bit samples at the Nyquist sampling rate $f_s = 2W$. Assuming raised cosine filtering is used with a roll off factor of unity. Calculate (a)the base band transmission bandwidth and b) the quantization (S/N) ratio.
21. An optic fiber is made of glass with a refractive index of 1.55 and is clad with another glass with a refractive index of 1.51.Launching takes place from air. a)What numerical aperture does the fiber have? b)What is the acceptance angle?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME :M.Sc., Physics **COURSE CODE: 2PGP1 (2014 On & Upto 2013)**

COURSE TITLE : Mathematical Physics - II **QN.NO : 3109**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(6 x 12.5 = 75)**

Answer any SIX questions.

1. a) Evaluate $\int \frac{e^{iz}}{z^3} dz$ where C is the circle $|z| = 2$ (4.5)

   b) Show that $u(x.y) = x^2 - y^2$ is a Harmonic function. Find v(x.y) so that $f(z) = u + iv$ (8)

2. a) Derive Cauchy Riemann equations for analyticity in polar form. (8)

   b) Using Cauchy's integral theorem, evaluate $I = \oint dz/z$ (4.5)

3. a) Find the zeros and poles of the function $f(z) = \frac{z^2+4}{z^3+2z+2}$ (5)

   b)Explain the types of singularities with examples (7.5)

4. a) State and prove Cauchys residue theorem (4.5)

   b) Show that $I = \int_0^{2\pi} \frac{d\theta}{5+3cos\theta} = \frac{\pi}{2}$ (8)

5. a) If A^μ and B_γ are the components of contravariant and covariant tensors of rank one, show that $c_\gamma^\mu = A^\mu B_\gamma$ (6)

   b) Show that $\delta(ax) = \frac{1}{|a|}\delta(x) where\ a \neq 0$ (6.5)

6. a) Explain Maxwell's equation in a covariant form interms of the second rank electromagnetic field strength tensor. (6.5)

   b) Show that any tensor of rank two can be expressed as the sum of the symmetric and antisymmetric tensor both of rank 2. (6)

7. a) Explain the procedure for construction of character tables. Construct the character table for D_3 group (6.5)

   b) State and Prove Great orthogonality theorem. (6)

Contd…

8. a) Define isomorphic and homomorphic groups. Differentiate between them and give atleast two properties of each. (6.5)

   b) Prove that the group of order two is always cyclic and also show that the group of order three is always cyclic (6)

9. a) State and prove rearrangement theorem . (6)

   b) Construct the symmetry group of an equilateral triangle. Write down its multiplication table and classes. (6.5)

10. a) State and prove Schurs lemmas. (7)

    b) Explain reducible and irreducible representation and mention their main features. (5.5)

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : M.Sc., Physics **COURSE CODE: 2PGP4 (2014 on)**

COURSE TITLE : Programming in C++ **QN.NO : 3115**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 6 = 30)

Answer any FIVE questions.

1. What are the keywords used in C++? Give examples.
2. Explain the features of iostream.h.
3. What are the different types of looping statements used in C++?
4. What is the purpose of the return statement in C++? Give example.
5. Write a note on array.
6. What are the advantages of pointer in C++?
7. How will you differentiate OOPs from FOP?
8. What is a friend function? State its syntax.
9. State the main advantages of inheritance.
10. What is function overloading in C++?
11. What is polymorphism in C++?
12. Comment on the followings. a) ifstream b) ofsteram and c) fsteram.

PART – B (3 x 15=45)

Answer any THREE questions.

13. Discuss in elaborate "operators used in C++".
14. Explain in detail about the IF-Else statement with a suitable program.
15. Describe about Local and Global variables with suitable examples.
16. Write a program to read a set of numbers from keyboard and to sort-out the given array of elements in ascending order using a function.
17. Discuss about array within a structure with suitable example.
18. Write a program to solve a quadratic equation using an OOP technique.
19. Explain the theory of multiple inheritance in C++.
20. Write a program to generate a Fibonacci series by overloading in C++.
21. Explain the theory of virtual functions in C++ and also discuss about the some of the invalid declarations of virtual function in C++.
22. Explain. a) Reading an object from a file. b) Writing an object from a file.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Botany **COURSE CODE : 2PGB1(Upto 16)**

COURSE TITLE : Phanerogams **QN.NO : 3614**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 2 = 20)

Answer all questions

1. Define Progymnosperm.
2. List out the Xerophytic characters of *Pinus* needle.
3. Comment on Cladistics.
4. Define Numerical Taxonomy.
5. What is a Regma?
6. List out the primitive characters of the family Nymphaeceae.
7. Differentiate corolla from corona.
8. Write the floral formula of the family Verbenaceae.
9. Write the field characters of the family Scitaminae.
10. List out the advanced characters of Poaceae.

PART – B (5 x 5=25)

Answer all questions by choosing either (a) or (b).

11.a) Discuss the corolloid roots of *Cycas.*

(OR)

b) Explain the salient features of Coniferales.

12. a) Illustrate the methods of typification.

(OR)

b) Summarize the applications of Numerical Taxonomy.

13.a) Describe the floral characters of Leguminosae.

(OR)

b) Discuss the floral characters of Cucurbitaceae.

Contd...

14.a) Describe the floral characters of Apocynaceae.

(OR)

b) Cyathium is a special type of inflorescence.- Justify.

15.a) Analyse the floral characters of Orchidaceae.

(OR)

b) Discuss the characters of Liliaceae.

PART – C (3x10=30)

Answer any THREE questions.

16. Discuss the economically important plants of Gymnosperms.

17. Outline the classification proposed by Bentham and Hooker. Add a note on its merits and demerits.

18. With labelled diagrams explain the characteristic features of Brassicaceae.

19. Analyse the salient features of Solanaceae.

20.Criticize the characters of the family Arecaceae.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Botany **COURSE CODE : 3PGBNM (Upto 2016)**

COURSE TITLE : Applied Botany **QN.NO : 3630**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 2 = 20)**

Answer all questions.

1. List out any two horticultural research institutes.
2. Define Pruning
3. What is budding?
4. Differentiate cutting from layering.
5. Spell out the role of Agroforestry.
6. Define Afforestation.
7. How can you make a plywood?
8. Name any two plants which yields dyes.
9. List out the medicinal properties of *Gymnema.*
10. Find out the medicinal uses of *Ocimum.*

PART – B **(5x 5 = 25)**

Answer all questions by choosing either (a) or (b).

11.a) Analyse the scope of horticulture.

(OR)

b) Categorize the role of biofertilizers on plant growth.

12.a) With neat diagram explain the steps involved in stem cutting technique.

(OR)

b). Describe the process of simple layering. Draw necessary diagrams.

13.a) Examine the methods of forest conservation.

(OR)

b). Explain the causes of deforestation.

14.a) Criticize the role of forest products in paper industry.

(OR)

b). Discuss the major products obtained from forest.

15.a) Analyse the medicinal uses of *Rauwolfia.*

(OR)

b). Discuss the medicinal uses of *Curcuma.*

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Give a brief account of Kitchen garden.
17. Analyse the steps involved in Approach grafting.
18. "Social forestry - A boon to local people" _Justify.
19. Discuss the minor products obtained from the forest.
20. Relate the contributions of paliyans to ethnobotanical studies.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., தமிழ் **COURSE CODE : 17U3TMC5**

COURSE TITLE : பக்தி இலக்கியம் **QN.NO : 3817**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. பன்னிரு திருமுறைகளைத் தொகுத்தவர் யார்?
2. 'அப்பர்' என்று போற்றப்படுபவர் யார்?
3. மாணிக்கவாசகர் பாடிய நூல்கள் யாவை?
4. ஏழாம் திருமுறையைப் பாடியவர் யார்?
5. மூன்றாம் திருவந்தாதியைப் பாடியவர் யார்?
6. திருமழிசை ஆழ்வார் பாடிய நூல்கள் யாவை?
7. 'தமிழ் மூவாயிரம்' என்று அழைக்கப்படும் நூல் எது?
8. பன்னிரு திருமுறைகளில், ஒன்பதாம் திருமுறையைப் பாடியவர்களின் எண்ணிக்கை எத்தனை?
9. 'கிறித்துவக் கம்பர்' என்று அழைக்கப்படுபவர் யார்?
10. நபிகள் நாயகத்தின் வாழ்க்கை வரலாற்றைக் அறிய உதவும் நூல் எது?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ. திருவியலூர் பதிகச் சிறப்புகளை திருஞானசம்பந்தர் பாடல் வழி விளக்குக.

அல்லது

ஆ. திருநாவுக்கரசரின் பக்தித் திறத்தைப் புலப்படுத்துக.

12. அ. திருக்கழுக்குன்ற பதிகச் சிறப்பை சுந்தரர் பாடல்வழி நிறுவுக.

அல்லது

ஆ. மாணிக்கவாசகரின் பக்திச் சிறப்புகளை விளக்குக.

பி.ப.பா..

13. அ. நான்முகன் திருவந்தாதி வழி அறியலாகும் செய்திகளை எழுதுக.

அல்லது

ஆ. 'மூவடி மண் நீயளந்து கொண்ட நெடுமாலே' என்ற பாடல் வரிகள் உணர்த்தும் அவதாரச் செய்திகளைத் தொகுத்துரைக்க.

14. அ. திருவிழி மிழலையின் சிறப்பைச் சேந்தனார் பாடல்வழி விளக்குக.

அல்லது

ஆ. 'விண்ணில் அமரர் தமக்கும் விளங்கரிது' என திருமூலர் கூறுவதற்கான காரணம் என்ன?

15. அ. ஜீவகங்கை ஓடிய விதத்தை இரட்சணிய யாத்திரிகம் வழி எடுத்துரைக்க.

அல்லது

ஆ. சீறாப்புராணத்தில் இசுறா காண் படலத்தின் வாயிலாக அறியலாகும் செய்திகளை விவரிக்க.

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. திருஞானசம்பந்தரின் பக்தித் திறத்தினைக் குறித்துக் கட்டுரைக்க.

17. சுந்தரரின் பக்திச் சிறப்பை விரித்துரைக்க.

18. திருமழிசை ஆழ்வாரின் பக்திச் சிறப்பினை நும்பாடப்பகுதி வழி விளக்குக.

19. திருமூலரின் பக்திச் சிறப்பை நும்பாடப்பகுதி கொண்டு விவரிக்க.

20. பரமராஜ்யப் படலம் வழி அறியலாகும் செய்திகளைத் தொகுத்துரைக்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., தமிழ் **COURSE CODE : 17U3TAC3**

COURSE TITLE :தமிழ் இலக்கிய வரலாறு **QN.NO : 3823**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. எட்டுத்தொகை நூல்களில் நானூறு என முடியும் நூல்களின் பெயர்களைக் கூறுக.
2. ஆற்றுப்படை நூல்கள் இரண்டின் பெயரை எழுதுக.
3. திருக்குறள் எத்தனை அதிகாரங்களைக் கொண்டது?
4. சிறுபஞ்சமூலம் - பிரித்துப் பொருள் கூறுக.
5. பன்னிரு திருமுறைகளைத் தொகுத்தவர் யார்?
6. பெரியாழ்வாரின் அளர்ப்பு மகளின் பெயரைக் கூறுக.
7. சிலப்பதிகாரம் கூறும் முப்பெரும் உண்மைகளை எழுதுக.
8. பெரியபுராணத்தின் மறுபெயர் யாது?
9. மரபுக்கவிதைக் கவிஞர்கள் இருவரின் பெயரைக் கூறுக.
10. புதுமைப்பித்தனின் சிறுகதைகள் இரண்டினைக் கூறு.

பகுதி – II **(5 x 7 = 35)**

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. சங்கம் இருந்தமைக்கான அகச்சான்றுகளை எடுத்துரைக்க.

(அ)

எட்டுத்தொகை நூல்களில் பதிற்றுப்பத்து குறித்து விளக்கு.

12. நாலடியார் - குறிப்பு வரைக.

(அ)

நீதிநூற்காலம் தோன்றக் காரணம் யாது? விவரி.

13. சமயக்குரவர் நால்வர் பற்றி விளக்கு.

(அ)

திருமந்திரம், திருவெம்பாவை குறித்து விளக்கி எழுது.

14. ஐஞ்சிறு காப்பியங்களை விளக்குக.

(அ)

கம்பராமாயணம் - குறிப்பு வரைக.

15. புதுக்கவிதையின் தோற்றம் வளர்ச்சி பற்றியெழுதுக.

(அ)

"கிறித்தவர்களும் தமிழும்" - பற்றி விவரிக்க.

பி.ப.பா...

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. "சங்ககாலம் ஒரு பொற்காலம்" - ஆய்க.

17. "திருக்குறள் உலகப் பொதுமறை" - இக்கூற்றை மெய்ப்பிக்க.

18. "பன்னிரு ஆழ்வாரும் தீமையும்" குறித்து வரைக.

19. இரட்டைக் காப்பியங்கள் குறித்துக் கட்டுரைக்க.

20. கோடகத்தின் சிறப்பினை சேற்று, இன்று, நாளை பற்றி வரைந்து உரைக்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., Tamil **COURSE CODE : 17U4TMC7**
COURSE TITLE : காப்பிய இலக்கியம் **QN.NO : 3827**
TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. பெரு நிலம் முழுதும் ஆளும் செல்வத்தான் யார்?
2. காமனும் ரதியும் போலக் கூடிக் கலந்து இன்புற்றவர்கள் யாவர்?
3. காவிரிப்பூம்பட்டின நகரப் பெருமை ஒன்றினைக் கூறுக.
4. மாதவி யாரிடம் துன்பச் செய்திகளைக் கூறினாள்?
5. சீவக சிந்தாமணியின் ஆசிரியர் யார்?
6. ஆநிரை கவர வந்த படைகள் எதைப் போல் தோற்று ஓடும்?
7. காணிக்கை வைத்த பூமாலையின் தோற்றம் எதனை ஒத்திருந்தது?
8. சாந்தி என்னும் இடைச்சி யாரிடம் பேசத் தொடங்கினாள்?
9. சுக்கிரீவனது ஆரவாரம் எவ்வாறு இருந்தது என்பர்?
10. சுக்கிரீவன் வலிய வந்து போருக்கு அழைப்பதன் நோக்கத்தை வாலியிடம் கூறியவள் யார்?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) கோவலன், கண்ணகி திருமணக் காட்சியை விளக்குக.

(அல்லது)

ஆ) கோவலன், கண்ணகி இல்லறம் நடத்திய விதத்தினை எடுத்துரைக்க.

12. அ) மாதவி, வித்தியாதரன் குறித்துக் கூறுவன யாவை?

(அல்லது)

ஆ) பூம்புகாரின் சிறப்புக்களை விவரிக்க.

13. அ) ஆநிரை கவர கூடிய விதத்தினை கோவிந்தையர் இலம்பகம் கொண்டு விளக்குக.

(அல்லது)

ஆ) ஆநிரையை மீட்டது சீவகனின் ஆற்றல் - நிறுவுக.

14. அ) ஆயருக்குத் திருமகள் இன்பம் தரும் விதத்தினை விளக்குக.

(அல்லது)

ஆ) தாய் மரியை சாந்திக்குக் கூறிய செய்திகளை விவரி.

15. அ) சுக்கிரீவனுக்கு இராமன் நண்பனான விதம் யாது?

(அல்லது)

ஆ) இலக்குமணன், சுக்கிரீவனது அக்கிரமத்தை எவ்வாறு எடுத்துரைத்தான்?

பிரிவு – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்குக் கட்டுரை வடிவில் விடையளிக்க.

16. கண்ணகி பாண்டிய மன்னனிடம் வழக்குரைத்த விதத்தினை விவரி.
17. மணிமேகலையும் சுதமதியும் வீதியிற் சென்ற காட்சியை விளக்குக.
18. சீவகன் சீதனமாய் கோவிந்தையைப் பெற்ற விதம் யாது? விவரி.
19. ஆயர்கள் இறைவனை வழிபடும் விதத்தினைக் காட்சிப்படலம் கொண்டு விளக்குக.
20. இராம பாணம் வாலியின் மார்பைத் துளைத்த விதத்தினை விவரி.

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THE MADURA COLLEGE (Autonomous), MADURAI – 625 011

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., Tamil **COURSE CODE : 17U4TMC8**

COURSE TITLE : இலக்கணம் - நம்பியகப்பொருள் **QN.NO : 3829**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. ஐந்திணைகள் என்பன யாவை?
2. ஐந்திணைக்கும் உரிய கருப்பொருட்கள் யாவை?
3. கற்பின் வகைகளைக் கூறுக.
4. தலைவன் தலைவியைப் பிரியும் காலங்கள் யாவை?
5. பெற்றோர் பெண் வேண்ட தலைமகளின் பெற்றோர் மறுக்காமல் பெண்ணை அலங்கரித்துத் தீயின் முன்னர்க் கொடுக்கும் மணத்தை எவ்வாறு அழைப்பர்?
6. களவிற்கு உரிய கிளவித் தொகைகள் எத்தனை?
7. களவு, கற்பு ஆகிய இருவகை ஒழுக்கத்தையும் அழைக்கும் பெயர் என்ன?
8. அறத்தொடு நிற்றல் என்றால் என்ன?
9. கற்பு விளக்கம் தருக.
10. பரத்தையிற் பிரிவின் வகைகள் எத்தனை?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) அகப்பொருளின் வகைகளைக் கூறி, அவற்றினை விளக்குக.

(அல்லது)

ஆ) அறத்தொடு நிலை நிகழும் சூழல், முறை, இடம் எடுத்துரைக்க.

12. அ) ஊடல் தணிக்கும் வாயில்களை எழுதுக.

(அல்லது)

ஆ) பிரிவின் வகைகளைப் பட்டியலிட்டு விளக்குக.

13. அ) வன்புறையின் வகை மற்றும் விரியினை சான்றுடன் தருக.

(அல்லது)

ஆ) இடந்தலைப்பாடு வகை, விரியினை எடுத்துரைக்க.

14. அ) களவு வாழ்க்கையில் ஈடுபட்ட தலைவனும் தலைவியும் மேற்கொண்ட உடன்போக்கு பற்றி சான்றுடன் விளக்குக.

(அல்லது)

ஆ) தன்மனை வரைதலின் வகை, விரிகளை உதாரணத்துடன் விளக்குக.

15. அ) இல்வாழ்க்கை வகை, விரிகளை எழுதுக.

(அல்லது)

ஆ) பரத்தையின் பிரிவு என்றால் என்ன? வகைகளை எடுத்துரைக்க.

பி. ப. பா...

பிரிவு – III **(3 X 10 = 30)**

எவையேனும் மூன்று வினாக்களுக்குக் கட்டுரை வடிவில் விடையளிக்க.

16. முதற் பொருளின் வகைகளைக் கூறி, சான்றுடன் விளக்குக.
17. கற்புக் காலத்தின்கண் நடக்கும் பிரிவின் வகைகளைக் வரிசைப்படுத்தி விவரிக்க.
18. ஒருவழித் தணத்தல் வகை, விரிகளை சான்றுடன் விவரிக்க.
19. பாங்கி அறத்தொடு நிற்றற்குரிய கிளவிகள் யாவை? சான்றுடன் விளக்குக.
20. கற்பொழுக்கத்தில் தலைமகன் பிரியும் பிரிவு வகையைச் சான்றுடன் விளக்குக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Tamil | **COURSE CODE : 17U4TSM4**

COURSE TITLE : ஆட்சித்தமிழ் | **QN.NO : 3831**

TIME : 3 Hours | **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஒரிரு வரிகளில் விடை தருக.

1. இங்கிலாந்து நாட்டின் அரசியலமைப்பு முறை யாது?
2. நாட்டின் உண்மையான அதிகாரத்தை நிலைநாட்டுபவர் யார்?
3. மாநிலங்களவையில் உள்ள மொத்த அங்கத்தினர் எத்தனை?
4. பல்கலைக்கழகத்தின் வேந்தர் எனக் குறிப்பிடப்படுபவர் யார்?
5. அலுவலகத்திலிருந்து வெளியே அனுப்பும் நிதி விவரங்களைப் பதிவு செய்யும் ஏடு எது?
6. அலுவலக வினாவுதலிற்கு முழு பொறுப்பு ஏற்கும் பதவியாளர் யார்?
7. நிதித்துறையில் அலுவலர் பதவி உயர்வுக்கு இரண்டும் எழுத்தும் பணியாக எதனைக் கூறலாம்?
8. படிக்கையில் எழுதும் அறிக்கை முறைக்கும் மெயல் என்ன?
9. நிமிடக்கம் தருக: online
10. Seniority -

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) அரசியலமைப்பின் முகவுரைத்தினைத் திறனாய்க.

(அல்லது)

ஆ) நிடியரசுத் தலைவரின் அதிகாரங்களை விவரி.

12. அ) பிரதம மந்திரியின் பணிகளைக் குறிப்பிடுக.

(அல்லது)

ஆ) அரசுப் பணி அணையங்களின் பணிகளைச் சுட்டுக.

13. அ) ஏற்பு மற்றும் அனுப்புதைப் பதிவேடு குறித்தெழுதுக.

(அல்லது)

ஆ) நற்றொடர் மற்றும் ஈட்டிய விடுப்பு எழுதும் மாதிரியினை எழுதுக.

14 அ) வரைவு எழுதும் முறையினைச் சுட்டுக.

(அல்லது)

ஆ) வரைவின் வகைகளை விளக்குக.

15 அ) அட்சித் தமிழின் இன்றியமையாமையை விவரி.

(அல்லது)

ஆ) தமிழாக்கம் தருக : i) Article - ii) File - iii) Information - iv) Query - v) Pension - vi) Recruitment vii) Registration

பகுதி – III

(3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. அரசியலமைப்பின் பல்வேறு பாகுபாட்டினை விரித்தெழுதுக.

17. இந்திய அரசியலமைப்பின் அடிப்படை உரிமைகளை விளக்குக.

18. அலுவலகங்களில் அஞ்சல் ஏற்பு, பிரிவு, பிரித்தெடுத்தல் மற்றும் கடிதங்களின் பேரிலான நடவடிக்கைகளை விவரி.

19. வரைவின் சீர்மைகளை விளக்கிக் கட்டுரை வரைக.

20. இலைச்சொற்களின் உருவாக்கம் மற்றும் விளக்கம் குறித்தெழுதுக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Tamil | **COURSE CODE : 17U4TAC4**

COURSE TITLE : Translation | **QN.NO : 3833**

TIME : 3 Hours | **MAX.MARKS : 75**

பகுதி – அ 10 x 1 = 10

அனைத்து வினாக்களுக்கும் ஓரிரு தொடர்களில் விடையளிக்க.

1. ' உள்ளதை உள்ளவாறே உணர்ந்தவாறே பெயர்ப்பது மொழி பெயர்ப்பு எனக் கூறியவர் யார்?
2. சிவப்பிரகாச சுவாமிகள் பிரபுலிங்கலீலாவைத் தழுவி எழுதிய நூல் எது?
3. 'முழுமையான மொழி பெயர்ப்பு ' என்பது எது?
4. ஆசியக் கண்டத்திலேயே தமிழில் முதன் முதலில் மொழி பெயர்க்கப்பட்ட நூல் எது?
5. 'கருத்துக்களை வாங்கி நம் மொழிக்கு ஏற்ப மாற்றுதல்' எவ்வகை மொழி பெயர்ப்பில் அடங்கும்?
6. சொல்லுக்குச் சொல் பெயர்த்தலுக்குச் சான்று தருக.
7. மொழி பெயர்ப்புச் சிக்கல்களின் இரு நிலைகளைக் குறிப்பிடுக.
8. 'இண்டர்பிடேட்டர்' என்பதன் பொருள் தருக.
9. Work is worship – தமிழில் மொழி பெயர்த்திடுக.
10. A friend in need is a friend indeed – தமிழில் தருக.

பகுதி - ஆ 5 x 7= 35

அனைத்து வினாக்களுக்கும் மூன்று பக்கம் மிகாமல் விடையளிக்க.

11. அ) மொழி பெயர்ப்புப் பற்றிய விளக்கம் தருக.

(அல்லது)

ஆ) மொழி பெயர்ப்பு தோற்றம் வளர்ச்சி குறித்து எழுதுக.

12. அ) அறிவியல் மொழி பெயர்ப்பு இயந்திர மொழி பெயர்ப்பு விளக்கியுரைக்க.

(அல்லது)

ஆ) இலக்கிய மொழி பெயர்ப்பு குறித்து எடுத்தியம்புக.

13. அ) கலைச்சொல் ஆக்கம் - என்பதனைத் தக்க சான்றுடன் புலப்படுத்துக.

(அல்லது)

ஆ) மொழி பெயர்ப்பில் 'நிகரன்கள்' பெறும் தனித்துவத்தை மதிப்பிடுக.

14. ஆ) சட்டத்துறைத் சிக்கல்கள் பற்றி எடுத்தியம்புக.

(அல்லது)

ஆ) மொழி பெயர்ப்புச் சிக்கல்கள் குறித்து விளக்குக.

தமிழில் தருக

15. அ) 1. The face is the index of the mind.
2. All that glitters is not gold.
3. As you sow, so you reap
4. Good homer some times nods.
5. Blood is thicker than water.

ஆ) Life will be full of challenges you should learn to cope with them with courage and conviction life will be full of surprises. Hence it is worth living Learn to look at the positive side of Life. Belive in yourself belive in yourself gives.

Strength to others, have good self- esteem. Higher the self-esteem higher the self reality. No body can put you down without your consent.

பகுதி இ 3 x 10 = 30

III எவையேனும் மூன்று வினாக்களுக்கு விரிவான விடையளிக்க.

16. உலக இந்திய மொழி பெயர்ப்பின் அறிமுகம் குறித்துக் கட்டுரைக்க.
17. மொழி பெயர்ப்பு வகைகள் பற்றி விவரித்திடுக.
18. மொழி பெயர்ப்புக் கோட்பாட்டு வகைகளைச் சான்றுகளுடன் எடுத்தியம்புக.
19. மொழி பெயாப்பாளருக்குரிய தகுதிகளை நிரல்படுத்திடுக.
20. மொழி பெயர்ப்பின் நோக்கமும் பயனும் பற்றி விவரிக்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: UG NME **COURSE CODE : 17U4TNM2**

COURSE TITLE : மக்கள் தகவல் தொடர்பியல் **QN.NO : 3835**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. கோந்தோ காந்தி தென்னாப்பிரிக்காவில் நடத்திய இதழின் பெயரைக் குறிப்பிடுக.
2. வானொலியில் பிரதமர் உரையாற்றும் நிகழ்ச்சியின் பெயர் என்ன?
3. சமூக உரவுக் கோட்பாட்டில் எத்தனை நிலைகள் உள்ளன?
4. மொழி உருவாக்கக் கோட்பாட்டினால் தமிழுக்குக் கிடைத்த சொற்களுக்குச் சான்று தருக.
5. செய்தியின் உறுப்புக்கள் எவை?
6. கலாச்சித்திரங்களின் தந்தை என்ற குறிப்புக்குரியவர் யார்?
7. இந்தியாவில் முதல் வானொலி நிலைய ஒலிபரப்பு எப்போது தொடங்கியது?
8. தணிக்கைத் துறையில் எந்த நாட்டில் அறிமுகப்படுத்தப்பட்டது?
9. பிரமிடு முறை நிர்வாக அமைப்பிற்குச் சான்று தருக.
10. இதழ் தொடங்குவதற்கான விண்ணப்பத்தை யாரிடம் ஒப்படைக்க வேண்டும்?

பகுதி – II **(5 x 7 = 35)**

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) இந்திய இதழியல் வரலாற்றை சுருக்கமாக விளக்குக.

(அல்லது)

ஆ) பாரதியார் தமிழ் இதழியலின் முன்னோடி என்பதை நிறுவுக.

12. அ) கோட்பாடுகளின் கட்டமைப்புக்கான எடுத்துக்காட்டுக.

(அல்லது)

ஆ) உடகத் திறனாய்வில் கோட்பாடுகள் கூறுவன யாவை?

13. அ) கருத்துப்படங்களின் ஆற்றலை சான்றுடன் விளக்குக.

(அல்லது)

ஆ) அச்சு உடகங்களின் செம்மையாக்கம் பற்றி குறிப்பு வரைக.

[P.T.O]

14. அ) வானொலி ஒலிபரப்பின் வகைகளை விவரிக்க.

(அல்லது)

ஆ) திரைப்பட சமூகத்தில் ஏற்படுத்திய மாற்றங்களைச் சான்றுடன் கூறுக.

15. அ) தமிழ் இதழ்களின் பதிப்புக்களைப் பற்றி விவரிக்க.

(அல்லது)

ஆ) வானொலியின் நிருவாகப் பிரிவுகளை விளக்குக.

பகுதி – III **(3 x 10 = 30)**

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. இலக்கிய வளர்ச்சிக்கு தொண்டாற்றிய இதழ்கள் குறித்து ஒரு கட்டுரை எழுதுக.

17. மார்க்ஸியக் கோட்பாட்டின் நிலைகளை விவரிக்க

18. இதழியலில் படங்களின் முக்கியத்துவத்தினைச் சான்றுகளுடன் எடுத்துரைக்க.

19. ஊடகவியலில் தொலைக்காட்சி ஏற்படுத்திய மாற்றங்களை விளக்குக.

20. மூவகை மேளாண்மையை விவரித்து எழுதுக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Tamil **COURSE CODE : 17U5TMC9**

COURSE TITLE : இலக்கியத் திறனாய்வு **QN.NO : 3837**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1) இலக்கியத்தின் பயன் யாது?
2) அங்கதம் எனும் உத்திக்குச் சான்று தருக.
3) இலக்கியத் திறனாய்வு என்றால் என்ன?
4) திறனாய்வாளரின் தகுதி யாது?
5) உளவியலின் தந்தை என அழைக்கப்பட்டவர் யார்?
6) வரலாற்றியல் அணுகுமுறை என்றால் என்ன?
7) உள்ளடக்கம் என்றால் என்ன?
8) குறியீடு என்பது யாது?
9) கம்பராமாயணத்தின் சிறப்புக்களை கூறும் நூல் எது?
10) க. நா. சு. எழுதிய இன்றளவும் பேசப்படக் கூடிய நாவல் எது?

பகுதி – II **(5 x 7 = 35)**

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க

11. அ) இலக்கியத்தின் தோற்றம், வளர்ச்சி குறித்து விளக்குக.
(அல்லது)
ஆ) இலக்கியத்தைப் படைப்பதில் கற்பனையின் பங்கு குறித்து விளக்குக.

12. அ) ஒப்பீட்டுமுறைத் திறனாய்வு குறித்து விளக்குக.
(அல்லது)
ஆ) திறனாய்வாளரின் தகுதிகளை எடுத்துரைக்க.

13. அ) அணுகுமுறை பற்றி விளக்குக.
(அல்லது)
ஆ) வரலாற்றியல் அணுகுமுறை குறித்து விளக்குக.

(பி.ப.பா)

CODE : 17U5TMC9 QN.NO : 3837

TITLE : இலக்கியத் திறனாய்வு

14 அ) கவிதைக்கான விளக்கத்தைக் கூறி; கவிதை குறித்த மேலைநாட்டு அறிஞர்களின் கருத்துக்களை விளக்குக.

(அல்லது)

ஆ) திறுகதை என்றால் என்ன? என்பதைக் கூறி; இக்கால இலக்கியங்களில் திறுகதையின் பங்கு குறித்து விளக்குக.

15 அ) சி.வ.வின் இலக்கியப் பணியை மதிப்பிடுக.

(அல்லது)

ஆ) உமக்குப் பிடித்த திறனாய்வாளரின் திறனாய்வுப் பணி குறித்து விளக்குக.

பகுதி – III **(3 x 10 = 30)**

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. கற்பனையின் வகைகள் குறித்து கட்டுரைக்க.

17. திறனாய்வின் வகைகள் குறித்து விவரிக்க.

18. உளவியல் அணுகுமுறை குறித்து தொகுத்துரைக்க.

19. புதினத்திற்கும், திறுகதைக்கும் உள்ள ஒற்றுமை, வேற்றுமைகள் குறித்து கட்டுரைக்க.

20. தற்காலத் தமிழ் இலக்கியத் திறனாய்வாளர்களுள் ஒருவரான க.நா.சுவின் திறனாய்வு பணி குறித்து மதிப்பிடுக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., தமிழ் **COURSE CODE : 17U5TMC10**

COURSE TITLE : இலக்கணம் - புறப்பொருள் வெண்பாமாலை **QN.NO : 3839**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. வெட்சித் துறையில் கூறப்படும் 'விறல் படையோள்' யார்?
2. கரந்தைப் பூக்களின் நிறங்கள் இரண்டினைக் குறிப்பிடுக.
3. வஞ்சித் திணையின் துறைகள் மொத்தம் எத்தனை?
4. இறந்த மறவனின் புகழைப் பாராட்டி மனம் வருந்துவது என்ன துறையாகும்?
5. உழிஞை எந்த திணைக்குரிய மரம்?
6. கொற்றம் என்பதன் பொருள் யாது?
7. மறமாண்பினை உடைய அரசனின் நல்லியல்புகளை மிகுத்துக் கூறுவது எது?
8. துறவியரின் தவநெறி பிறழாத வாழ்வினைப் போற்றி உரைப்பது எத்துறை?
9. அரசன் இல்லறம் நடத்தும் பாங்கினைச் சிறப்பித்துச் சொல்வது எத்துறை?
10. வாயுறை என்பதன் பொருள் யாது?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) வெட்சித் திணையின் துறைகளுள் தலைத்தோற்றம், தந்து நிறை,பாதீடு : ஆகிய துறைகளைச் சான்றுடன் விளக்குக.

(அல்லது)

ஆ) வெட்சித் திணையின் துறைகளுள் உண்டாட்டு, உயர் கொடை, புலனறி சிறப்பு ஆகிய துறைகளை விளக்குக.

12. அ) வஞ்சி, காஞ்சி ஆகிய திணைகளில் இடம் பெறும் தழிஞ்சி துறையை விளக்குக.

(அல்லது)

ஆ) பேய்க்காஞ்சி, தொட்ட காஞ்சி, தொடாக் காஞ்சி, மன்னைக் காஞ்சி ஆகிய துறைகளை விவரிக்க.

13.அ) கந்தழி , முற்றுழிஞை, காந்தள், புறத்திறை ஆகிய உழிஞைத் திணை துறைகளை விளக்குக.

(பி.ப.பா.)

(அல்லது)

ஆ) தோல் உழிஞை, புறத்துழிஞை, பாசிநிலை, ஏணி நிலை ஆகிய உழிஞைத் திணை துறைகளை விளக்குக.

14. அ) மறக்களவழி, களவேள்வி, பொருந வாகை, தாபத வாகை ஆகிய வாகைத்திணை துறைகளை விளக்குக.

(அல்லது)

ஆ) கண்படை நிலை, அவிப்பலி, சால்பு முல்லை, கிணை நிலை ஆகிய வாகைத்திணை துறைகளை விளக்குக.

15. அ) வாயுறை வாழ்த்து, செவியறிவுறூஉ, ஓம்படை ஆகிய பாடாண் திணை துறைகளை பற்றி எழுதுக.

(அல்லது)

ஆ) கொடிநிலை, கந்தழி, வள்ளி ஆகிய பாடாண் திணை துறைகளை பற்றி எழுதுக.

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. கரந்தைத் திணைக்குரிய துறைகளுள் எவையேனும் பத்தினைச் சான்றுடன் விளக்குக.

17. வஞ்சித்திணையின் சிறப்புகளை எடுத்துரைக்க.

18. நொச்சித் திணையின் மூலம் அறியலாகும் செய்திகளைத் தொகுத்து எழுதுக.

19. தும்பைத் திணைக்குரிய துறைகளுள் எவையேனும் பத்தினைச் சான்றுடன் விளக்குக.

20. பாடாண் திணையில் இடம் பெற்றுள்ள ஆற்றுப்படை துறைகளைப் பற்றி விரிவாக எடுத்துரைக்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., தமிழ் **COURSE CODE : 17U5TMC11**

COURSE TITLE : உரையாசிரியர்கள் **QN.NO : 3841**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1= 10)

அனைத்து வினாக்களுக்கும் ஒரிரு வரிகளில் விடை தருக.

1. "நுண்பொருள்மாலை" ஆசிரியர் யார்?
2. நன்னூலுக்கு விருத்தப்பாவில் உரை இயற்றியவர் யார்?
3. தொல்காப்பியத்திற்கு முதன்முதலில் உரை கண்டவர் யார்?
4. சீவக சிந்தாமணிக்கு இரு முறை உரைகண்டவர் யார்?
5. திருக்குறளுக்கு யாருடைய உரை மிகவும் சிறப்புப் பெற்றது?
6. அடியார்க்கு நல்லாரை ஆதரித்த வள்ளல் யார்?
7. சிவஞான போதத்தின் வழிநூல் எது?
8. திருவாய்மொழிக்கு 36000 படி எழுதியவர் யார்?
9. பத்திரகிரியார் புலம்பலுக்கு விருத்தியுரை எழுதியவர் யார்?
10. வை.மு.கோ உரை எழுதிய சில நூல்களை கூறுக.

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) உரையாசிரியர்கள் குறித்து விளக்கு.
    (அல்லது)
    ஆ) உரையின் வகைகளைப் பற்றி விவரி.
12. அ) தொல்காப்பிய உரையாசிரியர்கள் குறித்து விவரி.
    (அல்லது)
    ஆ) நன்னூல் உரையாசிரியர்கள் குறித்து விளக்கு.
13. அ) பரிமேலழகர் பற்றியும் அவர்தம் உரை குறித்தும் விவரி.
    (அல்லது)
    ஆ) சிலப்பதிகார உரை குறித்து விளக்கு.
14. அ) சைவ சித்தாந்த நூல்களின் உரைகள் பற்றி விவரி.
    (அல்லது)
    ஆ) நாலாயிரத் திவ்யப் பிரபந்த வியாக்யானங்கள் குறித்து விளக்கு.
15. அ) வை.மு.கோ உரைகள் பற்றி விளக்கு.
    (அல்லது)
    ஆ) திரு.வி.கவின் உரைகள் பற்றி விளக்கு.

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. உரைக்கான விளக்கமும், உரையாசரியர்கள் பற்றியும் கட்டுரை வரைக.
17. இலக்கண உரையாசிரியர்கள் குறித்து கட்டுரை வரைக.
18. இலக்கிய உரையாசிரியர்கள் குறித்து கட்டுரை வடிவில் தருக
19. பக்தி இலக்கிய உரையாசிரியர்கள் பற்றி விவரி.
20. இருபதாம் நூற்றாண்டு உரையாசிர்கள் குறித்து ஒரு கட்டுரை வரைக

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., தமிழ் **COURSE CODE : 17U5TMC12**

COURSE TITLE : நாட்டுப்புறவியல் **QN.NO : 3843**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஒரு வரிகளில் விடை தருக.

1.நாட்டுப்புற இயலின் தந்தை என அழைக்கப்படுபவர் யார்?

2.அம்மானை என்ற சொல் முதன்முதலில் பயின்று வரும் காப்பியம் எது?

3.வாய்மொழிக் கோட்பாட்டை உருவாக்கியவர்கள் யாவர்?

4.நாட்டுப்புறவியலில் சூழல் கோட்பாட்டை உருவாக்கியவன் யார்?

5.நாட்டுப்புற மக்கள் எதனை இரண்டு கண்களாகப் போற்றினர்?

6.உலகின் மிகத் தொன்மையான வழிபாடு எது?

7.தோற்பாவைக் கூத்தை நடத்துபவர்கள் யார்?

8.கட்டடக்கலையின் மூன்று பகுப்புகள் யாவை?

9.மயானக்கொள்ளை என்னும் விழா எந்தக் கடவுளுக்கு உரியது?

10.நாட்டுப்புற நம்பிக்கைகள் என்ற நூலைத் தமிழில் வெளியிட்டவர் யார்?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11.அ)நாட்டுப்புற இலக்கியத்தின் ஐந்து பண்புகளை விவரிக்க.

(அல்லது)

ஆ)விடுகதைகளின் அமைப்பினையும், அது வெளிப்படுத்தும் கருத்துக்களையும் எழுதுக.

12.அ)வாய்மொழி வாய்ப்பாட்டுக் கொள்கை பற்றி எழுதுக.

(அல்லது)

ஆ)மானிடவியலின் ஒரு பகுதி நாட்டுப்புறவியல் என்பதை நிறுவுக.

பி.ப.பா...

13.அ) தாலாட்டுப் பாடல்கள் பற்றி விளக்கு.

(அல்லது)

ஆ)தொழில் பாடல்களில் காணும் குறியீடுகளைத் தக்க சான்றுகளுடன் எடுத்துரைக்க.

14.அ)கூத்து என்பதற்கான விளக்கம் கூறி, வகைகளை விளக்குக.

(அல்லது)

ஆ)கணியான் ஆட்டம் பற்றிய செய்திகளைத் தொகுத்துரைக்க.

15.அ)சிறுதெய்வ வழிபாடு பற்றிய செய்திகளை எழுதுக.

(அல்லது)

ஆ)நாட்டுப்புற நம்பிக்கைகள் குறித்த தமிழவனின் கருத்துக்களைக் குறிப்பிடுக.

பகுதி – III **(3 x 10 = 30)**

16. நாட்டுப்புறவியலின் சிறப்புக்களைக் கட்டுரைக்க.

17.நாட்டுப்புறப் பாடல்களின் வகைப்பாடுகள் குறித்த அறிஞர்களின் கருத்துக்களைத் தொகுத்துரைக்க.

18. நாட்டுப்புறக் கதைகளையும் அவற்றின் நோக்கங்களையும் விவரித்தெழுதுக.

19. நாட்டுப்புறக் கலையின் வகைகளைக் குறித்து விளக்கியெழுதுக.

20.ஊர்ப்பெயர்களின் அமைப்பு முறை குறித்துக் கட்டுரை வரைக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., தமிழ் **COURSE CODE : 17U5TMC13**

COURSE TITLE : கோயிற்கலைகள் **QN.NO : 3845**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. கோயில் சிற்பங்களை அமைப்பவர் யார்?

2. இயற்கை வழிபாட்டிற்குரிய பொருட்கள் எவை?

3. கருவறை வகைகளுக்கு உதாரணம் தருக.

4. கோயில் என்பதன் விளக்கம் என்ன?

5. ஓவியங்கள் வரையப்பட்ட இடங்களை என்ன பெயரிட்டு அழைத்தனர்?.

6. வட்டிகை என அழைக்கப்படும் கலை எது?

7. கருவறையின் மீது விமானம் அமைந்துள்ளதை என்ன பெயரிட்டு அழைப்பர்?

8. மகேந்திரவர்மன் எழுதிய நாடக நூல் எது?

9. கோவில் பணிக்கு வித்திட்ட முதல் நாயக்க மன்னன் யார்?

10. தமிழக வரலாற்றில் அரியணை ஏறிய முதல் பெண்ணரசி யார்?

பி.பபா..

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. (அ) நாயக்கர் காலத்தில் கோயில் சீர்திருத்தங்கள் குறித்து எழுதுக.

(அல்லது)

(ஆ) கோயில் விழாக்கள் உருவான முறையை எழுதுக.

12. (அ) பல்லவர்கள் காலத்தில் கோயில்கள் பெற்ற வளர்ச்சியை எழுதுக.

(அல்லது)

(ஆ) பல்லவர்களின் கோயில் திருப்பணிகள் பற்றி எழுதுக.

13. (அ) கோயில்களில் நடைபெறும் கூத்துகள் பற்றி எழுதுக.

(அல்லது)

(ஆ) கோயில்களில் காணப்படும் சிற்பங்கள் குறித்து எழுதுக.

14. (அ) கோயில்களின் அமைப்பு முறையினைக் கூறுக.

(அல்லது)

(ஆ) கோயில்கள் தோற்றுவிக்கப்படுவதன் நோக்கத்தைக் கூறுக?

15. (அ) சிலம்பில் காணப்படும் தெய்வம் பற்றிய பதிவுகளை எழுதுக.

(அல்லது)

(ஆ) தொல்காப்பியத்தில் இடம் பெறும் தெய்வம் பற்றிய செய்திகளை எழுதுக.

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. சங்க இலக்கியத்தில் காணப்படும் தெய்வம் பற்றிய கருத்துக்களை விளக்குக.

17. கோயில்களின் வகைகளைக் குறிப்பிட்டு விவரி.

18. கோயில்கள் மூலம் வளர்ந்த கலைகளை விளக்குக.

19. பாண்டியர்கள் காலத்தில் கோயில்களின் வளர்ச்சியை விவரி.

20. நாயக்கர் ஆட்சியில் கோயில் திருப்பணிகள் பற்றி விளக்குக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., தமிழ் **COURSE CODE : 17U5TSM5**

COURSE TITLE : அறிவியல் தமிழ் **QN.NO : 3847**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. Venus, Jupiter என்ற கோள்களை தமிழில் எவ்வாறு உரைப்பர்?
2. அறிவியல் இதழ் வரலாற்றில் முதலிடம் வகிக்கும் மாத இதழ் எது?
3. துனிநிலை, ஏட்டுநிலை - ஆங்கிலத்தில் மொழிபெயர்க்க.
4. சந்திரகிரகணம் பற்றிய செய்தி இடம்பெற்ற நூல் எது?
5. காரமச்சிவாயம் அவர்கள் வெளியிட்ட அறிவியல் இதழின் பெயர் என்ன?
6. "தாவர சாஸ்திரம்" எனும் ஸயன்ஸின் வேறுபெயர்களை கூறுக.
7. Computer, calculator - தமிழாக்கம் தருக.
8. DNA ஆராய்ச்சியில் நோபல் பரிசு பெற்ற அறிஞர்கள் யாவர்?
9. NISO - விவரிக்க.
10. சென்னை மாநில அரசு தமிழ்த்தட்டச்சு விசைப்பலகையை எந்த ஆண்டு அங்கீகரித்தது?

பி.ப.பா...

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CODE : 17U5TSM5 QN.NO : 384

TITLE : அறிவியல் தமிழ்

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பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. (அ) வானவியல் தொடர்பான அறிவியல் செய்திகளை எடுத்தியம்புக.

(அல்லது)

(ஆ) நாயக்கர் கால அறிவியல் செய்திகளை நிரல்படு

12. (அ) மொழிநிலையும் தமிழும் குறித்து விளக்குக.

(அல்லது)

(ஆ) விளக்கம் தருக: (i) ஒப்புமையாக்கச் சொற்கள் (ii) ஒலிலுத்த சொற்கள்.

13. (அ) அறிவியல் தமிழ்க் கல்வியின் ஆரம்ப கால வரலாறு எடுத்துரைக்க.

(அல்லது)

(ஆ) அறிவியல் தமிழ்க் கல்வியில் கன வேற்றுமை எவ்வாறு இருந்தது?

14. (அ) அறிவியல் தமிழ்ப் படைப்பாக்கத்தில் மொழிநடை பங்கு குறித்து விளக்குக.

(அல்லது)

(ஆ) வேர்ச்சொற்கள் குறித்து விளக்கி எழுதுக.

பி.ப.பா...

CODE : 17U5TSM5 QN.NO : 3847

TITLE : அறிவியல் தமிழ்

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(ஆ) தமிழில் எழுத்துச் சீர்திருத்தம் பற்றி சான்றுகளுட எழுதுக.

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. சோழர் மற்றும் ஐரோப்பியர் கால அறிவியல் செய்திகளை விளக்கியுரைக்க.

17. மரபு வழிச் சொற்கள், ஒட்டுச் சொற்கள் ஆகியன பற்றி விரித்துரைக்க.

18. அறிவியல் தமிழ்க் கல்வி குறித்துக் கட்டுரை வரைக.

19. கலைச்சொல் பற்றி விளக்கம் தந்து கலைச்சொல் ஒருமைப்பாடு குறித்து விளக்கி வரைக.

20. வேறுபடும் விசைப்பலகைகள் குறித்து ஆராய்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., Tamil **COURSE CODE : 17U6TMC14 / 6L1(Upto 2016)**

COURSE TITLE : சங்க இலக்கியம் **QN.NO : 3849**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. முல்லைத் திணையின் உரிப்பொருள் யாது?
2. பரிக்கோல்காரர் என்பவர் யார்?
3. "நின்ற சொல்லர் நீடு தோன்றினியர்" என்ற பாடலைப் பாடியவர் யார்?
4. ஐங்குறுநூற்று மருதத்திணையைப் பாடியவர் யார்?
5. கலித்தொகையில் உள்ள பாடல்களின் எண்ணிக்கை எத்தனை?
6. கேழல் என்ற சொல்லின் பொருள் யாது?
7. உண்பது நாழி உடுப்பவை இரண்டே – பொருள் தருக.
8. பதிற்றுப்பத்தின் நான்காம் பத்து எந்தச் சேர மன்னனைப் பாராட்டுகின்றது?
9. எழுபிறப்பும் ஏமாப்பு உடையவர் யார்?
10. ஆற்றுணா வேண்டுவது இல் - இப்பழமொழியின் பொருள் தருக.

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) முல்லைப்பாட்டில் முதுபெண்டிர் தலைவியைத் தேற்றிய விதத்தினை விளக்குக?

(அல்லது)

ஆ) தலைவனின் பிரிவால் தலைவி அடைந்த துயரினை முல்லைப்பாட்டின் வழி விளக்குக?

12. அ) கபிலரின் "நின்ற சொல்லர்" பாடற் கருத்துக்களை எழுதுக?

(அல்லது)

ஆ) வேட்கைப் பத்துப் பாடல் கருத்துக்களை சுருக்கி எழுதுக?

13. அ) அகநானூற்று பகுப்பு முறையினை விளக்குக?

(அல்லது)

ஆ) "வான்கடற் பலப்பில்" என்னும் அம்மூவனார் பாடற்கருத்துக்களை தொகுத்துரைக்க?

14. அ) கணியன் பூங்குன்றனாரின் பாடல் செய்திகளைக் கூறுக?

(அல்லது)

ஆ) செவ்வேளின் சிறப்புகளைப் பரிபாடல் வழி விளக்கி எழுதுக?

15. அ) குறிப்பு வரைக – திருக்குறள்

(அல்லது)

ஆ) கல்வி பற்றித் திருவள்ளுவர் கூறுவன யாது?

பகுதி – III (3 X 10 = 30)

எவையேனும் மூன்று வினாக்களுக்குக் கட்டுரை வடிவில் விடையளிக்க

16. முல்லைப்பாட்டில் அமைந்துள்ள செய்திகளைத் தொகுத்துரைக்க.
17. குறுந்தொகைப் பாடல் கருத்துக்களைக் கட்டுரை வடிவில் தருக?
18. கலித்தொகை சுட்டும் அறங்களைப் பட்டியலிட்டு விரித்துரைக்க?
19. களங்காய் கண்ணி நார்முடிச் சேரலின் வரலாற்றினை பதிற்றுப்பத்தின் வழித் தருக?
20. பழமொழி நானூறு குறிக்கும் பாடல் செய்திகளைத் தொகுத்துரைக்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., Tamil **COURSE CODE : 17U6TMC15/ 6L2 (Upto 16)**

COURSE TITLE : ஒப்பிலக்கியம் **QN.NO : 3851**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. மனித இனப் பொதுமையைக் கண்டறிய உதவும் முதன்மையான கருவி எது?
2. 'கால்டுவெல்' செய்த ஆய்வினைச் சுட்டுக.
3. தமிழ் ஒப்பிலக்கிய நூல்கள் சிலவற்றைத் தருக.
4. 'இலக்கிய ஒருமைப்பாடு' என்றால் என்ன?
5. தொல்காப்பியர் காலத்தில் 'உரை' என்பதன் பொருள் யாது?
6. கிரேக்க இலக்கியத்தின் பழமையான இலக்கிய வகைகளைத் தருக.
7. 'உளவியலின் தந்தை' என்று போற்றப்படுபவர் யார்?
8. 'பிரெஞ்சுக் கோட்பாடு' என்றால் என்ன?
9. கவிஞர் குறித்து டி.எஸ். எலியட்டின் கருத்து யாது?
10. உருக்காட்சியின் பயன் யாது?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) இலக்கியம் உலகப்பொதுமை உடையது என்பதனை மெய்ப்பிக்க.

(அல்லது)

ஆ) தொல்காப்பியத்தில் இலக்கண இலக்கிய ஒப்பீடுகள் காண்படுகின்றமைக்குச் சான்றுகள் தருக.

12. அ) ஒப்பியலக்கிய ஆராய்ச்சியில் செலகல் இரட்டையரின் பணிகளை எடுத்துரைக்க.

(அல்லது)

ஆ) 'கிரிம் சகோதரர்கள்' ஒப்பிலக்கிய வளர்ச்சிக்கு ஆற்றிய தொண்டுகளைப் பட்டியலிடுக.

13. அ) முருகியல் கோட்பாட்டின் சிறப்புக்களைத் தெளிவிக்க.

(அல்லது)

ஆ) இலக்கிய வகைக் கோட்பாடுகளை நிரல்படுத்துக.

14. அ) உளவியல் துறையில் .'.பிராய்டு ஆற்றியுள்ள தொண்டுகளை எடுத்தியம்புக.

(அல்லது)

ஆ) அமெரிக்கக் கோட்பாட்டின் கொள்கைகளை விளக்குக.

15. அ) இலக்கியத்தில் யாப்பு வடிவம் பற்றிய ஆய்வினை ஒப்பிலக்கிய நோக்கில் மதிப்பிடுக.

(அல்லது)

ஆ) 'உருக்காட்சி பற்றிய கொள்கையும் கோட்பாடும்' – விளக்குக.

பி. ப. பா...

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. மேலை நாட்டில் ஒப்பிலக்கியம் ஒரு தனித்துறையாக வளர்ச்சி பெற்றமையை ஆராய்க.
17. ஒப்பியலக்கியத் தோற்றம் வளர்ச்சி குறித்துக் கட்டுரைக்க.
18. இலக்கிய ஆய்விற்கு அறிவியல் கோட்பாடுகள் பயன்படுமாற்றைச் சான்றுகளுடன் நிறுவுக.
19. இசையும் கூத்தும் இலக்கியக் கலவையோடு இணைந்து செல்வதைச் சான்றுகளுடன் மதிப்பிடுக.
20. தமிழ் இலக்கியத்தில் இடம் பெற்றுள்ள புராண மரபுக்கதைகளைத் தொகுத்தெழுதுக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., Tamil **COURSE CODE : 17U6TMC16**

COURSE TITLE : நாடகவியல் **QN.NO : 3853**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. துணங்கைக் கூத்தின் வகைகள் யாவை?
2. 'பாடல் ஓர்ந்தும் நாடகம் நயந்தும்' என்னும் அடி இடம் பெற்றுள்ள நூல் எது?
3. அரங்கேற்று காதை விளக்கும் இருவகைக் கூத்துக்கள் யாவை?
4. பண்டைய தமிழிசை ஏழினைக் குறிப்பிடுக.
5. உழவர் பற்றிய பாடல்களைப் பன்னிரு பாட்டியல் எங்ஙனம் குறிப்பிடுகிறது?
6. 'ஒற்றைக்கால் நாடகம்' என்று அழைக்கப்படுவது எது?
7. தமிழ் நாடக மூவர் யார்?
8. 'கொங்கைத் தீ' என்னும் நாடகத்தை எழுதியவர் யார்?
9. 'தண்ணீர் தண்ணீர்'என்னும் நாடகம் எக்கிராமத்தின் பின்புலம்?
10. வேலுச்சாமி நாயக்கன் எவ்வூரைச் சார்ந்தவன்?

பகுதி – II **(5 x 7 = 35)**

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) ஆற்றுப்படை இலக்கியங்களில் இடம்பெறும் நாடகக் கூறுகள் யாவை?

(அல்லது)

ஆ) தொல்காப்பியத்தில் நாடகக்கூறுகள்-விளக்கம் தருக.

12. அ) 'அரங்கமைப்பு'- சிலம்பு வழி நின்று விளக்குக.

(அல்லது)

ஆ) 'நாடகம்' –என்னும் சொல்லுக்கு, இளங்கோவடிகள் தரும் விளக்கங்களைக் குறிப்பிடுக.

13. அ) குறவஞ்சி நாடகத்தின் இயல்புகளைச் சுட்டுக.

(அல்லது)

ஆ) தெருக்கூத்தின் இன்றைய நிலை குறித்து எழுதுக.

14. அ) பரிதிமாற் கலைஞரின் நாடக நூல்களைக் குறிப்பிடுக.

(அல்லது)

ஆ) 'மனோன்மணீயம்'-நாடக மாண்புகள் யாவை?

15. அ) 'வெள்ளைச்சாமி' நாடகப் பாத்திரத்தை மதிப்பிடுக.

(அல்லது)

ஆ) ஓ.வி. நாடகப் பாத்திரத்தின் பண்புநலன்களைச் சுட்டுக.

பி. ப. பா...

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. பரத நாட்டியத்தின் தோற்றம் குறித்து எழுதுக.
17. சிலம்பு மொழியும் பதினோராடல்கள் யாவை? விளக்குக.
18. நொண்டி நாடகங்களின் கட்டமைப்பினை விவரிக்க.
19. நவீன நாடகங்கள் குறித்து விளக்குக.
20. தண்ணீர் பிரச்சினையைக் கருவாக்கிய, கோமல்சுவாமிநாதனின் படைப்புத் திறனை மதிப்பிடுக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., Tamil **COURSE CODE : 17U6TMC17/ 6L4 (Upto 16)**

COURSE TITLE : விளம்பரக்கலை **QN.NO : 3855**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. PIN என்பதன் விரிவாக்கம் தருக.
2. விளம்பரம் சமூகத்திற்கு எவ்வாறு பயன்படுகிறது?
3. Display production design – தமிழ்ப்படுத்துக.
4. சமூக விளம்பரத்தின் வகை என்ன?
5. விளம்பர உத்திகள் இரண்டினைக் கூறுக.
6. அச்சு விளம்பர நிறுவனங்களுக்கான விதிமுறைச்சட்டம் எது?
7. "இந்தியன் அடவர்டைசிங் ஏஜென்ஸி" எங்கு எப்போது நிறுவப்பட்டது?
8. சர்வதேச விருதைப் பெற்ற இந்திய விளம்பர நிறுவனம் எது?
9. 'விளம்பர நகல்' எழுதுவோரை எவ்வாறு அழைப்பர்?
10. நல்ல விளம்பர நகலின் சிறப்பியல்புகளில் இரண்டினைக் கூறுக.

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) விளம்பரத்தின் தேவை குறித்து விளக்குக.

(அல்லது)

ஆ) இந்திய விளம்பர வரலாறு பற்றி கட்டுரை வரைக.

12. அ) விளம்பரத்தின் நோக்கங்கள் யாவை?

(அல்லது)

ஆ) விளம்பரங்களின் வகைகள் குறித்து எழுதுக.

13. அ) விளம்பர ஆராய்ச்சி பற்றி விளக்கி வரைக.

(அல்லது)

ஆ) விளம்பர பட்ஜெட் தயாரிப்பின் இரண்டு முறைகளை விளக்குக.

14. அ) விளம்பர நிறுவனங்கள் குறித்து எழுதுக.

(அல்லது)

ஆ) விளம்பர உத்திகள் யாவை? தொகுத்துரைக்க.

15. அ) விளம்பரத் தயாரிப்பு விளக்கம் தருக.

(அல்லது)

ஆ) விளம்பரத்திற்கு மொழிநடை பயன்படும் முறைகளை விரித்துரைக்க.

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. விளம்பரத்தின் வரலாற்றினை சொற்பொருள் விளக்கத்தோடு தொகுத்துரைக்க.
17. விளம்பரம் செய்யக்கூடிய இடங்களும் மூலங்களும் பற்றி எழுதுக.
18. விளம்பரச் சாதனங்கள் குறித்து விரித்துரைக்க.
19. விளம்பர நிறுவனங்களின் பாகுபாடுகளை ஆய்க.
20. விளம்பரங்களும் சட்டங்களும் பற்றிய கருத்துக்களை விவரி.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., Tamil **COURSE CODE : 17U6TMC18/6L5 (UPTO 16)**

COURSE TITLE : தமிழ்மொழி வரலாறு **QN.NO : 3857**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. உரையாசிரியர்கள் எந்த உத்தி வகையை மேற்கொண்டு தங்கள் கருத்துக்களைக் கூறிச் சென்றனர்?
2. உரிச்சொல் பனுவல் என்பது எதைக் குறிக்கிறது?
3. திராவிடமொழிகளிலேயே மிகப் பழமையான இலக்கண நூல் எது?
4. தன்மைப் பன்மைக்கு இரண்டு சான்றுகள் தருக.
5. அ.றிணைப் பன்மைக்கு நான்கு சான்றுகள் தருக.
6. தொல்காப்பியர் குறிப்பிடும் எண்ணுப் பெயர்களை எழுதுக.
7. பல்லவர் காலத்தில் ஐகாரம் அகரமாக ஒலிமாற்றம் அடைந்ததற்குச் சான்றுகள் தருக.
8. திசை காட்டும் சொற்களுக்கு இரு சான்றுகள் தருக.
9. இருபதாம் நூற்றாண்டுத் தமிழை ஆராய்ந்த தமிழ்நாட்டு அறிஞர்கள் யார்?
10. அறிவியல் தமிழில் எது இன்றியமையாதது?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) மொழி வரலாற்றுச் சான்றுகளில் கல்வெட்டுகள் பெறுமிடத்தைப் புலப்படுத்துக.

(அல்லது)

ஆ) 'மொழி வரலாற்றில் உரையாசிரியர்கள் பெருஞ்சான்றுகளாக உள்ளனர்' இக்கூற்றை ஆய்க.

12. அ) சங்க இலக்கியங்களில் இடம் பெறும் பெண்பால் விகுதிகளைச் சான்றுகளுடன் சுட்டுக.

(அல்லது)

ஆ) இறந்த கால விகுதிகள் சங்க இலக்கியங்களில் இடம் பெறுமாற்றைப் புலப்படுத்துக.

13. அ) குறிப்பு வரைக: சுட்டுப் பெயரடைகள்.

(அல்லது)

ஆ) சங்கம் மருவிய காலத்தில் பயன்படுத்தப்பட்ட எண்ணுப்பெயர்கள் யாவை? சுட்டுக.

14. அ) பல்லவர் காலத் தமிழில் உயிரெழுத்துகளில் ஏற்பட்ட மாற்றங்களைப் புலப்படுத்துக.

(அல்லது)

ஆ) இடைக்காலத் தமிழில் இடம் பெற்ற பதிலிடு பெயர்களை எழுதுக.

15. அ) இக்காலத் தமிழில் வழங்கும் சில ஆக்கப் பெயர்களை விளக்குக.

(அல்லது)

ஆ) அறிவியல் தமிழில் கலைச்சொற்களைப் படைப்பது குறித்து எழுதுக.

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. இலக்கியங்கள் ஒரு நாட்டின் மொழி வரலாற்றில் பெறும் முக்கிய பங்கினைத் தொகுத்தெழுதுக.
17. தொல்காப்பியத் தமிழில் காணப்பட்ட கூறுகளை சங்க இலக்கியங்களில் காண முடிகிறது? எங்ஙனம்? விளக்கம் தருக.
18. சங்கம் மருவிய காலத் தமிழில் இடம் பெற்ற இலக்கணமாற்றங்கள் குறித்துக் கட்டுரைக்க.
19. நாயக்கர் காலத்தமிழ் சங்க காலத் தமிழிலிருந்து மாறுபட்டு விளங்கிய விதம் குறித்து கட்டுரை வரைக.
20. வானொலி, பத்திரிக்கைகளில் பயன்படுத்தபெறும் தற்காலத் தமிழ் என்ற தலைப்பில் கட்டுரை வரைக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., Tamil **COURSE CODE : 17U6TSM6/ 6SL (Upto 16)**

COURSE TITLE : படைப்புத்திறன் **QN.NO : 3859**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. படைப்பிலக்கியத்திற்கு இன்றியமையாததாக அமைவது எது?
2. படைப்பு என்பது மறைமுகமான செயல் என்று கூறியவர் யார்?
3. விடுதலைக்கு முன் எழுதிய தொடக்க கால எழுத்தாளர்கள் யாவர்?
4. சிறுகதையின் தொடக்கங்களை எத்தனை வகைப்படுத்தலாம்?
5. அரசியல் சாராத சிந்தனையாளர்கள் தொடங்கிய புதுக்கவிதை இதழின் பெயர் என்ன?
6. படிமம் என்றால் என்ன?
7. நாடக வசனங்களை அச்சிட்டு வெளியிட்டவர் யார்?
8. செய்யுள் வடிவ நாடகம் ஒன்றினை எழுதுக.
9. தமிழில் தோன்றிய முதல் புதினம் எது?
10. அங்கதம் என்றால் என்ன?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) படைப்பிலக்கியம் என்றால் என்ன? விளக்குக.

(அல்லது)

ஆ) படைப்பிலக்கியத்தின் பயன்கள் குறித்து எழுதுக.

12. அ) சிறுகதையின் அடிப்படைக் கூறுகளை விவரிக்க.

(அல்லது)

ஆ) விடியுமா? சிறுகதை தலைப்புப் பொருத்தத்தினை விளக்குக.

13. அ) புதுக்கவிதை உத்திகள் குறித்து எடுத்துரைக்க.

(அல்லது)

ஆ) புதுக்கவிதை தோற்றம் வளர்ச்சியினை விவரி.

14. அ) நாடக வகைகளை விளக்குக.

(அல்லது)

ஆ) 'திருப்பிக் கொடு' நாடகக் கதைக்கருவினை எடுத்தியம்புக.

15. அ) 'பெத்தமனம்' என்னும் தலைப்பில் சிறுகதை எழுதுக.

(அல்லது)

ஆ) 'சிகரம்தொடு' என்னும் தலைப்பில் கவிதை எழுதுக.

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. படைப்பிலக்கிய விதிகளை விவரிக்க.
17. சிறுகதை உத்திகளை விளக்கி வரைக.
18. 'தேசப்பிதாவுக்கு தெருப் பாடகனின் அஞ்சலி' கவிதை உணர்த்தும் சமூக அவலங்களைப் புலப்படுத்துக.
19. நாடக உத்திகள் குறித்து விளக்குக.
20. 'மனமாற்றம்' என்னும் தலைப்பில் ஓரங்க நாடகம் படைத்திடுக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Tamil **COURSE CODE : 18U1TMC1**

COURSE TITLE : இக்கால இலக்கியம் **QN.NO : 3861**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. பாரதிதாசன் தமிழுக்குக் கூறும் வேறு பெயர்கள் யாவை?
2. 'இது வித்தியாசமான தாலாட்டு' என்ற கவிதையின் ஆசிரியர் யார்?
3. 'புதிய மொட்டுக்கள்' என்ற புதினத்தின் ஆசிரியர் யார்?.
4. தமிழில் தோன்றிய முதல் புதினம் எது? யாரால் எழுதப்பட்டது?
5. 'மிளவொட்டி' என்பதன் பொருள் என்ன?
6. பொன்னகரத்தில் மில்லில் கூலி வேலை பார்த்தது யார்?
7. 'ஆறு நாடகங்கள்' என்ற நூலின் ஆசிரியர் யார்?
8. கல்லூரி மாணவாகளின் கனவுகள் பற்றி நகைச்சுவையோடு தரும் நாடகம் எது?
9. அச்சமில்லை அச்சமில்லை என்ற பாரதியின் வீரப்பாட்டு எதனை அடியொற்றியது?
10. சைவநெறியில் சமயப்பொறுமை சிறந்த கொள்கையாக விளங்குகிறது எனக் கூறும் காப்பியம் எது?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ. தற்காலத்துப் பெண்கள் பாரதியின் புதுமைப் பெண்கள் என்பதை ஆய்க.

அல்லது

ஆ. செந்தாமரை நீர் இலை, நீர்த் துளிகள் கவிதையின் வாயிலாக அறியலாகும் செய்திகளைத் தொகுத்தெழுதுக.

12. அ. தலைமை மாந்தர் சுதந்திரராஜன் பாத்திர படைப்பு குறித்து விவரிக்க

அல்லது

தி.ப.பா

ஆ. முதலாளித்துவ ஆதிக்கச் செய்திகளைப் புதிய மொட்டுக்கள் நாவலின் வாயிலாக விளக்குக.

13. அ. பொன்னகரம்- என்னும் சிறுகதை காட்டும் வாழ்வியல் சிந்தனைகளை ஆய்க.

அல்லது

ஆ. 'ஒரு நாள் கழிந்தது'- எனும் சிறுகதையின் வாயிலாக அறியலாகும் செய்திகளை விளக்கியுரைக்க

14. அ. மனித வாழ்வின் போக்கை முன்னும் பின்னும் நாடகத்தின் வழி விளக்குக.

அல்லது

ஆ. அக்னி ஆறு நாடகத்தின் வாயிலாக அறியலாகும் செய்திகளைத் தொகுத்து எழுதுக.

15. அ. பாரியின் கொடைத்தன்மையை விளக்கி உரைக்க.

அல்லது

ஆ. பொங்கலின் பெருமைகளாக ரா.பி சேதுப்பிள்ளை கூறுவனவற்றைத் தொகுத்துரைக்க

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. 'இறைவா எனக்குப் புன்னகை கொடு' என்னும் கவிதையின் உட்பொருளை எடுத்துரைக்க.

17. 'புதிய மொட்டுக்கள்' நாவலில் இடம்பெற்றுள்ள பாத்திரப் படைப்பின் பாங்கினை கட்டுரைக்க.

18. 'சாப விமோசனம்' எனும் சிறுகதையில் இடம்பெற்றுள்ள அகலிகையின் பண்பு நலன்களை விவரிக்க.

19. ஆறு நாடகங்கள் உணர்த்தும் சமுதாயச் சிந்தனைகளைத் தொகுத்து எழுதுக.

20. வேளாண்மையின் மேன்மையை வேளாளப் பெருமக்கள் மகாநாடு உரை வழி எடுத்தியம்புக

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., தமிழ் **COURSE CODE : 18U1TMC2**

COURSE TITLE : இலக்கணம் - நன்னூல் (எழுத்து) **QN.NO : 3862**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. பாயிரத்தின் வகைகளை எழுதுக.
2. நல்லாசிரியருக்குக் கூறப்பெற்ற உவமைகள் எத்தனை? அவை யாவை?
3. சுட்டெழுத்துகள், வினா எழுத்துகள் எவை எவை?
4. மீகீழ் இதழுறப் ---------- பிறக்கும்.
5. பகாப்பதங்கள் எத்தனை வகைப்படும்? அவை யாவை?
6. போலி எத்தனை வகைப்படும்? அவை யாவை?
7. புணர்ச்சி என்றால் என்ன?
8. நாழி, உரி என்பவற்றுக்குச் சிறப்பு விதி கூறுக.
9. தனிக்குறில் முன் ஒற்று உயிர் வரின் இரட்டும் என்பதற்கு உதாரணம் தருக.
10. 'எகின்' என்பதன் பொருள் யாது?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) நல்ல மாணவர்களின் இலக்கணமாக நன்னூலார் குறிப்பிடுவனவற்றைத் தொகுத்து எழுதுக.

அல்லது

ஆ) பாடங் கேட்கும் முறைமையை விளக்குக.

12. அ) நூலின் வரலாறு பற்றிக் கூறுக.

அல்லது

ஆ) மெய்யெழுத்துகளின் பிறப்பு முயற்சியினை நூற்பா வழி விளக்குக.

13. அ)வேற்றுநிலை மெய்ம்மயக்கத்தின் விதிகளை எடுத்துக்காட்டுடன் விளக்குக.

அல்லது

ஆ) காலங்காட்டும் விகுதிகளைச் சான்றுடன் விளக்குக.

14. அ) உயிரீற்று சிறப்புப் புணர்ச்சியின் விதியினை எடுத்துக்காட்டுடன் விளக்கு.

அல்லது

ஆ) எண்ணுப்பெயர்ப் புணர்ச்சியினை நூற்பாவின் வழி விளக்குக.

பி.ப.பா...

15. அ) ணகர, னகர, ளகர, லகர ஈற்றுப் புணர்ச்சி விதிகளைச் சான்றுகளுடன் விவரிக்க.

அல்லது

ஆ) எட்டு உறுப்புகளும் சாரும் இடவகைகளைத் தொகுத்து எழுதுக

<u>பகுதி – III</u> **(3 x 10 = 30)**

எவையேனும் மூன்று வினாக்களுக்குக் கட்டுரை வடிவில் விடையளிக்க

16. நூலில் இடம் பெறக்கூடாத பத்து வகை குற்றங்களையும், நூலிற்குரிய பத்து வகை அலகுகளையும் விளக்குக.
17. சார்பெழுத்துகள் என்றால் என்ன? அதன் வகைகளை எடுத்துக்காட்டுடன் விளக்குக.
18. பகுபத உறுப்பிலக்கணத்தைச் சான்றுடன் விளக்குக.
19. உயிரீற்றின் முன் வல்லினம் புணரும் விதத்தினை விளக்குக.
20. உருபுப் புணரியலில் சாரியை பெறுமிடத்தின் விதிகளைச் சான்றுகளுடன் விளக்குக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., தமிழ் **COURSE CODE : 18U1TAC1**

COURSE TITLE :தமிழக வரலாறும் பண்பாடும் **QN.NO : 3863**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1) பழைய கற்காலக் கருவி எந்த ஆற்றங் கரையில் கண்டெடுக்கப்பட்டன?
2) சோழர் காலம் பற்றிய கல்வெட்டு எந்த நாடுகளில் காணமுடிகிறது?
3) சங்கம் என்ற சொல்லாட்சி எந்த இலக்கியத்தில் கையாளப்பட்டது?
4) கடம்பறை வென்ற மன்னன் யார்?
5) களப்பிரர் எங்கு வாழ்ந்தனர்?
6) பல்லவர் வெளியிட்ட பட்டயங்களை எத்தனை வகைகளாகப் பகுக்கலாம்?
7) இராஜராஜனின் இயற்பெயர்?
8) ஊரவை உறுப்பினர் எந்த முறையில் தேர்ந்தெடுக்கப்பட்டனர்?
9) மதுரையில் நாயக்க முறையைத் தோற்றுவித்தவன் யார்?
10) நாயக்கர் காலத்தில் மதுரையில் நிகழ்த்தப்பட்ட விழாக்கள் யாவை?

பகுதி – II **(5 x 7 = 35)**

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11) அ) தமிழகத்தின் இயற்கை அமைப்பு குறித்து எழுதுக? (அல்லது)
ஆ) சிந்துச்சமவெளி நாகரீகம் பற்றி விவரி?

12) அ) சங்ககாலப் போர்முறைகள் குறித்தெழுது? (அல்லது)
ஆ) பல்லவர் காலப் பொருளாதார நிலையை ஆய்க.

13) அ) சோழப் பேரரசின் தோற்றத்தை விளக்குக? (அல்லது)
ஆ) சோழர் கால ஊராட்சியினை விவரி?

14) அ) இரண்டாம் பாண்டியப் பேரரசு பற்றி விவரி? (அல்லது)
ஆ) பாண்டியர் காலப் பொருளாதார நிலையினை ஆய்க?

15) அ) பாளையப்பட்டு முறையினை விளக்குக? (அல்லது)
ஆ) தமிழகத்தின் வளர்ச்சி நிலைகளை எழுதுக?

(பி.ப.பா...)

பகுதி – III **(3 x 10 = 30)**

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16) தமிழக வரலாற்றை அறிய உதவும் சான்றுகளை எழுது?

17) பல்லவர் கால கலைகள் குறித்து விவரி?

18) சோழர் கால சமுதாய நிலையை ஆய்க?

19) பாண்டியர் ஆட்சிக்காலம் தமிழகத்தின் பொற்காலமா விளக்குக?

20) விடுதலைப் போரில் தமிழகத்தின் பங்கினைக் கட்டுரைக்க?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., தமிழ் **COURSE CODE : 18U1TSM1**

COURSE TITLE : சுற்றுலாவியல் **QN.NO : 3864**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. மணிலா மாநாடு எந்த நாட்டில் நடைபெற்றது?
2. சுற்றுலாத்துறையில் உள்ள தடைகள் எவை?
3. சுற்றுலாப் புவியியல் என்னும் நூலை எழுதியவர் யார்?
4. சுற்றுலாத்துறை தயாரித்த விளம்பரப் படத்துக்கு அளிக்கப்பட்ட விருதின் பெயர் என்ன?
5. விளம்பரத்தின் தாயகம் என அழைக்கப்பெறும் நாடு எது?
6. இந்தியாவில் சுற்றுலாவிற்காக வெளிநாட்டு முகவர்களை நியமித்த முதல் கழகம் எது?
7. ஊலகின் முதல் இருப்புப்பாதை எவ்விரு இடங்களுக்கிடையே அமைந்தது?
8. தாமஸ் குக் எழுதிய பயண நூலின் பெயர் என்ன?
9. குடுமியான் மலையின் சிறப்பு என்ன?
10. வுடநாட்டில் புகழ் பெற்ற நடனத்தின் பெயர் என்ன?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) சுற்றுலா குறித்த அறிஞர்களின் விளக்கங்களைத் தருக.

அல்லது

ஆ) சுற்றுலாக்களின் வகைகளை விளக்கி எழுதுக.

12. அ) சுற்றுலாவினால் ஏற்படும் பொருளியல் விளைவுகளை சுருக்கி வரைக.

அல்லது

ஆ) 'மணிலாத் தீர்மானங்கள்' – விளக்கி எழுதுக.

13. அ) விளம்பரத்தின் பயன்களைப் பட்டியலிடுக.

அல்லது

ஆ) சுற்றுலாவும் விளம்பரமும் குறித்த செய்திகளைக் குறிப்பிடுக.

14. அ) விடுதிகளின் வரலாற்றினைச் சுருக்கி வரைக.

அல்லது

ஆ) சாலைப் போக்குவரத்தின் சிறப்பினையும் இந்தியச் சாலைப் போக்குவரத்தின் வரலாற்றினையும் விவரி.

15. அ) தமிழகத்தின் மலைகளும் கோடைக் குடி இருப்புகளையும் எழுதுக.

அல்லது

ஆ) தமிழக்தில் உள்ள வனவிலங்கு சரணாலயங்கள் பற்றி எழுதுக.

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்குக் கட்டுரை வடிவில் விடையளிக்க

16. சுற்றுலாத் துறையில் உள்ள தடைகள் குறித்து கட்டுரை வரைக.
17. சுற்றுலாவின் தீமைகளை விரித்துரைக்க.
18. விளம்பரம் - திட்டமிடல், செய்திகளைத் தேர்ந்தெடுத்தலை விளக்குக.
19. இந்திய விடுதிகளின் பகுப்பினை விரிவாக ஆராய்க.
20. இந்திய சுற்றுலா வளர்ச்சிக் கழகம் பற்றிக் கட்டுரை வரைக.

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THE MADURA COLLEGE (Autonomous), MADURAI – 625 011

(AFFILIATED TO MADURAI KAMARAJ UNIVERSITY)

RE-ACCREDITED (3rd Cycle) WITH "A" GRADE BY NAAC

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., தமிழ்

COURSE TITLE : அற இலக்கியம்

TIME : 3 Hours

COURSE CODE : 18U2TMC3

QN.NO : 3865

MAX.MARKS :75

பகுதி – I

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக. (10 x 1 = 10)

1. —— இன்றி அமையாது உலகு.
2. மெய்ப்பொருள் காண்பது எது?
3. நெஞ்சில் ஒட்டாரோடு ஒட்டார் யாவர்?
4. கள்ளி வயிற்றில் எது பிறக்கும்?
5. திரிகடுகத்தின் ஆசிரியர் யார்?
6. ஆசாரக்கோவை எழுதியவர் யார்?
7. சாக்காடு என்பதன் பொருள் என்ன?
8. வெகுடல் என்பதன் பொருள் யாது?
9. மூதுரையின் ஆசிரியர் யார்?
10. அன்பே சிவம் என்று கூறியவர் யார்?

பகுதி – II

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க. (5 x 7 = 35)

11. மழையின் சிறப்புகளாக வள்ளுவர் கூறுவனவற்றைத்
அ) தொகுத்து எழுதுக.
(அல்லது)
ஆ) கல்வியின் பெருமைகளாக வள்ளுவர் கூறும் கருத்துகள் யாவை.

12. நட்பின் பெருமைகள் குறித்து நாலடியார் கருத்துக்களை
அ) எழுதுக.
(அல்லது)
ஆ) நல்லாள் பிறக்கும் குடி பற்றி எழுதுக.

பி.ப.பா...

13. அரசனின் இயல்பு குறித்து இன்னா நாற்பது கூறும்
அ) செய்திகளை குறிப்பிடுக.
(அல்லது)
ஆ) ஆசாரம் தவறாதவர் அடையும் நன்மைகள் யாவை?

14. நகை தருவதாக சிறுபஞ்ச மூலம் குறிப்பிடுவது யாது?
அ)
(அல்லது)
ஆ) ஏலாதி கூறும் நிலையாமை குறித்த கருத்துக்களை எழுதுக.

15. திருமூலர் பாடல் கருத்துகளை எழுதுக.
அ)
(அல்லது)
ஆ) மூதுரையில் ஔவையாரின் அறிவுரைகளை எழுதுக.

(3 x 10 = 30)

பகுதி – III

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. நலம்புனைந்து உரைத்தல் அதிகாரக் கருத்துகளை விவரிக்க.

17. நாலடியார் குறிப்பிடும் நட்பாராய்தல் குறித்து கட்டுரை எழுதுக.

18. திரிகடுகக் கருத்துகளைத் தொகுத்து எழுதுக.

19. பழமொழி நானூறு கூறும் சான்றோர் இயல்புகள் குறித்து விரிவாக எழுதுக.

20. சித்தர் பாடல்களில் குறிப்பிடப்படும் இறைக்கருத்துகளை விளக்குக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., தமிழ் **COURSE CODE : 18U2TMC4**

COURSE TITLE :இலக்கணம் - நன்னூல் (சொல்) **QN.NO : 3866**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. உயர்திணை எத்தனை பால்களை உடையது? அவையாவை?
2. ஆகுபெயர் என்றால் என்ன?
3. வனா எழுத்துக்களைக் குறிப்பிடுக.
4. இவடங்கள் யாவை?
5. தொகாநிலைத்தொடர் எத்தனை வகைப்படும்?
6. அடுக்குத் தொடருக்குச் சான்று தருக.
7. தேற்றம் என்பதன் பொருள் யாது?
8. வடையின் இருவகைகளைக் குறிப்பிடுக.
9. ஓரறிவு உயிர்களைக் கூறுக.
10. கடிநகர் என்பதன் பொருள் யாது?

பகுதி – II **(5 x 7 = 35)**

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. சொல் என்றால் என்ன? திணை, பால், இடம் குறித்துச் சான்றுடன் எழுதுக.

(அ)

நால்வகைச் சொற்களை வளக்குக.

12. ஏழாம், எட்டாம் வேற்றுமைகளை உதாரணத்துடன் கூறுக.

(அ)

வனைச் சொற்களின் வகைகளைக் கூறி, வனைமுற்றுக்களை வளக்குக.

13. வினையெச்ச வாய்பாடுகளை விவரி.

(அ)

வடு, வடிநிலை, வடுவமைதி ஆகியவற்றைச் சான்றுடன் தருக.

(P.T.O)

THE MADURA COLLEGE (Autonomous) MADURAI – 11

CODE : 18U2TMC4 QN.NO : 3866

TITLE : இலக்கணம் - நன்னூல் (சொல்)

14. வினா, விடை வகைகளை உதாரணங்களுடன் விளக்குக.

(அ)

இடைச்சொல்லின் பொது இலக்கணம் கூறி வகைகளைச் சான்று தந்து விளக்குக.

15. முன்னிலை அசைச்சொற்களை எடுத்துக்காட்டுடன் விவரி.

(அ)

உரிச்சொல்லின் பொது இலக்கணம் கூறி அதன் வகையை விளக்கு.

பகுதி – III **(3 x 10 = 30)**

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. பெயரின் பொது இலக்கணம் கூறி, உயர்திணை, அஃறிணை இருதிணை ஆகியவற்றை விவரி.

17. விளியேற்கும் பெயர்கள், விளியேலாப் பெயர்களைச் சான்றுடன் விவரி.

18. தொடர் என்றால் என்ன? தொகைநிலைத் தொடரின் வகைகளைச் சான்றுடன் விளக்கு.

19. பொருள்கோளின் வகைகளை எடுத்துக்காட்டுத் தந்து இயம்புக.

20. ஓரறிவு முதல் ஐயறிவு வரையிலான உயிர்ப்பண்புகளை நன்னூலார் வழி எடுத்துரைக்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., தமிழ் **COURSE CODE : 18U2TAC2**

COURSE TITLE :சிற்றிலக்கியம் **QN.NO : 3867**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஒரிரு வரிகளில் விடை தருக.

1. முத்தொள்ளாயிரத்தில் பேசப்படும் மன்னர்கள் யாவர்?
2. பாண்டிய மன்னனுக்கு வழங்கும் வேறு பெயர்கள் யாவை?
3. சந்திர சூடரின் தென்னாரிய நாடு எது?
4. காளியின் ஏவல் பெண்கள் யார்?
5. திருமால் எந்த ஆழ்வார் பாடல் கேட்டு பாம்பனையைச் சுருட்டிச் சென்றார்?
6. திருமாலின் முரசுகள் யாவை?
7. குமரகுருபரர் இயற்றிய வேறுசில நூல்கள்?
8. தாமரையில் தங்கியிருக்கும் கடவுள் யார்?
9. அழகரின் மருமகன் யார்?
10. கொக்கின் உருவமாக வந்த அசுரன் யார்?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) சேரனின் மறமாண்பினை முத்தொள்ளாயிரம் வழி விளக்குக?

(அல்லது)

ஆ) பாண்டியனின் மறமாண்பினை முத்தொள்ளாயிரம் வழி விளக்குக?

12. அ) குற்றாலக் குறவஞ்சியின் நாட்டுவளம் விளக்கு. (அல்லது)

ஆ) இந்திரஜாலம் விளக்கி உதாரணம் தருக.

13. அ) அழகர்கிள்ளை விடுதூது வழி அறியலாகும் திருமால் பற்றிய செய்திகளைத் தொகுத்துரை.

(அல்லது)

ஆ) தூதின் இலக்கணம் அழகர்கிள்ளைவிடு தூதில் பொருந்துவதை விளக்கு.

14. அ) பிள்ளைத்தமிழின் இலக்கணம் மீனாட்சியம்மைப் பிள்ளைத்தமிழில் பொருந்துவதை விவரி. (அல்லது)

ஆ) தாலப்பருவப் பாடல்களைப் பாடவழி நின்று விளக்கு

15. அ) முக்கூடற்பள்ளுவில் காணலாகும் வெள்ளக்காட்சிகளை விவரி (அல்லது)

ஆ) குறத்தி திருத்தினாள் பாடல் கருத்துக்களை விவரி.

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. முத்தொள்ளாயிரம் வழி மூவேந்தர்களின் மறப்பண்புகளை விவரி..
17. கலிங்கத்துப்பரணி காட்டும் இந்திரஜாலத்தைக் கட்டுரை வடிவில் தருக.
18. அழகர் கிள்ளைவிடு தூதில் காணலாகும் நயம் மிகுந்த பகுதிகளை விவரி.
19. மதுரை மீனாட்சியம்மை பிள்ளைத்தமிழின் தனிச் சிறப்புகளை விவரி.
20. நும்பாடப்பகுதி வழியாக முக்கூடற்பள்ளுவின் சிறப்புகளை விவரி.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., தமிழ் **COURSE CODE : 18U2TSM2**

COURSE TITLE : மக்கள் தகவல் தொடர்பியல் **QN.NO : 3868**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. இந்திய மொழி இதழ்களின் தந்தை எனப் புகழப்படுபவர் யார்?
2. தீபம் இலக்கிய இதழில் கட்டுரையா வெளிவந்து புகழடைந்த நூலினைக் குறிப்பிடுக.
3. பத்திரிக்கைகள் உருவானபோது தோன்றிய முதல் கோட்பாடு எது?
4. சமுதாயப் பொறுப்புக் கோட்பாடு யாரால் உருவாக்கப்பட்டது?
5. செய்தியின் உறுப்புகள் எவை?
6. தமிழ் இதழ்களில் கருத்துப்படங்கள் அல்லது கேலிச்சித்திரங்களை அறிமுகப்படுத்தியவர் யார்?
7. அஞ்சல் வழிக் கல்வியை முதன்முதலில் வானொலியின் வாயிலாக ஒலிபரப்பிய பல்கலைக்கழகம் எது?
8. Advertisement planning – தமிழ்ப்படுத்துக.
9. மக்களாட்சியில் பத்திரிக்கைகளுக்குரிய உரிமைகள் யாவை?
10. பத்திரிக்கை மன்றத் தலைவராக விளங்குபவர் யார்?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) தகவல் தொடர்பு – விளக்கம் தருக.

(அல்லது)

ஆ) இதழியல் முன்னோடிகள் குறித்து எழுதுக.

12. அ) கட்டற்ற இதழ் சுதந்திரக் கோட்பாட்டின் வளர்ச்சி நிலையைப் புலப்படுத்துக.

(அல்லது)

ஆ) மக்கள் தகவல் தொடர்பியல் மார்க்ஸியக் கோட்பாடுகளின் சிந்தனையைப் புலப்படுத்துக.

13. அ) செய்திகளைச் சேகரிக்கும் முறைகள் குறித்துத் தெளிவுபடுத்துக.

(அல்லது)

ஆ) இதழ்களில் கேலிச்சித்திரங்களின் பங்களிப்பினை நிறுவுக.

14. அ) வானொலி ஒலிபரப்பின் வகைகளும் உள்ளடக்கமும் பற்றி விளக்குக.

(அல்லது)

ஆ) தொலைக்காட்சி செய்திகளின் நிறைகளும் குறைகளும் குறித்து விளக்குக.

15. அ) ஊடக சுதந்திரம் பற்றித் தெளிவுபடுத்துக.

(அல்லது)

ஆ) பத்திரிக்கைச் சட்டங்கள் பற்றித் தெளிவுபடுத்துக.

பகுதி – III (3 X 10 = 30)

எவையேனும் மூன்று வினாக்களுக்குக் கட்டுரை வடிவில் விடையளிக்க

16. இலக்கிய இதழ்கள் குறித்து கட்டுரை எழுதுக.
17. மக்கள் ஊடகத் தொடர்பியல் கோட்பாடுகள் பற்றிய கருத்துக்களை மதிப்பிடுக.
18. சஞ்சிகைகளின் வகைகளை விளக்கிக் கட்டுரை படைக்க.
19. மின்னணு ஊடகங்களின் பயன்பாட்டு நிலைப்பாட்டினை நிறுவுக.
20. இதழியல் மேலாண்மைகள் நிர்வாக அமைப்புகள் குறித்துத் திறனாய்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., தமிழ் **COURSE CODE : 18U3TMC5**

COURSE TITLE : பக்தி இலக்கியம் **QN.NO : 3869**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. கயிலை மலையை எடுக்கத் துணிந்தவன் யார்?
2. 'கரத்தல்' என்ற சொல்லின் பொருள் யாது?
3. பாண்டியமன்னன் மாணிக்கவாசகருக்கு அளித்த பட்டத்தின் பெயர் என்ன?
4. சுந்தரரின் இயற்பெயர் என்ன?
5. நாலாயிர திவ்யப் பிரபந்தத்தைத் தொகுத்தவர் யார்?
6. "மத்தமாமலை தாங்கிய மைந்தன்" – யார்?
7. அமரர்க்கு அமுது எங்கு தோன்றியது?
8. குப்புரம் எரித்தவன் யார்?
9. வீரமாமுனிவரின் இயற்பெயர் என்ன?
10. உமறுப்புலவரை ஆதரித்த வள்ளல் யார்?

பகுதி – II **(5 x 7 = 35)**

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) திருவையாற்றின் வளங்களை ஞானசம்பந்தர் பாடல்வழி விளக்குக.

(அல்லது)

அ) சூலை நோயின் கொடுமையை திருநாவுக்கரசர் பாடல்கள் வழி விளக்குக.

[P.T.O]

12. அ) திருமழப்பாடியில் எழுந்தருளி இருக்கும் சிவபெருமானது பெருமைகளை சுந்தரர் பாடல்கள் வழி விளக்குக.

(அல்லது)

ஆ) மாணிக்கவாசகர் - ஆசிரியர் குறிப்பு வரைக.

13. அ) கண்ணனின் திருஅவதாரச் சிறப்பை பெரியாழ்வார் பாடல்கள் வழி விளக்குக.

(அல்லது)

ஆ) 'ஓங்கி உலகளந்த உத்தமன்' என்ற பாடல் வழி ஆண்டாள் வேண்டும் வளங்களை விளக்குக.

14. அ) குலசேகர ஆழ்வாரது நாலாட்டுப்பாடல்கள் வழி அறியலாகும் கருத்துக்களை விளக்குக.

(அல்லது)

ஆ) நம்மாழ்வார் - ஆசிரியர் குறிப்பு வரைக.

15. அ) தேம்பாவணி - நூல் குறிப்பு வரைக.

(அல்லது)

ஆ) மாலுக்குப் பிணைநின்ற படலம் வழி அறியலாகும் கருத்துக்கள் யாவை?

(பி.ப.பா...)

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CODE : 18U3TMC5 QN.NO : 3869

TITLE : பக்தி இலக்கியம்

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. திருநாள சம்பந்தரின் திருவையாறு பதிகம் வழி அறியலாகும் கருத்துக்களை கட்டுரைக்க.

17. மாணிக்கவாசகரின் பிடித்தபத்து வழி அறியலாகும் இறைவனது சிறப்புக்களை விரித்துரைக்க.

18. நம்பாடப்பகுதியாக அமைந்துள்ள திருப்பாவையின் முதல் பத்து பாடல்களால் அறியலாகும் கருத்துக்களை கட்டுரைக்க.

19. நம்மாழ்வாரின் ஆத்மஉபதேச கருத்துக்களை விரித்துரைக்க.

20. தேம்பாவணி பாலமாட்சி படலம் வழி அறியலாகும் கருத்துக்களை விவரிக்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., தமிழ் **COURSE CODE : 18U3TMC6**

COURSE TITLE :இலக்கணம் - யாப்பு ,அணி **QN.NO : 3870**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. யாப்பருங்கலக் காரிகையில் எத்தனைக் காரிகைகள் உள்ளன?
2. அதைக்கு உறுப்பாகும் எழுத்துக்கள் எத்தனை?
3. ஒரசைச்சீர் எப்பாவிற்குச் சிறப்பாக உரியது?
4. முச்சீர்கள் பயிலும் அடியின் பெயர் என்ன?
5. கலிப்பாவின் அடிச்சிறுமை எத்தனை?
6. ஒரடியில் கூடாழ பயிலும் சீர்கள் யாவை?
7. இரட்டை என்பது யாது?
8. ஒந்திசைத் துள்ளலோசை எத்தனையால் அமையும்?
9. உவமையை மட்டும் கூறிப் பொருளை உய்த்துணர வைக்கும் அணி யாது?
10. தமிழ்த்தாய் வாழ்த்துப் பாடலில் பயின்றுள்ள அணி எது

பி.ப.பா...

பகுதி – II **(5 x 7 = 35)**

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. (அ) அசை என்றால் என்ன? அதன் வகைகளைச் சான்றுகளுடன் விளக்குக.

(அல்லது)

(ஆ) தளைகளின் வகைகளைப் பட்டியலிடுக.

12. (அ) நேரிசை வெண்பாவை விளக்கி எழுதுக.

(அல்லது)

(ஆ) சிந்தியல் வெண்பாவைச் சான்றுகளுடன் விளக்குக.

13. (அ) இணைக்குறள் ஆசிரியப்பா பற்றி எடுத்துரைக்க.

(அல்லது)

(ஆ) அடிமறிமண்டில ஆசிரியப்பாவை எடுத்துக்காட்டுகளு எடுத்தியம்புக.

14. (அ) நேரிசை ஒத்தாழிசைக் கலிப்பா குறித்து விளக்குக.

(அல்லது)

(ஆ) குறிப்பு வரைக: (i) வெண்கலிப்பா (ii) கலிவெண்பா

15. (அ) வேற்றுமை அணியை எடுத்துக்காட்டுகளுடன் விளக்கி எழுதுக.

(அல்லது)

(ஆ) தற்குறிப்பேற்ற அணியைச் சான்றுகளுடன் விளக்குக.

பி.ப.பா...

பகுதி – III

(3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. அடி என்றால் என்ன? வகைகளை விளக்கி வரைக.

17. வெண்பாவின் பொது இலக்கணம் கூறி வகைகளை விளக்கியுரைக்க.

18. ஆசிரியப்பாவின் வகைகள் குறித்துக் கட்டுரைக்க.

19. கலிப்பாவின் வகைகளையும் வஞ்சிப்பாவின் பொது இலக்கணத்தையும் விவரிக்க.

20. விளக்கி எழுதுக : (i) உவமை அணி (ii) உருவக அணி

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., தமிழ் **COURSE CODE : 18U3TAC3**

COURSE TITLE :தமிழ் இலக்கிய வரலாறு **QN.NO : 3872**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. எட்டுத்தொகை நூல்களுக்கு கடவுள் வாழ்த்து பாடியவர் யார்?
2. பத்துப்பாட்டிலும், பன்னிரு திருமுறையிலும் இடம்பெற்றுள்ள நூல் எது?
3. பதினெண் கீழ்க்கணக்கு நூல்களில் புறநூல் எது?
4. நீதிநெறி விளக்கத்தின் ஆசிரியர் யார் ?
5. கம்பர் எழுதிய நூல்களைக் குறிப்பிடுக.
6. பெரிய புராணத்தின் காப்பியத் தலைவர் யார்?
7. தமிழில் கிடைத்த முதல் உரை எது?
8. தமிழில் முதல் ஐந்திலக்கண நூல் எது?
9. புதுக்கவிதையின் பிதாமகன் எனச் சிறப்பிக்கப்படுபவர் யார்?
10. தமிழில் சாகித்திய அகாதமி விருது பெற்ற முதல் நூர்ல் எது?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ. எட்டுத்தொகையில் அகநூல்கள் குறித்து விளக்குக.

அல்லது

ஆ. ஆற்றுப்படை நூல்கள் குறித்து எழுதுக.

12. அ. பதினெண் கீழ்க்கணக்கு நூல்களில் அகநூல்களின் சிறப்புகளைக் குறிப்பிடுக.

அல்லது

ஆ. இரட்டைக் காப்பியங்கள் பற்றி விளக்குக.

13. அ. சைவ இலக்கியத்தில் முதல் மூவரின் பங்களிப்பினை எடுத்துரைக்க.

பி.ப.பா...

அல்லது

ஆ. திருவிளையாடற்புராணத்தின் சிறப்பியல்புகளை எடுத்தெழுதுக.

14. அ. இசுலாமியர்களின் தமிழ்ப்பணி குறித்து விளக்குக.

அல்லது

ஆ. சித்தர் இலக்கியங்கள் பற்றிக் குறிப்பிடுக.

15. அ. புதினத்தின் வகைகள் குறித்து எழுதுக.

அல்லது

ஆ. தமிழ் சென்ரியூ கவிதைக் குறித்து எழுதுக

பகுதி – III **(3 x 10 = 30)**

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. முச்சங்க வரலாறு குறித்துக் கட்டுரைக்க.

17. ஐஞ்சிறு காப்பியங்களின் தனித்தன்மையை விளக்குக.

18. ஆழ்வார்களின் பக்திச்சிறப்பை விவரிக்க.

19. சிற்றிலக்கியங்களின் தோற்றமும் வளர்ச்சியும் குறித்து கட்டுரைக்க.

20. கடித இலக்கியங்கள் குறித்து விவரித்து எழுதுக.

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THE MADURA COLLEGE (Autonomous), MADURAI – 625 011

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., தமிழ் **COURSE CODE : 18U3TNM1**

COURSE TITLE :பேச்சுக்கலை **QN.NO : 3873**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. 'கிரேக்க நாட்டுப் பெருநாவலர்' என்று கூறப்படுபவர் யார்?
2. "மேடைப்பேச்சுக்கலையின் தந்தை" எனப்படுபவர் யார்?
3. சிறப்பான பேச்சின் மூன்று நிலைகள் யாவை?
4. 'காம்ரேட்' என்பதற்கு இணையான தமிழ்ச்சொல் எது?
5. சொல்லின் செல்வர் என்று அழைக்கப்பட்டவர் யார்?
6. பாகவதர் என்பவர் யாவர்?
7. கையறு நிலைப் பாடல்கள் என்றால் என்ன?
8. கூட்டத்தின் கடைசிக்கட்ட நகழ்வு எது?
9. வாதி என்பவன் யார்?
10. பெண்விடுதலை குறித்துப் பாடிய கவிஞர்கள் இருவரைக் குறிப்பிடுக.

பகுதி – II **(5 x 7 = 35)**

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ. "பேச்சினால் ஆற்றல் பிறக்கிறது" எனும் கூற்றை விவரி.
(அல்லது)

ஆ. சொற்பொழிவு என்ற பெயர் தோன்றிய விதம் குறித்தெழுதுக.

12. அ. பேச்சுத் தொடக்க வகைகளைக் குறிப்பிடுக.
(அல்லது)

ஆ. 'தொலைக்காட்சி உரை எவ்வாறு அமைதல் வேண்டும்' என்பதை விளக்குக.

(P.T.O)

CODE : 18U3TNm1 QN.NO : 3873

TITLE : பேச்சுக்கலை

13. அ. பாராட்டுரைகளின் பயன்கள் குறித்து விவரி.
(அல்லது)

ஆ. தலைமையுரை பற்றி விளக்குக.

14. அ. உடல்மொழி குறித்தெழுதுக.
(அல்லது)

உச்சரிப்பினால் பொருள் வேறுபடுதலை விளக்கு.

15. அ. "நகைச்சுவை கவலைக்கு மருந்து" - இக்கூற்றை விவரி.
(அல்லது)

ஆ. "பேச்சை முடித்தல் எங்ஙனம் அமைதல் வேண்டும்" என்பதை விளக்கு.

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. பேச்சாளருக்குரிய தகுதிகளை விளக்கியுரைக்க.

17. 'சமய உரைகள் தமாரிப்பது எங்ஙனம்' - ஆய்க.

18. பல்வேறுபட்ட உரைகள் குறித்து விவரித்தெழுதுக.

19. மேடையில் செய்யத்தக்கன, செய்யத்தகாதன குறித்துரைக்க.

20. மேடைப்பேச்சில் மேற்கோள்களைப் பாங்குற எடுத்தாளுதல் குறித்து ஆய்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., Tamil **COURSE CODE : 18U4TMC7**

COURSE TITLE : காப்பிய இலக்கியம் **QN.NO : 3874**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. தண்ணுமை என்பது என்ன?
2. மதுரையில் இருந்த கடைவீதிகளைக் குறிப்பிடுக.
3. மணிமேகலை பெற்ற மந்திரங்களைக் குறிப்பிடுக.
4. பசிப்பிணி தீர்த்த பாவை யார்?
5. ஐம்பெருங்காப்பியம் என்ற தொடரை முதன்முதலில் கையாண்டவர் யார்?
6. மானிடப் பண்பு எது?
7. சீவகன் கற்றுக் கொண்ட மந்திரங்கள் எவை?
8. முகம்மதுவிற்கு, வேத நபிகள் என்னும் பட்டம் வழங்கியவர் யார்?
9. அனுமனின் வரவை வானர வீர்கள் எங்ஙனம் எதிர்பார்த்திருந்தனர்?
10. இராவணனுக்கு உள்ள சாபம் என்ன?

பகுதி – II **(5 x 7 = 35)**

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) கண்ணகியின் தனிமை துயரைக் குறிப்பிடுக.

(அல்லது)

ஆ) மாதவி பயின்ற கலைகள் யாவை?

12. அ) மணிமேகலா தெய்வம் உபதேசித்த மந்திரங்களைச் சுட்டுக.

(அல்லது)

ஆ) மணிமேகலை உணவளித்த சிறப்பினைக் குறிப்பிடுக.

13. அ) சுரமஞ்சரி, காமதேவனிடம் வேண்டிய வரம் எது? விளக்கம் தருக.

(அல்லது)

ஆ) சீவகனின் இசைத்திறனைக் குறிப்பிடுக.

14. அ) மனிதனை மாசுப்படுத்துவது எது? விளக்குக.

(அல்லது)

ஆ) முகம்மது 'நபிப்பட்டம்' பெற்ற நிகழ்வினைப் புலப்படுத்துக.

15. அ) சுக்ரீவன் இராமனை எவ்வாறு தேற்றினான்?

(அல்லது)

ஆ) அனுமானைக் கண்ட பொழுதில் வானரர்களின் செய்த செயல்கள் யாவை?

பி. ப. பா...

பகுதி – III **(3 x 10 = 30)**

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. மதுரை மாநகரத்தின் சிறப்புக்களை, கோவலன் வழி நின்று எழுதுக.
17. மணிமேகலை சிறைக்கோட்டத்தை அறக்கோட்டமாக்கிய விதம் எவ்வாறு? விளக்குக.
18. சீவகன்-சுரமஞ்சரியார் திருமண நிகழ்வினைக் கவிநயத்துடன் விளக்குக.
19. இயேசுவின் மலைப் பிரசங்கம்-விவரிக்க.
20. அனுமான் இராமனிடம் பேசிய மொழிகள் யாவை? விளக்குக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., Tamil **COURSE CODE : 18U4TMC8**

COURSE TITLE : இலக்கணம் - நம்பியகப் பொருள் **QN.NO : 3875**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. ஐந்திணைக்குரிய நூற்பாவினைத் தருக.
2. அகப்பொருளைச் சொல்லும் இரண்டு முறைகளை எழுதுக.
3. 'கைகோள்' – பிரித்து விளக்கம் தருக.
4. குறிஞ்சி மற்றும் முல்லை நிலத்திற்குரிய தெய்வங்களைச் சுட்டுக.
5. 'பாங்கர் – என்பவர் யார்?
6. காதற் பரத்தையின் உரிமை யாது?
7. 'வன்புறை' என்பதன் பொருள் யாது?
8. இரவுக்குறி இடையீட்டின் வகைகளைக் கூறுக.
9. 'அலராதல்' – விளக்கம் தருக.
10. 'மனை மருட்சி' – என்றால் என்ன?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) கைக்கிளையினை விளக்குக.

(அல்லது)

ஆ) மெய்யுறு புணர்ச்சி விளக்கம் தருக.

12. அ) 'செலவழுங்கல்' – குறிப்பு வரைக.

(அல்லது)

ஆ) இளையோர் மற்றும் பாங்கர்க்குரிய செயல்கள் யாவை?

13. அ) இடந்தலைப்பாகுட்டின் வகைகள் மற்றும் அதன் விரிகளைச் சுட்டுக.

(அல்லது)

ஆ) வரைவு கடாதலை விரித்தெழுதுக.

14. அ) வரைவு மலிதலின் வரைவு மற்றும் விரியினை விவரி.

(அல்லது)

ஆ) உடன்போக்கு இடையீடு குறித்து விவரி.

15. அ) கற்பின் இலக்கணத்தினைக் குறிப்பிடுக.

(அல்லது)

ஆ) ஐவகைப் பிரிவுகளுக்குரிய கிளவிகளைச் சுட்டுக.

பி. ப. பா...

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. ஐந்திணைகளுக்குரிய முதற்பொருள் மற்றும் உரிப்பொருளைச் சுட்டி கருப்பொருளையும் நெய்தல் நிலக் கருப்பொருளை விரித்துரைக்க.
17. கற்பில் நிகழும் பிரிவு குறித்து கட்டுரை வரைக.
18. பகற்குறி மற்றும் பகற்குறி இடையீட்டினை விளக்கியுரைக்க.
19. வரைவியல் சுட்டும் அறத்தொடு நிற்றல் குறித்தெழுதுக.
20. கற்பிற்குரிய கிளவித் தொகையினை விரித்தெழுதுக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., Tamil **COURSE CODE : 18U4TSM4**

COURSE TITLE : ஆட்சித்தமிழ் **QN.NO : 3876**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. இங்கிலாந்து நாட்டின் அரசியலமைப்பு முறை யாது?
2. பாராளுமன்றத்தில் காணப்படும் இரு அவைகள் எவை?
3. ஜனாதிபதியால் நியமனம் செய்யப்படும் உயர்பதவிகள் எவை?
4. மத்திய அரசுப்பணி ஆணையத்தின் சட்டப்பிரிவு எது?
5. அலுவலக நடைமுறைகளின் வழிகாட்டியாகத் திகழ்பவை எவை?
6. எவ்வகைக் கடிதங்கள் நேரடியாக அலுவலருக்கு அனுப்பப்படுகிறது.
7. 'ஏற்பு ஒப்புகை அனுப்புக' – ஆங்கிலத்தில் எவ்வாறு அழைக்கப்படுகிறது?
8. Minister's of States?
9. 'Central Service' – கலைச்சொல் விளக்கம் தருக.
10. 'Files' – கலைச்சொல் விளக்கம் தருக.

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) அரசியலமைப்பின் பல்வேறு அங்கங்களை பற்றிக் குறிப்பிடுக.

(அல்லது)

ஆ) அரசு நிறுவனங்களில் தமிழ்மொழிப் பயன்பாட்டின் தேவையைப் புலப்படுத்துக.

12. அ) அரசியலமைப்பின் பாகுபாடு குறித்து விளக்குக.

(அல்லது)

ஆ) 'குடியரசுத் தலைவர் முறையிலான அரசு' – தொகுத்துரைக்க.

13. அ) மக்களின் அடிப்படை உரிமைகள் மற்றும் கடமைகள் குறித்து விரித்தெழுதுக.

(அல்லது)

ஆ) அரசுப்பணி ஆணையத்தின் செயல்பாடு குறித்து விளக்கி வரைக.

14. அ) ஆட்சித்துறை கடிதப் போக்குவரத்து குறித்தெழுதுக.

(அல்லது)

ஆ) அலுவலக நடவடிக்கை ஏற்பு மற்றும் அனுப்புகை ஏடு குறித்து கட்டுரை எழுதுக.

15. அ) 'வரைவின் வடிவங்கள்' – விளக்கம் தருக.

(அல்லது)

ஆ) பகுதிச் சார்பு அலுவலகக் கடிதங்கள் குறித்தும் அதன் முக்கியத்துவம் குறித்தும் விளக்குக.

பி. ப. பா...

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. ஆட்சித்தமிழின் வரலாற்று அடிப்படைப் பின்னணி குறித்து கட்டுரை வரைக.
17. பிரதம அமைச்சர், பாராளுமன்றம் மற்றும் மக்களவை – செயல்பாடுகள் குறித்து விளக்குக.
18. ஆட்சித்துறை கடிதப்போக்குவரத்துக் குறித்து விரித்தெழுதுக.
19. அலுவலகக் குறிப்பாணை அமையும் முறைகள் குறித்து கட்டுரை வரைக.
20. ஆட்சித்துறையில் கலைச் சொற்களின் பங்களிப்பு குறித்து விளக்கி எழுதுக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., Tamil **COURSE CODE : 18U4TAC4**

COURSE TITLE : மொழிபெயர்ப்பியல் **QN.NO : 3877**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. மகாகவி பாரதியார் மொழி பெயர்த்த நூல் எது?
2. மொழி, இலக்கிய ஆய்வுத்துறைகள், ஒப்பாய்வுத் துறைகள் எதைச் சார்ந்துள்ளன?
3. அறிவியல் குறியீடுகளை மொழிபெயர்க்க முடியுமா?
4. செம்மீன் என்னும் மலையாள நாவலைத் தமிழில் மொழிபெயர்த்தவர் யார்?
5. தமிழ்க் கவிதைகளின் மொழியாக்க முன்னோடிகள் யாவர்?
6. ஆற்றல்மிகு நிகரன்களுக்கு முன்னுரிமை எது?
7. அரசியல் துறை சார்ந்த கலைச்சொற்கள் இரண்டினைக் கூறுக.
8. மொழிபெயர்ப்பின் மூன்று படிநிலைகள் யாவை?
9. மொழிபெயர்க்கவும் - Agriculture.
10. D.D., Cheque - இவற்றைத் தமிழில் மொழி பெயர்க்கவும்.

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) மொழிபெயர்ப்பு என்றால் என்ன? அறிஞர்கள் கூறுவன யாவை?

(அல்லது)

ஆ) 19-ஆம் நூற்றாண்டில் ஆங்கில மொழியில் நடைபெற்ற மொழிபெயர்ப்புப் பணி குறித்தெழுதுக.

12. அ) மொழி பெயர்ப்பு, மொழியாக்கம் - வேறுபடுத்துக.

(அல்லது)

ஆ) இலக்கிய மொழிபெயர்ப்பில் கவிதை பெறுமிடத்தைக் கூறுக.

13. அ) மொழிபெயர்ப்பின் தன்மையைச் சுட்டுக.

(அல்லது)

ஆ) கலாச்சார வழக்குகளை எங்ஙனம் மொழி பெயர்க்க வேண்டும்?

14. அ) மொழி பெயர்ப்பினால் உண்டாகும் நன்மைகளை வரிசைப்படுத்துக.

(அல்லது)

ஆ) மொழி பெயர்ப்பாளரின் தகுதிகளுள் சிலவற்றைக் கூறுக.

15. அ) யாருக்காக மொழி பெயர்ப்புத் தோன்றியது? அவர்களை எத்தனை வகைப்படுத்தலாம்?

(அல்லது)

ஆ) 1. One must not boast of one's own success.
2. Take anything that you like. 3. Pen is mightier than sward.
4. TV is one of the modern means of communication.
5. I will do it myself.

பி. ப. பா...

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. தென்னிந்திய மொழிகளின் மொழிபெயர்ப்புப் பணியை விவரி.
17. இலக்கிய மொழிபெயர்ப்பின் இன்றியமையாமையைப் புலப்படுத்துக.
18. மொழிபெயர்ப்புக் கோட்பாடுகள் மொழிபெயர்ப்புப் பணிக்குத் துணை புரிகிற திறத்தை ஆய்க.
19. மொழிபெயர்ப்பில் ஏற்படுகின்ற சிக்கல்களைத் தொகுத்துரைக்கவும்.
20. மொழிபெயர்ப்பின் நோக்கமும், பயனும் குறித்து விளக்கி வரைக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : NME- தமிழ் **COURSE CODE : 18U4TNM2**

COURSE TITLE : திரைப்படக்கலை – அறிமுகம் **QN.NO : 3878**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. உலகின் முதல் செய்திப்படத்தை எடுத்தவர் யார்?
2. இந்தியாவில் முதல் நாடகத் திரைப்படம் எது?
3. வர்ணனை என்பது என்ன?
4. திரைக்கதையில் மிகவும் முக்கியம் எது?
5. தமிழில் வெளிவந்த முதல் குறும்படம் எது?
6. ஆங்கில அரசால் தடை செய்யப்பட்ட படத்தின் பெயர் என்ன?
7. 1990-களில் 'இசையின் அலை' என்று புகழப்பட்டவர் யார்?
8. ஜான்ஹானர் – என்பவர் யார்?
9. ஷாட் (shot) என்பது என்ன?
10. கேமராவின் கோணம் எத்தனை வகைப்படும்?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) உலக அளவிலான மௌன மொழித் திரைப்படத்தின் தோற்றம் பற்றி விளக்குக.

(அல்லது)

ஆ) தமிழில் வெளிவந்த முதல் பேசும்படம் பற்றி எழுதுக.

12. அ) திரைக்கதை உருவாக்கத்தின் வகைகள் பற்றி உரைக்க.

(அல்லது)

ஆ) திரைமொழியின் கூறுகளை நிரல்படுத்துக.

13. அ) விளம்பரங்களின் வகைகளை எடுத்துரைக்க

(அல்லது)

ஆ) ஆஸ்கார் விருது பெற்ற ஆவணப் படங்களைக் குறிப்பிடுக.

14. அ) திரைப்படப் பாடல்களின் பயன்பாடுகளைப் புலப்படுத்துக.

(அல்லது)

ஆ) திரைப்படங்களில் பின்னணி இசையின் இன்றியமையாமை குறித்துக் கூறுக.

15. அ) காட்சிஅளவின் (ஷாட்) வகைகள் பற்றி விளக்குக.

(அல்லது)

ஆ) கேமராவின் நகர்வுக்கு உதவும் கருவிகள் பற்றி விளக்கி உரைக்க.

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. காலந்தோறும் தமிழ்த் திரைப்படங்களில் நிகழ்ந்த மாற்றங்கள் குறித்து விரித்துரைக்க.
17. திரைப்பட உத்தி முறைகள் பற்றி விவரிக்க.
18. குறும்படங்களின் தோற்றமும் வளர்ச்சியும் குறித்து கட்டுரைக்க.
19. திரை இசைக்கு இளையராஜாவின் பங்களிப்பு பற்றி ஆய்க.
20. ஒளி அமைத்தல் தொழில் நுட்பம் பற்றிய செய்திகளைப் பட்டியலிடுக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., Tamil **COURSE CODE : 18U6TMC14**

COURSE TITLE : சங்க இலக்கியம் **QN.NO : 3885**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. ஓலிமென் கூந்தலென் தோழி – யார் கூற்று?
   அ) பாணன் ஆ) பாங்கி இ) தோழி ஈ) நற்றாய்
2. மரமேறும் புலி கூட எதனைக் கண்டு அஞ்சும்?
   அ) யானை ஆ) குதிரை இ) பரணிபந்தல் ஈ) காவல் கொம்பு
3. 'யாணர்' – பொருள் தருக.
   அ) மக்கள் ஆ) செல்வம் இ) சான்றோர் ஈ) புது வருவாய்
4. தலைவி தலைவனை நினைத்து உற்ற நோய் என்ன?
   அ) மனநோய் ஆ) உளநோய் இ) காய்ச்சல் ஈ) மாமைக்கவின் பசலை
5. சீர்மிகுச் சிறப்பினோன் யார்?
   அ) முருகன் ஆ) சிவன் இ) விஷ்ணு ஈ) குரு
6. 'நிலன் உரப் பொறா அன் சீறடி சிவப்ப' என்பது யார் கூற்று?
   அ) தலைவி ஆ) தலைவன் இ) தோழி ஈ) தலைவியின் பெற்றோர்
7. நீர் விளையாட்டுக்குரிய அணிகலன் என்ன?
   அ) சிந்தாமணி ஆ) மணிமேகலை இ) நாளணி ஈ) வளையாபதி
8. பதிற்றுப்பத்தின் இரண்டாம்பத்து பாடியவர் யார்?
   அ) குமட்டூர்க் கண்ணனார் ஆ) நல்லந்துவனார்
   இ) கபிலர் ஈ) கணியன் பூங்குன்றனார்
9. அனிச்சமலரை விட மென்மையானவள் யார்?
   அ) தலைவி ஆ) தலைவன் இ) தோழி ஈ) காதலி
10. தெளிவில்லார் நட்பைக் காட்டிலும் எது நல்லது?
    அ) ஒழுக்கம் ஆ) அன்பு இ) பகை ஈ) நோய்

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) குறிஞ்சிப் பாட்டில் தலைவியின் அழகு நலத்தை விவரிக்க.

(அல்லது)

ஆ) 'செம்புல பெயல் நீர் போல' – பொருள் கூறி விளக்குக.

12. அ) 'அரிகால் மாறிய அங்கண் அகல்வயல்' – நற்றிணைப் பாடல் கருத்தினை விவரி.

(அல்லது)

ஆ) 'யாயும் ஞாயும் யார் ஆகியரோ? – பாடல் கருத்தைச் சான்றுடன் விளக்குக.

13. அ) 'பண்பெனப்படுவது பாடறிந்து ஒழுகல் - கலித்தொகை வழி விளக்குக.

(அல்லது)

ஆ) களிற்றுயானை நிரை குறிஞ்சிப் பாடல் கருத்தைத் தொகுத்துரைக்க.

பி. ப. பா...

14. அ) 'யாதும் ஊரே யாவரும் கேளீர்' – விளக்கம் தருக.

(அல்லது)

ஆ) பரிபாடலில் ஆற்றங்கரை நிகழ்வுகளாக ஆசிரியர் கூறுவன யாவை?

15. அ) இளமை நிலையாமை குறித்து நாலடியார் கூறுவன யாது?

(அல்லது)

ஆ) ஆசாரக்கோவை கூறும் கருத்துக்களை நும் பாடப்பகுதி கொண்டு விளக்குக.

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. குறிஞ்சிப்பாட்டில் இடம்பெறும் பூக்கள் குறித்துக் கட்டுரைக்க.

17. 'குன்றக் குறவன் பத்து' பாடல் கருத்தினை ஐங்குறுநூறு கொண்டு விளக்குக.

18. குன்றவர்களின் வாழ்க்கை முறையை அகநானூறு வழி எடுத்துரைக்க.

19. பதிற்றுப்பத்து இரண்டாம் பத்தின் செய்திகளைத் தொகுத்துரைக்க.

20. 'ஒழுக்கமுடைமை' குறித்து வள்ளுவர் கூறும் கருத்துக்களை விவரி.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., Tamil **COURSE CODE : 18U6TMC15**

COURSE TITLE : ஒப்பிலக்கியம் **QN.NO : 3886**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. உலகக் கவிஞர்கள் எனக் குறிப்பிடப்படும் தமிழ்க்கவிஞர்கள் யாவர்?
   அ) திருவள்ளுவர், கம்பர் ஆ) காளிதாசர், வால்மீகி
   இ) தாந்தே, கதே ஈ) டால்ஸ்டாய், லெனின்
2. "புலத்தினும் போரினும் போர்த்தோலாக் கூடல்"எந்நாள் கருதி சிறப்பிக்கப்படுகிறது.
   அ) மதுரை ஆ) ஆரியம் இ) புகார் ஈ) திராவிடம்
3. தொல்காப்பியம் எதை இலக்கியம் என்று கூறுகிறது?
   அ) செய்யுள் ஆ) இலக்கணம் இ) இலக்கியம் ஈ) எதுவுமன்று
4. ஒப்பு இலக்கியம் என்ற பெயரை ஆங்கிலத்தில் நிலைநிறுத்தக் காரணமாயிருந்தவர் யார்?
   அ) பிரான்சிஸ் ஆ) பாசுனெட் இ) புருனெடீர் ஈ) ஆல்பர்ட்
5. "குழவி மருங்கினும் கிழவதாகும்" – என்ன இலக்கிய வகை?
   அ) குறவஞ்சி ஆ) பள்ளு இ) பிள்ளைத்தமிழ் ஈ) தூது
6. இலக்கியத்தைப் பகுத்தாய எவ்வழி தேவை?
   அ) அறிவியல் வழி ஆ) ஒப்பீட்டு வழி
   இ) இலக்கண வழி ஈ) பாடுபொருள்
7. நெடுநல்வாடை பாண்டிமாதேவியின் நிலையை எவ்வாறு சித்தரிக்கிறது?
   அ) அடிகோவியம் ஆ) ஓவியம் இ) நிலை ஈ) புனையா ஓவியம் கடுப்ப
8. பாட்டுச் சந்தத்தைத் தொல்காப்பியர் _____ என மொழிந்தனர்
   அ) இசை ஆ) இன்னிசை இ) யாழிசை ஈ) தூக்கு
9. இதிகாசத்தில் எவை மிகுதியாக இடம்பெறும்?
   அ) கிளைக்கதைகள் ஆ) வாழ்வியல் கூறுகள்
   இ) கற்பனைக் கூறுகள் ஈ) வரலாற்றுக் கூறுகள்
10. கூர்தலற வளர்ச்சிப்பாங்கு எந்த சிற்றிலக்கிய நூல்களுள் உள்ளன.
    அ) தூது ஆ) உலா இ) குறவஞ்சி ஈ) பிள்ளைத்தமிழ்

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) "ஒரு இலக்கியத்தை முழுமை நோக்கில் ஆய்வதே பயனுடையது" - விவரி

(அல்லது)

ஆ) தொல்காப்பியர் கூறும் இலக்கண ஒப்பீட்டு ஆர்வத்தை விளக்குக.

12. அ) ஆங்கிலம் மற்றும் பிரெஞ்சு மொழியில் ஒப்பிலக்கியம் பற்றிய செய்திகளைக் கூறுக.

(அல்லது)

ஆ) செலகல் இரட்டையரின் பணி மற்றும் கிரிம் சகேதாரர்களின் ஒப்பியல் கோட்பாட்டை விளக்குக.

பி. ப. பா...

13. அ) இலக்கிய வகை என்றால் என்ன? விளக்குக.

(அல்லது)

ஆ) தொல்காப்பியர் குறிப்பிடும் யாப்பு வகைகள் யாது? விவரி.

14. அ) குறிப்புரைக்க - அமெரிக்கக் கோட்பாடு.

(அல்லது)

ஆ) குறிப்புரைக்க - பிரெஞ்சுக் கோட்பாடு.

15. அ) ''ஏற்றல் கொள்கை'', ''உருக்காட்சி'' – ஆகியவற்றை விளக்குக.

(அல்லது)

ஆ) இலக்கியத்தில் படிமத்தின் நிலை பற்றி விவரி.

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. நான்கு வகையான இலக்கியப் பார்வை குறித்து விவரித்தெழுதுக.

17. ஒப்பிலக்கியம் தோன்றிய சூழலை விவரித்து உரைக்க.

18. இயற்கை மற்றும் அறிவியல் கோட்பாடு பற்றி ஆய்ந்துரைக்க

19. ''இலக்கியமும் உளவியலும்'' – விளக்கியெழுதுக.

20. ஒப்பிலக்கியத்தின் ஆய்வுப்பரப்பில் சமூகப்பின்னணி, சமுதாய நோக்கம் இடம்பெறும் விதத்தை ஆய்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., Tamil **COURSE CODE : 18U6TMC16**

COURSE TITLE : நாடகவியல் **QN.NO : 3887**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. தமிழ் நாட்டின் தேசியக்கலை எது?
   அ) கூத்துக்கலை ஆ) பரதக்கலை இ) கதகளி ஈ) ஒடிசி
2. யானும் ஓர் ஆடுகள மகளே எனக்கூறும் நூல் எது?
   அ) நற்றினை ஆ) கலித்தொகை இ) குறுந்தொகை ஈ) அகநானூறு
3. முருகன் பற்றிய ஆடிய குரவை நாடகம் எது?
   அ) குன்றக் குரவை ஆ) துணங்கை
   இ) ஆய்ச்சியர் குரவை ஈ) விநோதக் குரவை
4. தெருக்கூத்தின் மூல ஆதாரம் எந்நூலில் உள்ளது?
   அ) மணிமேகலை ஆ) வளையாபதி
   இ) தொல்காப்பியம் ஈ) சிலப்பதிகாரம்
5. உழவர்களைப் பற்றிய நாடகம் எது?
   அ) குறவஞ்சி ஆ) நொண்டி இ) ஆய்ச்சியர் ஈ) பள்ளு
6. தமிழ் நாடகத் தந்தை என அழைக்கப்படுபவர் யார்?
   அ) பரிதிமாற் கலைஞர் ஆ) சங்கரதாஸ் சுவாமிகள்
   இ) பம்மல்சம்மந்தர் ஈ) சூர்ய நாராயண சாஸ்திரி
7. தண்ணீர் தண்ணீர் நாடக ஆசிரியர் யார்?
   அ) கோமல் சுவாமிநாதன் ஆ) சுஜாதா
   இ) பொன்னீலன் ஈ) முருகபூபதி
8. சாந்திக் கூத்தின் வகைகளை எழுது?
   அ) 3 ஆ) 4 இ) 5 ஈ) 6
9. நாடகம் என்ற சொல்லாட்சி எந்நூலில் காணப்படுகிறது?
   அ) சிலப்பதிகாரம் ஆ) மணிமேகலை இ) வளையாபதி ஈ) குண்டலகேசி
10. நாடகத்தில் திரைச்சீலைகள் எத்தனை வகையாக உள்ளன?
    அ) 3 ஆ) 4 இ) 5 ஈ) 6

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) நாடக நடிகருக்கு வேண்டிய தகுதிகளை எழுது?

(அல்லது)

ஆ) புறப்பாடலில் காணலாகும் நாடகக் கூறினை விளக்கு.

12. அ) கிறித்தவ நாடகங்களுக்குச் சான்று தருக.

(அல்லது)

ஆ) நொண்டி நாடகம் என்றால் என்ன?

பி. ப. பா...

13. அ) மரபு நாடகம் - விளக்குக.

(அல்லது)

ஆ) பேரா. சுந்தரம்பிள்ளையின் நாடகப் பணியினை விவரி.

14. அ) முன்னோடி நாடகக் கலைஞர்களையும் பற்றி நீவீர் அறிந்த செய்தியை எழுது.

(அல்லது)

ஆ) அரங்க அமைப்பாளர்கள் குறித்து விவரி.

15. அ) திராவிட இயக்க நாடகங்களின் பணிகள் எவை?

(அல்லது)

ஆ) நவீன நாடகத்தின் சமகால நிலையினை விளக்குக.

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. நாடகத்தின் வகைகளை விவரி.

17. தமிழ் இலக்கியத்தில் காணலாகும் நாடகங்களை எழுது.

18. நாடகத்தின் சமூகப் பணிகளை ஆராய்க.

19. விடுதலைப் போராட்டத்தில் நாடகத்தின் பங்களிப்பை ஆய்க.

20. சமகால நாடகத்தின் போக்கினை ஆய்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., Tamil **COURSE CODE : 18U6TMC17**

COURSE TITLE : விளம்பரக்கலை **QN.NO : 3888**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. 'விளம்பு' என்பதன் பொருள் யாது?
   அ) விளர் ஆ) விண் இ) சொல்லுதல் ஈ) விண்டு
2. நகரும் எழுத்து முறையைக் கண்டுபிடித்தவர் யார்?
   அ) வில்லியம் ஜார்ஜ் ஆ) ஜான் கூடென் பெர்க்
   இ) பெஞ்சமின் பிராங்களின் ஈ) சாமுவேல் ஜான்சன்
3. பார்வையற்றோருக்கென துவங்கப் பெற்ற சமூக நல சங்கம் எது?
   அ) விழியகம் ஆ) தேசிய பார்வையற்றோர் சங்கம்
   இ) மாற்றுத் திறனாளிகள் சங்கம் ஈ) எதுவுமில்லை
4. அமெரிக்க விளம்பரத்தின் தந்தை எனப் போற்றப்படுபவர் யார்?
   அ) ரூசோ ஆ) பிராங்களின் இ) சாமுவேல் ஜான்சன் ஈ) சார்லஸ்
5. விளம்பர நிறுவனம் எத்தனை வகைப்படும்?
   அ) 5 ஆ) 4 இ) 3 ஈ) 2
6. வெள்ளிச்சிங்க விருது விளம்பர பட இயக்குநர் யார்?
   அ) பிரஸன் பாண்டே ஆ) வால்டா தாம்ஸன்
   இ) சார்லஸ் ஈ) வில்லியம்ஸ்
7. இந்திய ஒலிபரப்பு கார்ப்பரேசன் விளம்பரங்களை ஒலிபரப்பியது எந்த ஆண்டு?
   அ) 1928 ஆ) 1927 இ) 1936 ஈ) 1974
8. தரங்கம்பாடியில் அச்சான முதலாவது தமிழ்ப்பிரசுரம் எது?
   அ) தம்பிரான் வணக்கம் ஆ) முதலடியார் சமயம்
   இ) கிறிஸ்தவப் பிரசுரங்கள் ஈ) தமிழ்ச் சமய வினாவிடை
9. அரசாங்க விளம்பரங்களுக்கு கட்டணம் பெறாத இதழ்
   அ) மெட்ராஸ் கூரியர் ஆ) மெட்ராஸ்மெயில்
   இ) பம்பாய் கெஜட் ஈ) எதுவுமில்லை
10. விளம்பர நகல் எழுதுவோர்க்கு என்ன தேவை?
    அ) பொருளாதாரம் ஆ) அடிப்படை வசதி
    இ) கற்பனைத்திறன் ஈ) மனோதிடம்

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) விளம்பரம் என்றால் என்ன? அதன் சொற்பொருளை விளக்குக.

(அல்லது)

ஆ) விளம்பரத்தின் நோக்கங்களை எழுது.

12. அ) தொடக்க கால விளம்பரங்கள் குறித்து எழுது.

(அல்லது)

ஆ) துறை விளம்பரங்களின் வகைகளை விளக்குக.

13. அ) வெளிப்புற விளம்பரங்கள் எவை?

(அல்லது)

ஆ) விளம்பர ஆராய்ச்சி அமைப்புகள் பற்றி விவரி.

14. அ) விளம்பர நிறுவனத்திற்குச் சான்று காட்டுக.

(அல்லது)

ஆ) விளம்பர மாடல்கள் குறித்துக் கட்டுரைக்க.

15. அ) விளம்பர மொழி நடையினைச் சான்றுடன் விளக்குக.

(அல்லது)

ஆ) விளம்பரச் சட்டங்களை விவரி.

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. விளம்பரத்தின் முக்கியத்துவத்தை ஆராய்க.

17. விளம்பரத்தின் வகைகளை விவரி.

18. விளம்பரத்துறையின் கட்டமைப்புகளை எழுதுக.

19. விளம்பர உத்திகளைக் கட்டுரைக்க.

20. நாளிதழ் விளம்பரப் பிரிவுகள் பற்றி எழுதுக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., Tamil **COURSE CODE : 18U6TMC18**

COURSE TITLE : தமிழ் மொழி வரலாறு **QN.NO : 3889**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. கி.மு. காலத்தைச் சேர்ந்த தமிழ்க் கல்வெட்டுக்கள் மிகுதியாகக் கிடைத்த மாவட்டம் எது?
   அ) திருச்சி ஆ) திருவள்ளூர் இ) மதுரை ஈ) காஞ்சிபுரம்
2. மொழி வரலாற்றுக்கு முதன்மையாகக் கருதப்படுவது எது?
   அ) செவ்வியல் மொழி ஆ) கிடை மொழி
   இ) இலக்கிய மொழி ஈ) பிறமொழி
3. உரசொலிகளைத் தேர்க.
   அ) க, ச ஆ) ட, ண இ) த, ந ஈ) ர, ழ
4. சங்கத் தமிழில் 'ஆறு' என்பது எவ்வாறு வழங்கப்பட்டது?
   அ) யாறு ஆ) அறு இ) ஆரு ஈ) யாரு
5. அப்படி, இப்படி, எப்போது ஆகிய சொற்கள் வழக்கில் வந்த காலம் எது?
   அ) சங்ககாலம் ஆ) சங்கம் மருவிய காலம்
   இ) பல்லவர் காலம் ஈ) தற்காலம்
6. 'அல்லால்' எனும் சொல்லாட்சி முதன்முதலில் இடம்பெற்ற இலக்கியம் எது?
   அ) குறுந்தொகை ஆ) பதிற்றுப்பத்து இ) புறநானூறு ஈ) கலித்தொகை
7. இரட்டைப் பன்மைக்கான சொல்லை அறிக.
   அ) அரசர் ஆ) பெரியோர் இ) பெரியோர்கள் ஈ) அவர்
8. நன்னூலார் குறிப்பிடும் வினையெச்ச வடிவம் யாது?
   அ) வான் ஆ) செயின் இ) செய்யூ ஈ) செய்யு
9. முதல், மொதல் என்பதில் உள்ள எழுத்து எவ்வாறு மாற்றப் பெற்றது?
   அ) உ > ஒ ஆ) மு, மொ இ) இ > ஒ ஈ) ஊ, ஒ
10. ஆவது என்பது என்ன?
    அ) பெயரடை ஆ) வினையடை இ) சுட்டு ஈ) எண்ணடை

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) தமிழ் மொழி வரலாற்றை அறிய, கல்வெட்டுக்கள் எவ்வாறு உதவுகின்றன?

(அல்லது)

ஆ) வெளிநாட்டார் எழுதிய தமிழ் இலக்கணங்கள் பற்றி எழுதுக.

12. அ) சங்க இலக்கியங்களில் அமைந்துள்ள உறழ்ச்சி குறித்த எழுதுக.

(அல்லது)

ஆ) பழந்தமிழ் இலக்கியங்களில் பயின்று வந்த தன்மை ஒருமை பற்றி எழுதுக.

பி. ப. பா...

13. அ) பெயர்ப்பதிலி பற்றி விவரிக்க.

(அல்லது)

ஆ) எண்ணுப் பெயர்கள் என்றால் என்ன? விளக்கம் தருக.

14. அ) பக்தி இலக்கியக்காலத் தமிழ் எழுத்து வடிவமாற்றம் அடைந்த விதத்தைப் பதிவு செய்க.

(அல்லது)

ஆ) நாயக்கர் காலத் தமிழ் எழுத்து மாற்றம் குறித்து எழுதுக.

15. அ) தற்காலத் தமிழில் அறிவியல் தமிழ் பெறுமிடத்தை ஆய்க.

(அல்லது)

ஆ) பத்திரிகைத் தமிழ் நடையைப் புலப்படுத்துக.

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. மொழி அமைப்பும் வரலாறும் குறித்துக் கட்டுரை வரைக.
17. சங்ககாலத் தமிழ், தொல்காப்பியத் தமிழில் இருந்து மாறுபடும் விதத்தைக் கட்டுரைக்க.
18. சங்க மருவியகாலத் தமிழ்மொழி வளர்ச்சி நிலைகளை ஆராய்க.
19. சோழர்காலத் தமிழ் பெற்ற ஏற்றங்கள் குறித்து ஆராய்ந்துரைக்க.
20. இருபதாம் நூற்றாண்டுத் தமிழ் குறித்துக் கட்டுரைக்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., Tamil **COURSE CODE : 18U6TSM6**

COURSE TITLE : படைப்புத்திறன் **QN.NO : 3890**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. கருத்தை அறிவுறுத்துவது எது?
   அ) கவிதை ஆ) கட்டுரை இ) கதை ஈ) நாடகம்
2. சிறுகதை என்னும் இலக்கிய வடிவம் யாருடைய கொடையாகக் கருதப்படுகிறது?
   அ) சீனர்கள் ஆ) ஆங்கிலேயர் இ) ஐரோப்பியர் ஈ) பிரெஞ்சுக்காரர்கள்
3. "செய்யுள் அமைப்பில் எழுதப்படுவதெல்லாம் கவிதையல்ல" _____ யார் கூற்று?
   அ) சுஜாதா ஆ) விஜயன் இ) புதுமைப்பித்தன் ஈ) கல்கி
4. புதுக்கவிதை இயக்க வளர்ச்சிக்கு உதவிய இதழ் எது?
   அ) நவபாரதி ஆ) இதயகீதம் இ) இமயகீதம் ஈ) மணிக்கொடி
5. கோவில்பட்டி வட்டார மொழியில் சிறுகதை எழுதியவர் யார்?
   அ) வல்லிக்கண்ணன் ஆ) கமலக்கண்ணன்
   இ) ல.ச.ரா. ஈ) கி. ராஜநாராயணன்
6. கதையை முன்னோக்கியே கொண்டு செல்லுகின்ற உத்திக்குப் பெயர் என்ன?
   அ) பின்னோக்கு உத்தி ஆ) முன்னோக்கு உத்தி
   இ) கள உத்தி ஈ) நிகழ்ச்சி உத்தி
7. இலக்கிய வடிவங்களில் காலத்தால் மூப்படைந்த இலக்கியம் எது?
   அ) கதை ஆ) கவிதை இ) நாடகம் ஈ) உரைநடை
8. 'குரங்கின் பாதம்' எனும் நாடகம் யாரால் எழுதப்பட்டது?
   அ) ஜான் ஆ) ஜோசப் இ) ஜேக்கப ஈ) வில்லியம்ஸ்
9. புதிய மக்களாட்சி முறையே புதுக்கவிதை என்று கூறியவர் யார்?
   அ) வைரமுத்து ஆ) மேத்தா இ) வாலி ஈ) கலாப்பிரியா
10. சிறுகதைக்கான கருவாக அமையத்தக்கவை யாவை?
    அ) கரு அமைதி ஆ) இயற்கைக் காட்சி
    இ) களக்காட்சி ஈ) கடந்த கால நிகழ்வுக்ள

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) படைப்பிலக்கியம் என்றால் என்ன?

(அல்லது)

ஆ) படைப்பிலக்கியத்தின் பயன்கள் பற்றி எழுதுக.

12. அ) சிறுகதையின் அடிப்படைகளைச் சான்றுடன் கூறுக.

(அல்லது)

ஆ) சிறுகதையின் உத்திகளை வரையறுக்க.

13. அ) புதுக்கவிதையும் யாப்பும் குறித்து எழுதுக.

(அல்லது)

ஆ) புதுக்கவிதைகளில் பயின்றுவரும் உத்திகள் குறித்த செய்திகளைக் கூறுக.

14. அ) புதுக்கவிதையின் அடிப்படைக் கூறுகளை அட்டவணைப்படுத்துக.

(அல்லது)

ஆ) கவிஞர் மு. மேத்தாவின் இலக்கியப் பணிகளை எழுதுக.

15. அ) 'கல்விப்புரட்சி' என்ற தலைப்பில் சிறுகதை வரைக.

(அல்லது)

ஆ) 'கவின் நிலவு' எனும் தலைப்பில் கவிதை தருக.

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. படைப்பிலக்கியத்தின் விதிகளை விவரித்துரைக்க.

17. கு.ப. ராஜகோபாலனின் 'பண்ணைச் செங்கான்' சிறுகதையை திறனாய்வு செய்க.

18. 'திருப்பிக்கொடு' நாடகக் கூறுகளை மதிப்பிடுக.

19. நாடகத்தின் உத்திகளைப் பற்றிக் கட்டுரை வரைக.

20. 'மரம் பூமிக்குவரம்' எனும் தலைப்பில் ஓர் ஓரங்க நாடகம் படைக்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 17U3VAC3**

COURSE TITLE : Financial and Management Accounting **QN.NO : 3971**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Historical cost concept requires the recording of an assets:
   a. as its cost b. as its market value c. as its net realisable value
   d. all of the above.

2. Goods are those things which are purchases for
   a. Resale b. consumption c. private use of the owner d.purchase

3. Cash book is an example of
   a. General journal b. special journal c. It is not a journal
   d. book keeping.

4. Bills payable book is a
   a. journal b. ledger c. Account d. None of these.

5. The distinction between capital and revenue is necessary for the preparation of
   a. receipts and payments a/c b. fund flow statement
   c. Financial a/c. d. cash flow statement.

6. Sale of fixed asset is
   a. capital receipt b. revenue receipt c. commission
   d. none of the above

7. Marginal costing is also known as
   a. direct costing b. varible costing c.Both a and b
   d. none of the above

8. Break-even analysis is also called?
   a. Business analysis b. Unit sales c. cost-volume profit analysis
   d. contribution

9. _____ leads to budgeting and budget leads to budgetary control.
   a. Plan b. forecasting c. estimation d. All of these

10. A budget is a detailed plan of operation for _____.
    a. future periods b. previous periods c. current period
    d. production

Contd...

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11.a. What are the merits and demerits of Double Entry system?

(or)

11. b. Explain the importance of Bookkeeping.

12.a. State the advantages of subsidiary books.

(or)

12.b. Enter the following in a cashbook with cash, bank and discount columns.

2015 Jan	1	Ilakkiyan started business with Rs.10,000, paid into bank Rs.8000
	3	Bought office furniture by cheque Rs.3000 sold goods for cash Rs.1000
	5	Sold goods for cash Rs.1000
	8	Paid Prasanna Rs.600 and was allowed a discount of Rs.60.
	12	Received from Mani a cheque for Rs.690 and allowed him a discount of Rs.10, the cheque was deposited into bank.
	18	Withdrew from bank for office use Rs.1000.
	24	Received for cash sales by cheque Rs.1200
	31	Drew for personal use cash Rs.100, salaries paid Rs.500.

13. a. Explain the internal and external causes of depreciation.

(or)

13.b. An asset is purchased for Rs.25,000. Depreciation is to be provided annually according to the straight-line method. The useful life of the asset is 10 years and the residual value is Rs.5000.

You are required to find out the rate of depreciation and prepare asset account for the first three years.

14.a. Calculate BEP (in units) and BEP (in Rupees) from the following data:

Fixed cost	Rs.3,00,000
Variable cost per unit	Rs.20
Selling Price per unit	Rs.30

(or)

Contd...

14.b. From the following information calculate:

i) P/V ratio

ii) Margin of safety sales Rs.20,000;

Variable Expenses Rs.10,000; Fixed Expenses Rs.6000

15.a. Explain the difference between a forecast and a budget.

(or)

15.b. A manufacturing company submit the following figures of a product for the first quarter 2016;

Sales (in units) January 30,000
February 25,000
March 35,000

Selling price per unit Rs.20

Target of 1st Quarter 2017;

Sales quantity increase 10%

Sales price increase 10%

Prepare sales budget for the first quarter of 2017.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Distinguish between Single entry system and Double entry system.

17.The following Trial Balance has been taken from the books of Mr. Thangamani on 31.03.2018. You are required to prepare the Trading and Profit and Loss account for the year ended 31.03.2018 and a Balance Sheet as on that date.

Debit Balance	Rs.	Credit Balance	Rs.
Drawings	4800	Capital	50000
Stock (1st April 2017)	30000	Sundry creditors	15000
Furniture & Fittings	13000	Bank loan at 6%	20000
Printing & Stationery	1200	Discount received	1000
Coal, Gas and water	600	Sales	235350
Freight	3500	Bills payable	1700
Purchases	35000		
Income Tax	9500		
Discount allowed	950		
Repairs to plant	1000		
Factory rent	2500		
Salaries	2800		

Manufacturing wages	24000		
Advertising	19000		
Plant & Machinery	70000		
Office Rent	3600		
Other expenses	1000		
Bills receivable	12500		
Carriage outwards	1500		
Insurance	600		
Interest	1200		
Cash at Bank	7500		
Cash in hand	3500		
Sundry debtors	33800		
Stock (31.3.2018)	40000		
	323050		**323050**

18. A five year lease worth Rs.30,000 is to be depreciated by Annuity system, the unwritten balance of the asset bearing interest at 5%. the annual amount to be written as shown by the Annuity table is 6,929.24.

Show the working of the Lease Account for the five years.

19. Assuming that the cost structure and selling price remain the same in periods I and II. Find out.

i) Profit volume ratio.

ii) Fixed cost and B.E.P.

iii) Profit when sales ave Rs.1,00,000

iv) Sales required to earn a profit of Rs.20,000

v) Margin of safety for II period.

Period	Sales	Profit
I	Rs.1,20,000	Rs.9,000
II	Rs.1,40,000	Rs.13,000

20. What do you understand by Zerobase Budgeting? Explain the benefits and defects of ZBB.

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RE-ACCREDITED (3rd Cycle) WITH "A" GRADE BY NAAC

No of Pages	2

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Economics **COURSE CODE : 17U3VNM1**

COURSE TITLE : Principles of Economics **QN.NO : 3973**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Macro economics was coined by
   a) Ragnar Frisch b) Marshall c) Ricardo d) Adam Smith
2. Demand in economics refers to
   a) Desire b) Prosperity
   c) Willingness to buy d) None
3. Who is the father of macro economics?
   a) Keynes b) Ricardo c) Marshall d) Schumpeter
4. Which one of the following is the gift of nature?
   a) Land b) Labour c) Capital d) Organization
5. Consumer's Surplus Means_____
   a) Potential price- Actual price b) Potential price + Actual price
   c) Potential Price x Actual price d) All of the above
6. GNP at factor cost equals
   a) GNP at market prices – indirect taxes + subsidies
   b) Depreciation – Indirect taxes + Subsidies
   c) NNP
   d) GNP – Depreciation + Indirect taxes + subsidies
7. National income in India is measured by which of the following organization?
   a) NSSO b) CSO c) RBI d) Ministry of Finance
8. National income in India is measured by which of the following methods
   a) Product method b) Income method
   c) Expenditure method d) all of the above
9. Inflation that rises at the rate of 10 % is known as
   a) Creeping Inflation b) Walking Inflation
   c) Running inflation d) Hyper Inflation

Contd…

10. The inflation where price increase every movement is called
    a) Creeping Inflation b) Running Inflation
    c) Walking Inflation d) Galloping Inflation

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b)

11. a) What are the basic concepts of economics?

(OR)

    b) Distinguish between micro economics and macroeconomics.

12. a) Differentiate law of demand with elasticity of demand.

(OR)

    b) Point out the types of demand curve.

13. a) Bring out the difference between supply and law of supply.

(OR)

    b)Write a short note on consumer's surplus examples with diagram.

14. a) Mention the causes and effects of inflation.

(OR)

    b) Briefly explain the difficulties in calculating national income.

15. a)What are the concepts of national income?

(OR)

    b) What are the uses of national income data?

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Explain the determinants of demand.
17. Enumerate the determinants of law of supply.
18. Elucidate the factors of production.
19. Describe the methods of measuring national income.
20. Explain the types of inflation.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Economics **COURSE CODE : 17U4VNM2**

COURSE TITLE : Elements of Public Finance **QN.NO : 3978**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Public Finance is
   a) Government Finance b) People's Finance
   c) Social development Finance only d) Social development Finance only
2. Private Finance is also called as
   a) Individual Finance b) Private Company Finance
   c) Group of company Finance d) All the above
3. The most importance source of revenue to the state is
   a) Sales Tax b) Service Tax c) Excise duty d) Income tax
4. Which of the following is a union Tax?
   a) Corporation Tax b) Taxes on Agricultural Income
   c) Capitation Taxes d) Land Revenues
5. In Budget preparation, Which part of expenditure is most important?
   a) Agriculture b) Education c) Medical d) Protection
6. Total Public debt increases by 3.5 % in
   a) 2013 b) 2014 c) 2015 d) 2016
7. In India, deficit financing is used for raising resources for
   a) Economic development c) Redumption of public debt
   c) Adjusting the BOP d) Reducing foreign debt
8. Deficit Budget is
   a) Revenue < Expenditure b) Revenue > Expenditure
   c) Revenue = Expenditure d) None of the above
9. The property Tax paid by people to
   a) Local Government b) State Government
   c) Central Government d) All the above
10. The main source of local revenue is
   a) Transport Tax b) License
   c) House Tax d) Birth Tax

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Differences between public Finance and Private Finance.

(OR)

b) Enumerate the functions of the State.

12.a) Write down the kinds of Taxes.

(OR)

b) Point out the merits and demerits of Direct taxes.

13.a)Distinguish between Direct Tax and Indirect Tax.

(OR)

b) Bring out the Classifications of Public Debt.

14.a) List out the methods of Debt redemption.

(OR)

b) Mention the types of Budget.

15. a) What are the sources of local revenue?

(OR)

b) Mention the functions of Local Finance.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16.Briefly explain the scope of Public Finance.

17. Narrate the various sources of Public Revenue.

18.Discuss the causes for the growth of public expenditure.

19.Explain Budgetary procedure while followed in India.

20.Write down the various problems of Local Finance.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 17U6VSM6 / 6SE (Upto 16)**

COURSE TITLE : Human Resource Management **QN.NO : 3991/3959**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The process to faster career development of the employees.
   a) motivation b) Training and development
   c) compensation d) performance Evaluation
2. One of the following recruitment process is said to be a costly affair
   a) Internal recruitment b) External recruitment
   c) both (a) and (b) d) none of these
3. HRM is associated with the management of
   a) General people b) financial resource
   c) organizational people d) Community members
4. Which of the following is the main responsibility of HR department?
   a) Attracting candidates for job b) Ensure Staff development
   c) Keep employees motivated d) All of the above
5. The following is(are) concerned with developing a pool of candidates in line with the human resources plan.
   a) developmentb) Training c) Recruitment d) All of the above
6. The three important components in aligning business strategy with HR practice are
   a) Business strategy, Human resource practices, organizational capabilities
   b) Marketing strategy, Human resource practices, organizational capabilities
   c) Business strategy, Human resource practices, organizational Structure
   d) Marketing strategy, Human resource practices, organizational Structure
7. The basic managerial skills is (are)
   a) To supervisor b) To stimulate c) To motivate d) All of the above
8. In an organization initiating career planning the career path model would essentially form the basis for
   a) placement b) Transfer c) Rotation d) All of the above

Contd…

9. The detailed study of regarding jobs within an organization is represented by
   a) Job analysis b) Job description
   c) Job specification d) job evaluation
10. Shifting from manual to computerized system is result due to
   a) work force diversity b) Technological advancement
   c) Stake holders involvement d) Globalisation

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b)

11. a) Bring out the objectives of HRM.

(OR)

   b) List out the features of Human resource management.
12. a) Distinguish between Recruitment and selection.

(OR)

   b) Write down the steps involved in selection process.
13. a) Point out the uses of job analysis.

(OR)

   b) Bring out the resource development in organizational effectiveness.

(OR)

   b) Mention the different types of tests..

PART – C **(3x10=30)**

Answer any THREE questions

14. Explain the scope of Human resource management.
15. Explain the selection process of recruitment.
16. Suggest measures for an effective tests.
17. Explain the different types of Interview.
18. Explain the constraints and challenges of recruitment and selection..

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., / B.Com., **COURSE CODE : 17U4NPN2 / 4NPN (upto 2016)**

COURSE TITLE: Physical Education **QN.NO : 4007**

TIME : 3 Hours **MAX.MARKS :75**

PART - A (3 x 15 = 45)

Answer Any THREE questions

1. How population can be controlled?
   மக்கள் தொகையை எவ்வாறு கட்டுப்படுத்தலாம்?
2. How is our environment polluted? How can we control it?
   நமது சுற்றுப்புறச்சூழல் எப்படி மாசுபடுகிறது? அதை எப்படி கட்டுப்படுத்தலாம்.
3. Explain the different types of pollution.
   வெவ்வேறு வகையான மாசுபடுதலை விவரி.
4. Discuss the importance of Environmental studies.
   சுற்றுச்சூழல் கல்வியின் முக்கியத்துவம் யாது?
5. Describe the importance of rain water harvesting.
   மழைநீர் சேகரிப்பு பற்றி முக்கியத்துவத்தை விளக்குக.
6. Give the reasons for increasing the number of AIDS patient in India.
   எய்ட்ஸ் நோயாளிகளின் எண்ணிக்கை இந்தியாவில் அதிகமாகிக் கொண்டிருப்பதற்கான காரணங்களை விவரி.
7. Suggest measures to control the pollution of earth and atmosphere by plastic material.
   பிளாஸ்டிக் பொருட்களினால் பூமியும் சுற்றுப்புறமும் மாசுப்படுவதைக் கட்டுப்படுத்தும் வழிமுறைகளை கூறுக.
8. What is green technology? Give some examples of green technologies and practices.
   பசுமைத் தொழில்நுட்பம் என்றால் என்ன? பசுமை தொழில்நுட்ப வழக்கங்களுக்கு உதாரணங்கள் கொடு.

PART - B (20 x 1 = 20)

Answer ALL questions

9. Saina Nehwal is a famous Indian _____ player.
   செய்னா நேவால் இந்தியாவின் ஒரு தலை சிறந்த _____ வீராங்கனையாவர்.
10. In the game of Basketball _____ number of players can be on the court during the game.
    கூடைப்பந்து ஆட்டத்தில் எத்தனை ஆட்டக்காரர்கள் களத்தில் இருப்பர்.
11. A football team consists of how many players on the field?
    கால்பந்து ஆட்டத்தில் எத்தனை ஆட்டக்காரர்கள் களத்தில் இருப்பர்.

Contd…

12. The shape of the baseball ground is _____.
    பேஸ்பால் மைதானம் எந்த வடிவமுடையது.
13. In soccer, a goal is worth how many points?
    சாக்கர் ஆட்டத்தில் கோல் என்பது எத்தனை மதிப்பெண்?
14. How many squares are in the chess board?
    ஒரு சதுரங்கப் பலகையில் (chess board) உள்ள சதுரங்களின் எண்ணிக்கை?
15. The total distance in marathon race is _____
    மாராத்தான் ஓட்டம் என்பது எவ்வளவு தூரம்?
16. Foul means _____.
    ∴பவுல் என்பது _____.
17. Ranji Trophy is related to _____ game.
    ரஞ்சி கோப்பை எந்த விளையாட்டுடன் தொடர்புடையது.
18. Where is International Cricket Council located at?
    சர்வதேவ கிரிக்கெட் கவுன்சில் எங்கு அமைந்துள்ளது?
19. VIVA Cup is associated with _____ game.
    VIVA கோப்பை தொடர்புடைய விளையாட்டு _____ ஆகும்.
20. Rafael Nadal is famous for _____
    ரபேல் நாடல் புகழ்பெற்று விளங்கும் துறை _____.
21. The game of volleyball is played to what score?
    கைப்பந்து ஆட்டம் எத்தனை மதிப்பெண் பெறுவதற்காக விளையாடப்படுகிறது.
22. In Cricket world cup 2023 will be conducted in _____ country.
    2023ம் ஆண்டில் உலகப் கோப்பை கிரிக்கெட் நடைபெற உள்ள நாடு?
23. Power play is a _____ restriction in Cricket.
    கிரிக்கெட்டில் பவர் பிளே என்பது _____ கட்டுப்படுத்துவது.
24. American Trophy is related to _____ game.
    அமெரிக்கன் கோப்பை எந்த விளையாட்டோடு தொடர்புடையது?
25. In India big indoor stadium located at _____
    இந்தியாவில் பெரிய உட்புற விளையாட்டரங்கம் எங்கு அமைந்துள்ளது?
26. The national game of India is _____.
    இந்தியாவின் தேசிய விளையாட்டு _____.
27. The world fastest game is _____.
    உலகின் மிக வேகமான விளையாட்டு _____.
28. World famous game is _____.
    உலகின் மிக பிரபலமான விளையாட்டு _____.

ESSAY QUESTION **10 Marks**

29. Draw with neat sketch layout for a Tennis coat ground with proper measurement
    டென்னிஸ் மைதானத்தை படம் வரைந்து காட்டுக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A / B.Sc.,/ B.Com **COURSE CODE : 18U2NCC1**

COURSE TITLE : Introduction to NCC **QN.NO : 4009**

TIME : 3 Hours **MAX.MARKS : 50**

PART - A (5 x 4 = 20)

Answer Any FIVE questions

1. How many groups are there in your directorate?
2. Name five countries that share land boundary with India.
3. How many commands are there in Indian Army?
4. What are the services employed in Civil Defence?
5. List out four methods through which HIV spreads.
6. What are the Types of Leaders?
7. What are the constituents of services in Army?
8. Give the Badges of Rank order for SD Army boys.

PART – B (3 x 10 = 30)

Answer any THREE questions.

9. Write notes on the NCC monograms?
10. Write full form of the following:
    a) AIDS
    b) ECHS
    c) MOU
    d) ISRO
    e) UNESCO
11. Briefly explain about branches of Indian Army.
12. Define Sanitation. What is the importance of Sanitation?
13. Give any ten example of Social Service.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., / B.Com., **COURSE CODE : 18U4NCC2**

COURSE TITLE : Field Training in NCC **QN.NO : 4010**

TIME : 3 Hours **MAX.MARKS :50**

PART – A (5 x 4 = 20)

Answer any FIVE questions.

1. What is the object of organizing social service activities in NCC?
2. Define the following terms used in drill:

a) File b) Blank File c) Covering d) Dressings

3. What are the words of command given when the left foot is coming to the ground?
4. What are various types of North?
5. Define various types of bearings?
6. Write down any five subjects included in 'Battle Craft'.
7. What is camouflage and concealment?
8. What are the main groups of LMG?

PART – B (3 x10 = 30)

Answer any THREE questions

9. What are the points to be considered before planning any adventure activities?
10. What is the aim of Drill? Write the different length of paces and rate of pace per minute.
11. Write a note on : i) Map to ground ii) Ground to map.
12. Give a brief account of the various methods in judging a distance.
13. Write the characteristics of 7.62mm SLR.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A / B.Sc.,/ B.Com **COURSE CODE : 18U2NSS1**

COURSE TITLE : Introduction to N.S.S. **QN.NO : 4011**

TIME : 3 Hours **MAX.MARKS : 50**

PART - A (5 x 4 = 20)

Answer Any FIVE questions

1. What does NSS badge describe?
2. What is the role of NSS volunteers towards society?
3. What is the role of Advisory body in effective functioning of NSS?
4. Why is environmental education important?
5. What are the eligibility requirements to donate blood?
6. How do you allocate fund meant for NSS special camp?
7. How will treat People living with HIV?
8. What is your advice to prevent Covid - 19?

PART – B (3 x 10 = 30)

Answer any THREE questions.

9. Describe the history of NSS.
10. Describe the administrative structure of NSS at national level.
11. Explain the activities of Environmental Education, Awareness and Training (EEAT) Scheme.
12. Write a report on the NSS Special Camp organized by your college.
13. What are the basic principles of First Aid? What should be included in it?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., / B.Com., **COURSE CODE : 18U4NSS2**

COURSE TITLE : Community Services **QN.NO : 4012**

TIME : 3 Hours **MAX.MARKS :50**

PART – A (5 x 4 = 20)

Answer any FIVE questions.

1. Point out the objective of National Service Scheme (NSS).
2. Write down the consequences of drug abuse.
3. List the advantages of rain water harvesting.
4. What do you mean by gender equality?
5. What is First Aid? Give any example.
6. What do you understand by balanced Diet?
7. List down the fundamental rights.
8. Write a short note on RTI Act, 2005.

PART – B (3 x 10 = 30)

Answer any THREE questions.

9. Describe the History of National Service Scheme (NSS).
10. Explain the causes and consequences of Climate Change.
11. Describe the importance of family and its impact of Human Values.
12. Brief the importance of hygiene and some common form of sanitation.
13. Discuss the Fundamental Duties of an Indian Citizen.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A / B.Sc.,/ B.Com **COURSE CODE : 18U2AEE1**

COURSE TITLE : Introduction to A.E.E.P. **QN.NO : 4013**

TIME : 3 Hours **MAX.MARKS : 50**

PART - A (5 x 4 = 20)

Answer Any FIVE questions

1. Briefly explain the importance of education.
2. Write a note on Technical Education in India.
3. What are the problems faced by the aged people?
4. What are the activities involved in extension programme?
5. How do you teach in home tuition to your adopted villages?
6. What is First-Aid? And mention about the purpose of it.
7. What are risk factors for non-communicable diseases?
8. Give an account of Research in higher education in India.

PART – B (3 x 10 = 30)

Answer any THREE questions.

9. Discuss the types of Education.
10. Explain the importance of Adult Education.
11. What are the roles of students in extension activities? Explain.
12. Describe the importance of Yoga in our daily life.
13. Discuss the major problems of Higher Education in India.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., / B.Com., **COURSE CODE : 18U4AEE2**

COURSE TITLE : Literacy Programmes **QN.NO : 4014**

TIME : 3 Hours **MAX.MARKS :50**

PART – A (5 x 4 = 20)

Answer any FIVE questions.

1. Write a note on student's participation in social services.
2. 'Nursery school education is very essential for nowadays' Why?
3. What are differences between CBSE and ICSE?
4. What is the purpose of higher education in our life?
5. What is innovation? And mention about the major innovationsin higher education.
6. What are objectives of National Adult education Programme?
7. Give a brief note on National Literacy Mission.
8. Mention the major problems of education in India.

PART – B (3 x 10 = 30)

Answer any THREE questions.

9. Discuss the good qualities of teachers.
10. Explain the Various types of school education in India.
11. Discuss the scope and opportunities of higher education in India.
12. Describe the Literacy Programmes in India.
13. Examine the major prospects of Education in India.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A / B.Sc.,/ B.Com **COURSE CODE : 18U2PED1**

COURSE TITLE : History of Physical Education **QN.NO : 4015**

TIME : 3 Hours **MAX.MARKS : 50**

PART - A **(5 x 4 = 20)**

Answer Any FIVE questions

1. Explain the physical education in Athens.
2. Explain the modern Olympics.
3. Explain the ancient Olympics.
4. Explain the History of Physical Education in India.
5. Discus sports authority of India.
6. Briefly explain IOA.
7. Draw the neat Basketball court diagram with proper measurement.
8. Draw the neat Handball court diagram with proper measurement.

PART – B **(3 x 10 = 30)**

Answer any THREE questions.

9. Explain the Physical education in Sparta and Greece
10. Explain the Socrates views on Physical Education
11. Explain the Olympic flag and Olympic torch
12. Write on sports organization in India
13. Write the History of volleyball game and draw the court diagram with proper measurement

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., / B.Com., **COURSE CODE : 18U4PED2**

COURSE TITLE : Yoga, Fitness and Wellness **QN.NO : 4016**

TIME : 3 Hours **MAX.MARKS :50**

PART – A (5 x 4 = 20)

Answer ALL questions.

1. a) What is the connection between Yoga and Meditation?

(OR)

b) What are the benefits of Yoga and Meditation?

2. a) What are Physical Fitness exercises?

(OR)

b) Can you do the same exercise daily – Clarify?

3. a) What are the examples of Wellness?

(OR)

b) What is the meaning and definition of Physical fitness and Wellness?

4. a) Write short notes on T-20 Cricket.

(OR)

b) What are the main rules in Basketball?

5. a) Mention any 5 Boxing terms.

(OR)

b) Write short notes on Fencing.

PART – B (3 x 10 = 30)

Answer any THREE questions.

6. Describe Trikonasana and Virichikasana.
7. Describe Health Related and Performance Related Physical Fitness.
8. Describe Physical Wellness in 10 lives.
9. Draw Hockey Field and mark its dimension.
10. Describe Rules of Boxing and mention any 5 boxer's gadgets.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 3AM (2015-2016)**

COURSE TITLE : Allied Mathematics - III **QN.NO : 4073**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer ALL questions.

1. Solve : $e^y dx + (xe^y + 2y)dy = 0$.
2. Find the particular Integral (PI) of $(D^2 + 9)y = \cos 3x$
3. Solve : $p + q = 1$.
4. Write the complex form of the C-R equations.
5. Define a Bilinear ~~Linear~~ Transformation (BLT)

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b)

6 (a) Solve : $y^2 dx - (1 - xy)dy = 0$.

(or)

(b) Solve : $\frac{dy}{dx} = \frac{6x - 4y + 3}{3x - 2y + 1}$

7 (a) Solve : $(D^2 + 3D + 2)y = x^2$ (or) (b) Solve : $(D^2 - 4D + 3)y = e^x \cos 2x$.

8 (a) Eliminate the arbitrary function from $z = f(x^2 - y^2)$ and form a PDE.

(or)

(b) solve : $(x^2 - y^2 - z^2)p + 2xy q = 2xz$

9 (a) Prove that $f(z) = e^x(\cos y + i \sin y)$ is analytic at every point. Also find $f'(z)$.

(or)

(b) Let $f : \mathbb{C} \to \mathbb{C}$ be defined by $f(z) = |z|$ then p.T f is continuous.

10 (a) Find the BLT which maps the points $(-1, 1, \infty)$ onto $(-i, -1, i)$.

(or)

(b) Find the fixed points of the BLT $w = \frac{6z - 9}{z}$.

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CODE : 3AM (2015-h) QN.NO : 4073

TITLE : Allied Mathematics-III

PART – C (3 x 10=30)

Answer any THREE questions

11. solve : $(x^3-3xy^2)dx+(3x^2y-y^3)dy=0$.

12. solve : $(D^2-4D+4)y = 3x^2e^{2x}\sin 2x$.

13. solve : $x(y^2-z^2)p+y(z^2-x^2)q = z(x^2-y^2)$

14. If $\frac{\partial^2}{\partial x\partial y} = \frac{\partial^2}{\partial y\partial x}$ then prove that $\frac{\partial^2}{\partial x^2}+\frac{\partial^2}{\partial y^2} = 4\frac{\partial^2}{\partial z\partial \bar{z}}$

15. prove that ~~any~~ any BLT preserves cross ratio.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 3SM (Upto 16)**

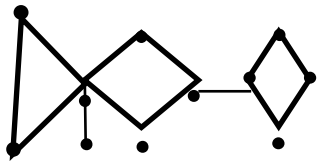
COURSE TITLE : Graph Theory **QN.NO : 4075**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer all questions .

1. Define regular graph
2. Define partition
3. Draw all blocks of the graph.



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4. Define Eulerian graph
5. Define forest.

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

6. (a) Prove that $\delta \leq \frac{2q}{p} \leq \Delta$

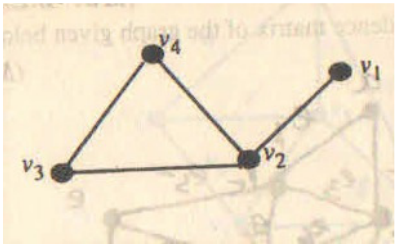
(OR)

(b) Prove that $\alpha + \beta = p$

7. (a) Show that the partition $P = (7,6,5,4,3,2)$ is not graphic.

(OR)

(b) Find the adjacency matrix for the following graph:



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8. (a) Define walk, trail and path in a graph and draw P_{10}.

(OR)

(b) Prove that there is no 3- connected graph with 7 edges.

9. (a) Define Hamiltonian graph, Theta graph and Closure of a graph with examples.

(OR)

(b) Show that every Hamiltonian graph is 2-connected.

10. (a) Prove that every connected graph has a spanning tree.

(OR)

(b)Prove that every tree has a centre consisting of either one point or two adjacent points.

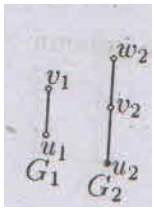
PART – C (3 x 10 = 30)

Answer any THREE questions.

11. Show that the maximum number of lines among all p points graphs with no triangles is $\left[\frac{p^2}{4}\right]$

12. (i) Define the following graph operations: (i)Union (ii) Sum (iii) Product (iv) Composition

(ii) For the following graphs G_1 and G_2, find $G_1 \cup G_2$, $G_1 + G_2$, $G_1 \times G_2$, $G_1[G_2]$.

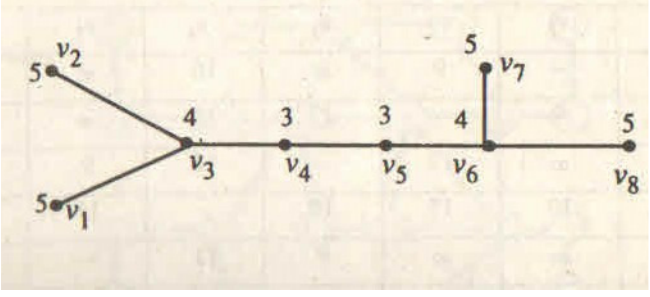


13. For any graph G, prove that $k \leq \lambda \leq \delta$.

14. Show that the Petersen graph is non - Hamiltonian.

15. (i). Define centre, radius and diameter of a tree.

(ii).Find centre, radius and diameter of the following tree.



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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics | **COURSE CODE : 4M (Upto 2016)**

COURSE TITLE : Sequence and Series | **QN.NO : 4081**

TIME : 3 Hours | **MAX.MARKS :75**

PART – A

(5 x 2 = 10)

Answer all questions.

1. Define sequence in real number system.

2. Prove that $\left(\frac{n!}{n^n}\right)$ converges

3. State De Morgan's test.

4. Test the convergence of $\sum \frac{1}{(\log n)^n}$.

5. Define alternating series with example

PART – B

(5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

6 a) Show that if (a_n) is a monotonic sequence then $\left(\frac{a_1+a_2+\cdots+a_n}{n}\right)$ is also a monotonic sequence.

(or)

b) Prove that a sequence cannot converge to two different limits.

7 a) Show that $a_n = \frac{1}{n+1} + \frac{1}{n+2} + \cdots + \frac{1}{n+n}$ converges.

(or)

b) Prove that $\frac{1}{n}\left[(n+1)(n+2)\cdots(n+n)\right]^{1/n} \to 4/e$.

8 a) Show that $\sum \frac{1}{4n^2-1} = 1/2$

(or)

(P.T.O)

CODE : 4MUPT02016 QN.NO : 4081

TITLE : Sequence and Series

8b) Test the convergence of the series $\frac{1}{3}x + \frac{1\cdot 2}{3\cdot 5}x^2 + \frac{1\cdot 2\cdot 3}{3\cdot 5\cdot 7}x^3 + \cdots$

9a) Test the convergence of the series $\sum \sqrt{\frac{n}{n+1}}\, x^n$ where x is any positive number.

(or)

b) Test the convergence of the series $\frac{1}{2} + \frac{1}{3} + \frac{1}{2^2} + \frac{1}{3^2} + \frac{1}{2^3} + \frac{1}{3^3} + \cdots$

10a) Prove that any absolutely convergent series is convergent.

(or).

b) Discuss the convergence of the series $\sum \left(1 + \frac{1}{2} + \cdots + \frac{1}{n}\right) \frac{\sin n\theta}{n}$.

PART – C (3 x 10 = 30)

Answer any THREE questions.

11 (i) Prove that $\lim_{n\to\infty} \frac{n+1}{n} = 1$ (5M).

(ii) If $(a_n) \to 0$ and $a_n > 0$ for all $n \in N$ then prove that $\left(\frac{1}{a_n}\right) \to \infty$ — (5M)

12. Prove that a sequence (a_n) converges to l iff (a_n) is bounded and l is the only limit point of the sequence.

13 State and prove kummer's test.

(P.T.O)

14) Test the convergence of $\sum \frac{n^3+a}{2^n+a}$.

15) Show that the series $\sum (-1)^n [\sqrt{(n^2+1)} - n]$ is conditionally convergent.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 4AS (Upto 2016)**

COURSE TITLE : Numerical Methods **QN.NO : 4083**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer ALL questions.

1. Find the value of $\frac{1}{19}$ using iterative formula.
2. Define diagonally dominant.
3. Prove that $E = 1 + \Delta$
4. Write the formula for Gauss's backward interpolation formula.
5. Write the formula for Simpson's $(\frac{1}{3})^{rd}$ rule.

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

6. (a) Find a real root of $3x - \cos x - 1 = 0$ by Newton's Raphson method.

   (or)

   (b) Find a positive root of $xe^x - 2 = 0$ by Regula falsi method.

7. (a) Solve by Gauss elimination method : $3x + 4y + 5z = 18$; $2x - y + 8z = 13$; $5x - 2y + 7z = 20$

   (or)

   (b) Solve by Gauss Jordan method : $x + y + 5z = 7$; $2x + 10y + z = 13$; $10x + y + z = 12$

8. (a) Prove that $E = e^{hD}$ (or) (b) From the following data, find $f(30)$:

x	21	25	29	33
$f(x)$	14.27	15.81	17.72	19.96

9. (a) Prove that $\Delta^3_{bcd}\left(\frac{1}{a}\right) = \frac{-1}{abcd}$

   (or)

   (b) Using Lagrange's formula, find $f(9.5)$ given

x	7	8	9	10
$f(x)$	3	1	1	9

10. (a) Evaluate $\int_0^1 \frac{dx}{1+x^2}$ using Trapezoidal rule, with $h = 0.2$

    (or)

    (b) Using Taylor series method, solve $\frac{dy}{dx} = x + y$, given $y(1) = 0$ and find $y(1.1)$ and $y(1.2)$

PART – C (3 x 10= 30)

Answer any THREE questions.

11. Find the positive root of $x^3 - x - 1 = 0$ correct to 4 decimal places by Bisection method.

12. Solve the equations by Gauss-Seidel method:
$27x + 6y - z = 85$; $6x + 15y + 2z = 72$; $x + y + 54z = 110$.

13. From the following data, find θ at $x = 43$ and $x = 84$.

x :	40	50	60	70	80	90
θ :	184	204	226	250	276	304

14. Find $y(35)$ by using stirling's formula.

x :	20	30	40	50
y :	512	439	346	243

15. Using R-K method of order 4, to find $y(0.2)$ given that
$y' = x + y$; $y(0) = 1$.

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SEMESTER EXAMINATIONS–APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 4SM (Upto 2016)**

COURSE TITLE : Fourier Transforms **QN.NO : 4089**

TIME : 3 Hours **MAX.MARKS :75**

PART–A (5 x 2 = 10)

Answer ALL questions.

1. Find the Fourier transform of $f(x) = 1$ if $a < x < b$.
2. Define Fourier sine transform.
3. State the inversion formula for Fourier cosine transform.
4. Prove that $F[e^{iax} f(x)] = F(s + a)$.
5. Define Finite Fourier sine transform.

PART–B Answer all questions by choosing either (a) or (b). (5 x 7 = 35)

6. (a) Find the Fourier sine transform of $\frac{1}{x}$. **(OR)**
   (b) Find the Fourier cosine transform of $2e^{-3x} + 3e^{-2x}$.
7. (a) Find $f(x)$ if its Fourier sine transform is $\frac{e^{-as}}{s}$. **(OR)**
   (b) Find $f(x)$ if its Fourier cosine transform is $F_c^{(s)} = \begin{cases} \frac{1}{\sqrt{2\pi}}\left(a - \frac{s}{2}\right) & \text{if } 0 < s < 2a \\ 0 & \text{if } s \geq 2a \end{cases}$
8. (a) State and prove Shifting theorem. **(OR)**
   (b) Prove that $F[x^n f(x)] = (-i)^n \frac{d^n F(s)}{ds^n}$
9. (a) Find the finite Fourier sine transforms of $f(x) = x$ in $(0, l)$. **(OR)**
   (b) Find the finite Fourier cosine transform of $\left(1 - \frac{x}{\pi}\right)^2$ in $(0, \pi)$.
10. (a) Find $f(x)$ if its finite Fourier sine transform is $\bar{f}_s(p) = \frac{1-\cos p\pi}{p^2\pi^2}$ for $p = 1,2, \ldots$ and $0 < x < \pi$. **(OR)**
    (b) Find $f(x)$ if its finite Fourier sine transform is $\bar{f}_c(p) = \begin{cases} \frac{1}{2p} sin\left(\frac{p\pi}{2}\right) & p = 1,2,3, \ldots \\ \frac{\pi}{4} & \text{if } p = 0 \end{cases}$

PART–C Answer any THREE questions. (3 x 10 = 30)

11. (i). State and prove Fourier Integral theorem.
    (ii). Find the Fourier transform of $f(x) = \begin{cases} x^2 & \text{if } |x| \leq a \\ 0 & \text{if } |x| > a \end{cases}$.
12. State and prove Inversion formula for Fourier transform.
13. Find the Fourier transform of $f(x) = \begin{cases} 1 - |x| & \text{if } |x| < 1 \\ 0 & \text{if } |x| > 1 \end{cases}$. Hence deduce that $\int_0^\infty \left(\frac{sint}{t}\right)^4 dt = \frac{\pi}{3}$.
14. Prove that (i). $\bar{f}_c[f'(x)] = (-1)^p f(l) - f(0) + \frac{p\pi}{l} \bar{f}_s(p)$
    (ii). $\bar{f}_c[f''(x)] = -\frac{p^2\pi^2}{l^2} \bar{f}_c(p) + (-1)^p f'(l) - f'(0)$
15. State and prove Inversion formula for finite Fourier transform.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 5M1 (Upto 2016)**

COURSE TITLE : Mechanics **QN.NO : 4095**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer ALL questions:

1. Write down the formula for range on an inclined plane.
2. What is the time line of impact?
3. Define Simple harmonic motion.
4. State the parallelogram of forces.
5. Define Friction.

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

6. a) A body is projected with a velocity of 98 metres per sec. in a direction making an angle $\tan^{-1}3$ with the horizon; show that it rise to a vertical height of 441 metres and that its time of flights is about 19 sec. Find also horizontal range through the point of projection $\left(g = 9.8\frac{metres}{sec^2}\right)$.

(OR)

b) Find the maximum range on the plane through the point of projection inclined at an angle β to the horizon.

7. a) The ball of mass 8gm. moving with a velocity of $10cm.per\ sec.$ impinges directly on another of mass $24gm.$, moving at $2cm\ per\ sec.$ in the same direction. If $e = 1/2$ find the velocity after impact. Also calculate the loss in kinetic energy.

(OR)

b) A smooth sphere of mass m impinges obliquely on a smooth sphere of mass M which is at rest. Show that if $m = eM$, the directions of motion after impact are at right angles. (e is the coefficient of restitution).

8. a)A particle is moving with Simple Harmonic Motion and the while making an oscillation from one extreme position to the other, its distance from the centre of oscillation at 3 consecutive seconds are x_1, x_2, x_3.

Prove that the period of oscillation is $\frac{2\pi}{\cos^{-1}\left(\frac{x_1+x_3}{2x_2}\right)}$

(OR)

Contd…

b) A particle moves in a curve under a central attraction so that its velocity at any point is equal to that in a circle at the same distance and under the same attraction. Show that the path is an equiangular spiral and that law of force is that of the inverse cube.

9. a).Two forces act on a particle. If the sum and difference of the forces are at right angles to each other, show that the forces are of equal magnitude.

(OR)

b) Derive the conditions of equilibrium of three coplanar parallel forces.

10.a) Discuss the equilibrium of a body on a rough inclined plane under any forces.

(OR)

b) Two particles P and Q each of weight W on two equally rough inclined planes CA and CB of the same height, placed back are connected by a light string which passes over the smooth top edge $C$of the planes. Show that, if the particles are on the point of slipping, the difference of the inclinations of the planes is double the angle of friction.

PART – C (3 x 10 = 30)

Answer any THREE questions.

11.Show that the greatest height which a particle with initial velocity v can reach on a vertical wall at a distance 'a' from the point of projection is $\frac{v^2}{2g} - \frac{ga^2}{2v^2}$.

12.Two equal marble balls A, B lie in a horizontal circular groove at he opposite ends of a diameter; A is projected along the groove and after time t, impinges on B; show that a second impact takes placing after a further interval $\frac{2t}{e}$.

13. A string if natural length a, is stretched on a smooth horizontal table between two fixed points at a distance na apart; a particle of mass m is attached to the middle point of the string. If the particle is displaced towards one the fixed points through a distance not exceeding $\frac{n-1}{2}a$ and then let go, show that it will execute Simple Harmonic Motion whose period is independent of n.

14.A weight is supported on a smooth plane of inclination α by a string inclined to the horizon at an angle γ. If the slope of the plane br increased to β and the slope of the string is doubled. Prove that $\cot\alpha - 2\cos\beta = \tan\lambda$.

15.A weight can be supported on a rough inclined plane by a force P acting along the plane or by a force Q acting horizontally. Show that the weight is $\frac{PQ}{\sqrt{(Q^2 sec^2\lambda - P^2)}}$ where λ is the angle of friction.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 5M2 (Upto 2016)**

COURSE TITLE : Real Analysis **QN.NO : 4097**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer ALL questions:

1. State Holder's inequality.
2. Define Limit point with suitable example.
3. Given an example to show that, Under a continuous map the image of an open set need not be an open set.
4. Prove that any discrete metric space M with more than one point is disconnected.
5. Prove that R with usual metric is not compact.

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

6. a) Prove that countable union of countable sets is countable.

(OR)

b) Prove that in any metric space (M,d) each open ball is on open set.

7. a) Prove that in any metric space arbitrary intersection of closed sets is closed.

(OR)

b) Prove that any complete metric space is of second category.

8. a) Let (M,d) be a metric space. Let $a \in M$. Show that the function $f : M \to R$ defined by $f(x) = d(x,a)$ is continuous.

(OR)

b) Prove that the function $f : (0,1) \to R$ defined by $f(x) = \frac{1}{x}$ is not uniformly continuous.

Contd...

9. a) If A and B are connected subsets of a metric space M and if $A \cap B \neq \phi$, Prove that $A \cup B$ is connected.

(OR)

b) State and Prove intermediate value theorem.

10. a) Prove that any compact subset A of a metric space M is bounded.

(OR)

b) Show that any continuous image of a compact set is compact.

PART – C (3 x 10 = 30)

Answer any THREE questions.

11. Show that (l_p, d) is a metric space.
12. State and prove Cantor's intersection theorem.
13. Let (M_1, d_1) and (M_2, d_2) be two metric spaces. Prove that a function $f : M_1 \to M_2$ is continuous iff $f^{-1}(F)$ is closed in M_1 whenever F is closed in M_2.
14. Show that a subspace of R is connected iff it is an interval.
15. Show that any closed interval [a,b] is a compact subset of R.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 5M3 (Upto 2016)**

COURSE TITLE : Modern Algebra - II **QN.NO : 4099**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer ALL questions:

1. Prove that the union of two subspaces of a vector space need not be a subspace.
2. Find the norm of the vector (1,2,3) in $V_3(R)$ with standard inner product.
3. Let $T:V \to W$ be a linear transformation. Prove that $T(V) = \{T(v) / v \in V\}$ is a subspace of W.
4. Obtain the matrix representing the linear transformation $T : V_3(R) \to V_3(R)$ given by $T(a,b,c) = (3a, a-b, 2a+b+c)$ w.r.t. the standard basis $\{e_1,e_2,e_3\}$.
5. Define field with suitable example.

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

6. a) Let V be a vector space over a field F. Prove that a non-empty subset W of V is a subspace of V iff $u,v \in W$ and $\alpha,\beta \in F \Rightarrow \alpha u + \beta v \in W$.

(OR)

b) Prove that the union of two subspace of a vector space is a subspace iff one is contained in the other.

7. a) State and prove Schwarz inequality.

(OR)

b) Let V be a finite dimensional inner product space. Let W be a subspace of V then prove that $(W^{\perp})^{\perp} = W$.

8. a) State and prove the Sylvester's Law.

(OR)

b) Find the kernel, Nullity and Rank of the linear transformation $T : R^3 \to R^3$ defined by $T(x,y,z) = (x,0,0)$.

9. a) Find the dual basis of $\{v_1,v_2\}$, where $v_1 = (2,1)$, $v_2 = (3,1)$ are vectors in R^2.

(OR)

b) Let V be a finite dimensional vector space over a field F and W, a subspace of V. Prove that dim (A(W)) = dim V - dim W.

10. a) State and prove Remainder theorem.

(OR)

b) If $a,b \in K$ are algebraic over F of degrees m and n respectively, and if m and n are relatively prime, prove that F(a,b) is of degree mn over F.

Contd...

PART – C (3 x 10 = 30)

Answer any THREE questions.

11. State and prove fundamental theorem of homomorphism.

12. Prove that every finite dimensional inner product space has an orthonormal basis.

13. Prove that two finite dimensional vector spaces over the same field are isomorphic if and only if they are of the same dimension.

14. If U and V are vector spaces over F, then prove that Hom(U,V) is also a vector space over F.

15. If L is a finite extension of K and if K is a finite extension of F, then prove that L is a finite extension of F. Moreover [L:F] = [L:K][K:F].

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 5AS (Upto 16)**

COURSE TITLE : Programming with Visual Basic **QN.NO : 4109**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer all questions .

1. Mention any two features of Visual Basic.
2. What is meant by "Plug-In" in VB?
3. What is meant by "MENU" in VB?
4. What is the need for Dialog Box in VB?
5. Define: Dynamic Data Exchange (DDE).

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

6.a) Distinguish between Combo Box and List Box.

OR

b) Write short notes on "Drop-Down Menu" in VB.

7.a) How will you use Looping statements in VB? Give examples.

OR

b) How will you create a VB project to simulate a Calculator?

b) Develop a VB project to add two Matrices of Order 2 x 2.

8.a) How will you use VB project to create a college admission application form?

OR

b) How will create Sub-Menu in a VB project? Illustrate with an example.

9.a) Develop a VB project to set Timer.

OR

b) Develop a VB project to draw a Circle and a Rectangle.

10. a) How will you use Graphic images in VB project?

OR

b) Explain the use of Data Report in VB project.

PART – C (3 x 10 = 30)

Answer any THREE questions.

11. Explain briefly the VB Integrated Development Environment.
12. Describe the variable used widely in VB.
13. How will you create a Polygon in VB? Illustrate with an example.
14. Why do you require MDI in VB project? Discuss.
15. How will you create Objects in VB project? Discuss.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 6M1 (Upto 2016)**

COURSE TITLE : Complex Analysis **QN.NO : 4113**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer all questions

1. Prove that $f(z) = \sin x \cosh y + i \cos x \sinh y$ is differentiable at every point.
2. Find the invariant points of the transformation $w = \frac{1+z}{1-z}$.
3. State the Cauchy's theorem.
4. Find the Taylor's series of $f(z) = \frac{1}{z}$ about the point $z = 1$.
5. Find the residue of $\frac{1}{(z^2 + a^2)^2}$ at $z = ai$.

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

6. a) Prove that the function $f(z) = \begin{cases} \frac{x^3(1+i) - y^3(1-i)}{x^2 + y^2} & \text{if } z \neq 0 \\ 0 & \text{if } z = 0 \end{cases}$ satisfies C - R equations at the origin.

(OR)

b) Show that an analytic function in a region with constant modulusis constant.

7. a) Show that the region in the z - plane given by $x > 0$ and $0 < y < 2$ is mapped into the region in the w - plane given by $v > 0$ and $-1 < u < 1$ under the transformation $= iz + 1$.

(OR)

b) Find the bilinear transformation which maps the points $z = 2,\ i,\ -2$ onto $w = 1,\ i, -1$ respectively.

8. a) Evaluate $\int_C \frac{e^z}{(z^2 + 4)}\ dz$ where C is the positively oriented circle $|z - i| = 2$.

(OR)

b) State and prove Liouville's theorem.

Contd…

9. a) Expand $f(z) = \frac{z - 1}{z + 1}$ as a Taylor's series about the point $z = 1$.

(OR)

b) Expand $f(z) = \frac{1}{z^2 - 3z + 2}$ in Laurent's series valid in the region $1 < |z| < 2$.

10. a) Find the residue of $\frac{e^z}{z^2(z^2 + 9)}$ at it poles.

(OR)

b) Evaluate $\int_0^{2\pi} \frac{d\theta}{5 + 4 \sin\theta}$.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

11. Derive the C - R equations in polar co-ordinates.
12. Prove that any bilinear transformation preserves cross ratio.
13. State and prove Cauchy's Integral formula.
14. State and prove Taylor's theorem.
15. Prove that $\int_0^{2\pi} \frac{d\theta}{1 + a \sin\theta} = \frac{2\pi}{\sqrt{1 - a^2}}$, $(-1 < a < 1)$.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 6M2 (2015 On) / 5M4 (Upto 2016)**

COURSE TITLE : Probability and statistics **QN.NO : 4115**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer ALL questions.

1. If an experiment can result in any one of N different equally likely outcomes, and if n of these outcomes together constitute event A, then the probability of event A is $P(A) = \frac{n}{N}$.

2. If X has the probability density $f(x) = \begin{cases} ke^{-3x}, & x \geq 0 \\ 0, & \text{e.w.} \end{cases}$ find k and $P(0.5 \leq X \leq 1)$.

3. Calculate the Variance of X, representing the number of points rolled with a balanced die.

4. A certain kind of sheet metal has, on the average, 5 defects per 10 square feet. If we assume a Poisson distribution, what is the probability that a 15 square-foot sheet of the metal will have at least 10 defects?

5. Define: i) Gamma Distribution, ii) Exponential Distribution.

PART – B Answer all questions by choosing either (a) or (b). (5 x 7 = 35)

6. a) Use Venn diagram verify the following
i) $(A \cap B)' = A' \cup B'$; ii) $A \cup (A' \cap B) = A \cup B$.

(or)

b) S.T. if events A and B are independent, then events A' and B' are independent.

7. a) Find the distribution function of the random variable X is given by $F(x) = \begin{cases} 1-(1+x)e^{-x}, & x \geq 0 \\ 0, & x \leq 0. \end{cases}$
Find $P(X \leq 2)$, $P(1 < X < 3)$, $P(X \geq 4)$.

(or)

b) Given the joint probability density
$f(x,y) = \begin{cases} 4xy, & 0 < x < 1, 0 < y < 1 \\ 0, & \text{e.w.} \end{cases}$
Find the marginal densities of x and y and the conditional density of x given $Y = y$.

8. a) If the probability density of x is given by
$f(x) = \begin{cases} 2(1-x), & 0 < x < 1 \\ 0, & \text{e.w.} \end{cases}$
i) S.T. $E(x^r) = \frac{2}{(r+1)(r+2)}$; ii) Find $E[(2x+1)^2]$

(or)

P.T.O.

CODE : 6m2(15 09) QN.NO : 411.5

TITLE : Probability & Statistics.

b. Given that x has the probability distribution $f(x) = \frac{1}{8}\binom{3}{x}$ for $x = 0, 1, 2, 3$. Find the MGF of this random variable and determine μ_1' and μ_3'

9. a) Among the 120 applicants for a job, only 80 are actually qualified. If 5 of the applicants are randomly selected for an in-depth interview, find the probability that only 2 of the 5 will be qualified for the job by using
i) the formula for the hypergeometric distribution
ii) the formula for the binomial distribution with $\theta = \frac{80}{120}$ as an approximation.

(or)

b) Derive Poisson distribution.

10. a) S.T. the MGF of normal distribution is given by $M_x(t) = e^{\mu t + \frac{1}{2}\sigma^2 t^2}$

(or)

b) If Z is the standard normal variate then find
i) $P(Z < 1.72)$, ii) $P(Z < -0.88)$, iii) $P(1.30 < Z < 1.75)$
iv) $P(-0.25 < Z < 0.45)$

PART – C (3 x 10 = 30)

Answer any THREE questions.

11. The members of a consulting firm rent cars from 3 rental agencies: 60% from agency 1, 30% from agency 2 and 10% from agency 3. If 9% of the cars from agency 1 need an oil change, 20% of the cars from agency 2 need an oil change and 6% of the cars from agency 3 need an oil change, what is the probability that a rental car delivered to the firm will need an oil change? If a rental car delivered to the consulting firm needs an oil change, what is the probability that it came from rental agency 2?

12. Given the joint probability density

$$f(x,y) = \begin{cases} \frac{2}{3}(x+2y), & 0 < x < 1, \ 0 < y < 1. \\ 0, & \text{e.w.} \end{cases}$$

i) find the marginal densities of x and y.
ii) find the conditional density of x given $Y = y$ and use it to evaluate $P(X \leq \frac{1}{2} \mid Y = \frac{1}{2})$.

PTO

CODE : 6m2(1500) QN.NO : 4115

TITLE : Probability & Statistics.

13 If μ and σ are the mean and the S.D. of a random variable X, then for any positive constant k the probability is atleast $1-\frac{1}{k^2}$ that x will take on a value within k S.D. of the mean. i.e Prove.

14 S.T. the mean and the variance of the binomial distribution are $\mu = n\theta$ and $\sigma^2 = n\theta(1-\theta)$.

15. P.T. If x is a random variable having a binomial distribution with the parameters n and θ; then the M.G.F. of $z = \frac{x-n\theta}{\sqrt{n\theta(1-\theta)}}$ approaches that of the standard normal distribution when $n \to \infty$

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 6M4(A) (2015on)**

COURSE TITLE : Graph Theory **QN.NO : 4119**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer all questions.

1. Define Regular graph.
2. Show that the partition P = (7, 6, 5, 4, 3, 2) is not graphic.
3. Define connected graph and give an example.
4. Prove that every Hamiltonian graph is 2 - connected.
5. If G is k - critical, then show that $\delta(G) \geq k - 1$.

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

6. a) Prove that in any graph G, the number of points of odd degree is even.

(OR)

b)Show that $\Gamma(G) = \Gamma(\overline{G})$.

7. a) Show that every graph is an intersection graph.

(OR)

b) If a partition $P = (d_1, d_2, \ldots\ldots\ldots, d_p)$ with $d_1 \geq d_2 \geq \cdots \ldots\ldots\ldots \geq d_p$ is graphical, then show that $\sum_{i=1}^{p} d_i$ is even and

$\sum_{i=1}^{k} d_i \leq k(k-1) + \sum_{i=k+1}^{p} \min\{k, d_i\}$, for $1 \leq k \leq p$.

8. a) Prove that a graph G is connected iff for any partition of V into subsets V_1 and V_2 , there is a line of G joining a point of V_1 to a point of V_2.

(OR)

Contd…

b) Write Fleury's algorithm for Euler graphs.

9. a) Show that every connected graph has a spanning tree.

(OR)

b) Let G be a k-regular bipartite graph with k > 0. Prove that G has a perfect matching.

10. a) Prove that $K_{3,3}$ is non - planar.

(OR)

b) For any graph G, prove that $(G) \leq \Delta(G) + 1$.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

11. For any graph G has 6 vertices, show that G or $\overline{G}$ contains a triangle.
12. Let G_1 be a (p_1 , q_1) graph and G_2 a (p_2 , q_2) graph. Show that
    (i) $G_1 \cup G_2$ is a $(p_1 + p_2 , q_1 + q_2)$ graph.
    (ii) $G_1 + G_2$ is a $(p_1 + p_2 , q_1 + q_2 + p_1 p_2)$ graph.
    (iii) $G_1 \times G_2$ is a $(p_1 p_2 , q_1 p_2 + q_2 p_1)$ graph.
13. Prove that a line x of a connected graph G is a bridge iff x is not on any cycle of G .
14. State and prove Hall's marriage theorem.
15. State and prove Euler theorem for planar graph.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 6AS (Upto 2016)**

COURSE TITLE : Programming with C++ **QN.NO : 4127**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer all questions

1. Mention any two features of C++ Programming.
2. What is meant by a Public Class?
3. Define an Object.
4. What is meant by Logical Operators?
5. Define: Polymorphism.

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

6. a) Distinguish between Private Class and Protected Class.

(OR)

b) Write a simple C++ program to illustrate the concept of abstract data type.

7. a) How will you use Looping statements in C++? Give examples.

(OR)

b) Write a C++ program to simulate a Calculator using Constructors.

8. a) How will you use Operator Overloading in C++? Give examples.

(OR)

b) Explain briefly the concept of Encapsulation in C++.

(OR)

9. a) Explain briefly the concept of Inheritance.

(OR)

b) Write a C++ program to add two matrices of order 3 x 3 using Inheritance.

10. a) How will you use Virtual Functions in C++?

(OR)

b) Explain the use of Friend Function and Friend Class in C++.

PART – C (3 x 10 = 30)

Answer any THREE questions.

11. Explain briefly the usage of Static Variables in C++.
12. Write a C++ program to multiply two matrices of order 3 x 3 using Constructors.
13. What is the difference between "user-defined function" and "built-in function" in C++?
14. Explain the various types of Inheritance in C++.
15. Write a C++ program to illustrate the concept of Virtual Class.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 3M / 5C SP (Upto 2016)**

COURSE TITLE : Physics of Electrical Appliances **QN.NO : 4228**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 5 = 25)

Answer any FIVE questions

1. Discuss about employers and employees responsibility on safety.
2. Write a note on primary and secondary cells.
3. Describe on Lead-Acid batteries.
4. Briefly explain the effective inductance when inductors are connected in parallel.
5. Briefly explain how a capacitor stores charge.
6. Explain the working of instant start fluorescent lamp with suitable diagram.
7. Explain the thermal type starter with neat diagram.
8. Discuss the low pressure sodium vapour lamp.

PART – B (5 x 10 = 50)

Answer any FIVE questions.

9. Write a note on various types of fire extinguishers.
10. Explain the construction and working of Nickel-Iron batteries.
11. Explain the principle and working of electric bell.
12. Define capacitor. Describe the construction of a capacitor with the factors determining the capacitance.
13. Explain the parts of automatic electric iron box.
14. Explain the construction of fluorescent tube with its components.
15. Explain the construction and working of LED halogen lamp.
16. With neat diagram, explain high pressure sodium vapour lamp.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 3M / 3C AP (Upto 2016)**

COURSE TITLE : Digital Electronics and Communication **QN.NO : 4207**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(5 x 2 = 10)**

Answer any FIVE questions.

1. Convert the octal number $(24.6)_8$ to the equivalent decimal number.
2. State De – Morgan's Theorem.
3. Add the 16 bit numbers 0000 1111 1010 1100 and 0011 1000 0111 1111. Show the corresponding number in hexadecimal.
4. What is an encoder?
5. What is a flip flop?
6. Draw the diagram of a D flip flop using NAND gates.
7. Define the term modulation.
8. Compare Amplitude modulation with frequency modulation.

PART – B **(5 x 13 = 65)**

Answer any FIVE questions.

9. With neat diagram and truth tables, explain the various basic Logic gates.
10. What is an universal gate? State how NAND and NOR can be used as an universal gates.
11. What is a de – multiplexer? Explain the working of a 1-16 de – multiplexer.
12. Explain the process of addition of

a. 2 decimal bits by a Half adder with necessary diagram and truth table.(5)

b. 3 decimal bits by a full adder with necessary diagram and truth table. (8)

13. Describe the working of a 4 bit and 8 bit serial in, serial out register with relevant diagrams.
14. With the relevant diagram explain the construction and working of a RS flip flop.
15. What do you understand by Frequency modulation? Explain its advantage over Amplitude modulation.
16. Explain the function of each stage of super heterodyne receiver with a neat diagram.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Physics **COURSE CODE : 3P (Upto 2016)**

COURSE TITLE : Optics and Laser **QN.NO : 4225**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(8 x 2 = 16)**

Answer any EIGHT questions.

1. State Fermat's principle of extremum path.
2. Define focal length of the lens.
3. What is meant by coherent in waves?
4. State principle of superposition of waves.
5. Define diffraction.
6. What is resolving power of an optical instrument?
7. Define polarization.
8. What is quarter wave plate?
9. Define spontaneous emission.
10. Write the important characteristics of a laser beam.

PART – B **(4 x 11 = 44)**

Answer any FOUR questions.

11. Obtain the Lens makers equation of a thin convex lens.
12. Write a note on spherical and chromatic aberration.
13. Describe the construction and working of Michelson's interferometer.
14. Describe and explain the Fraunhofer pattern obtained with narrow slit and illuminated by a parallel beam of monochromatic light.
15. Derive the expression for resolving power of a grating.
16. Explain the superposition of waves linearly polarized at right angles.
17. Describe the working of solid state Ruby laser.

PART – C **(2 x 7.5 = 15)**

Answer any TWO questions.

18. A convex lens of focal length 24 cm (μ=1.5) is totally immersed in water (μ=1.33). Find its focal length in water.
19. A soap film 5×10^{-5} cm thick is viewed at an angle of 35° to the normal. Find the wavelengths of light in the visible spectrum which will be absent from the reflected light (μ=1.33).
20. A parallel beam of light of wavelength 5460 □ is incident at an angle of 30° on a plane transmission grating which has 6000 lines/cm. Find the highest order spectrum that can be observed
21. Calculate the least thickness of a calcite plate which would convert plane polarized light into circularly polarized light. Given $\mu_0 = 1.658$, $\mu_e = 1.486$ and wavelength of light is 5890 □.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Physics **COURSE CODE : 3PNM (Upto 16)**

COURSE TITLE : Solar System and Solar Energy **QN.NO : 4226**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(5 x 5 = 25)**

Answer any FIVE questions.

1. Describe the surface of the Sun.
2. Derive the relation to determine the size of the planet.
3. Write notes on meteors and meteorites.
4. Explain the birth and death of a star.
5. What is solar constant and write the measurements of solar radiation?
6. Write notes on sun shine recorder.
7. Give any five applications of photovoltaic cells.
8. Describe the working of solar distillation.

PART – B **(4 x12. 5 = 50)**

Answer any FOUR questions.

9. Describe the various types of stars and galaxies in our universe.
10. Explain the surface atmosphere and temperature of Venus, Mars and Mercury.
11. Write in detail about the Big-Bang theory of the universe.
12. Illustrate the construction and working of pyroheliometer and pyranometer with neat diagram.
13. Explain the construction and working of solar cooker.
14. Describe the construction of solar energy converters using photovoltaic cell.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME :NME - Physics **COURSE CODE: 4PNM (Upto 16)**

COURSE TITLE : Communication System **QN.NO : 4227**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(5 x 5 = 25)**

Answer any FIVE questions.

1. Explain the principle of modulation and demodulation with its waveform explanation.
2. Discuss the principle of superheterodyne system and its importance.
3. Discuss the difference between analog and digital communications.
4. With a neat explanation, explain the working of a modem.
5. Discuss the working function of Microwave communication
6. Explain the principle and uses of Radar communication.
7. Discuss the working and construction of Galvanometer.
8. Explain the working principle of multimeter.

PART – B **(4 x12.5 = 50)**

Answer any FOUR questions.

9. Discuss the Electromagnetic spectrum with its various frequency ranges and also explain the uses of radio waves and microwaves.
10. With a neat block diagram, explain the principle and working of Radio transmission.
11. Discuss the principle of B/W TV Transmission and Reception with a suitable block diagram.
12. Describe the working of satellite communication with suitable block diagram.
13. With suitable sketch, explain the propagation and uses of electromagnetic waves.
14. Discuss the construction and uses of cathode Ray oscilloscope(CRO) and mention its applications.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Physics **COURSE CODE: 4P (Upto 16)**

COURSE TITLE : Energy Physics **QN.NO : 4231**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 5 = 25)

Answer any FIVE questions.

1. What are conventional energy sources?
2. What is solar Radiation? Write the relation to measure the radiation?
3. Describe the working principle of solar cooker.
4. What is wind energy and give its principle of working?
5. What is geothermal energy and give its sources?
6. Explain the hydrothermal energy system.
7. What are the types of tidal energy and explain?
8. Write the basic principles of generating tidal energy.

PART – B (5x 10 = 50)

Answer any FIVE questions.

9. Explain any two operations of energy generators using non-conventional energy sources.
10. Describe the function of pyranometer with neat diagram,
11. Illustrate the construction and working of box type solar cooker with neat diagram.
12. Explain the construction and function of photovoltaic cell.
13. Write in detail about the construction and working of wind mill.
14. Explain the construction of vapor dominated geothermal energy plant.
15. Describe the function of open cycle OTEC system.
16. Derive the expression to estimate the energy in a single basin tidal system.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 1M / 4C AP (Upto 16)**

COURSE TITLE : Mechanics and Properties of matter **QN.NO : 4238**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(7 x3 = 21)**

Answer any SEVEN questions.

1. Define moment of inertia.
2. What is called torque? Give an example.
3. Define elastic limit.
4. Define Poisson's ratio.
5. Distinguish between streamline motion & turbulent motion.
6. Define terminal velocity.
7. What is called surface energy?
8. State the principle of Jaegar's method.
9. What is meant by gravitational mass?
10. Define escape velocity.

PART – B **(4 x 10 = 40)**

Answer any FOUR questions.

11. What is compound pendulum? Using compound pendulum, find an expression for the period of oscillation.
12. Define the term beam. Obtain an expression for bending moment.
13. State Bernoulli's theorem. Discuss in detail about venturimeter.
14. i) Derive an expression for equation of continuity. (4 mark)
    ii) Give an account on Ostwald's viscometer. (6 mark)
15. Define surface tension. Explain the drop-weight method experiment to determine the surface tension of a liquid.
16. Obtain an expression for the excess of pressure inside a spherical and cylindrical drop & bubble.
17. Derive the variation of 'g' with altitude and depth.

PART – C **(2 x 7 = 14)**

Answer any TWO questions.

18. Derive an expression for loss of kinetic energy during collision.
19. What are the types of moduli of elasticity? Explain.
20. Obtain the relation between (q, n and k) & (n, k and s).
21. State and explain Newton's universal law of gravitation.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Physics **COURSE CODE : 4SP (Upto 2016)**

COURSE TITLE : Programming in C++ **QN.NO : 4241**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 3 = 30)

Answer any TEN questions.

1. Comment on floating point constants.
2. What are ternary operators? Give its general format.
3. Describe the type conversion using cast operator.
4. Write note on declaration of variables in C++
5. Mention the three types of statements used in C++
6. What is the use of cout stream? Give its general syntax.
7. Write a short program to read two numbers and display the largest value using if-else statement.
8. Give the syntax o switch statement.
9. Mention the types of programming functions.
10. What are local variables? Give example.
11. What is array notation?
12. Write down the general format of array initialization. Give examples.

PART – B (5 x 9 = 45)

Answer any FIVE questions.

13. Explain the following operators
    a) Relational operator b) Equality operator and
    c) Logical operator.
14. Describe meaning of various Unary operators. Also explain
    a) comma operator and b) scope operator.
15. Explain the salient features of the following header files
    i) iostream. h and ii) ios.h
16. Using cin and cout functions write a short program to read two numbers through the keyboard and perform arithmetic operations and display the results.
17. Explain the following loop control statement in C++
    a) break statement b) continue statement c) goto statement

Contd…

18. What is the difference between while loop and do-while loop? Write a C++ program to find the sum of even numbers using do-while loop.
19. Write a program in C++ to find the sum of the given three numbers using function declaration with the return statement.
20. Explain how global variables are defined. Write a program to find the product of two numbers using the global variable declaration.
21. Write a C++ program to read a set of numbers from the standard input device and to sort them in ascending order using arrays.
22. Using multidimensional arrays, write a C++ program to read the elements of the given two matrices of order n x n to perform the matrix multiplication.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Physics **COURSE CODE : 5P1 (Upto 2016)**
COURSE TITLE : Solid State Physics **QN.NO : 4245**
TIME : 3 Hours **MAX.MARKS :75**

PART – A (8 x 2 = 16)

Answer any EIGHT questions.

1. Define bond energy.
2. List any four properties of metallic bond.
3. What do mean by crystal symmetry?
4. Draw the crystal structure of ZnS.
5. Define Meissner's effect.
6. Define the term 'density of states'.
7. What do you understand from the term specific heat?
8. State down Dulong Petits law.
9. Define magnetic moment.
10. Write any two postulates of electron spin theory of magnetism.

PART – B (4 x 11 = 44)

Answer any FOUR questions.

11. Discuss various types of bonding existing in materials with neat diagram.
12. Give an account on covalent bond of a material.
13. State Bragg's law. Explain in detail on principle, construction and working of Bragg's spectrometer.
14. Discuss the following; i) inversion symmetry ii) rotation symmetry.
15. Discuss in detail on superconductivity of a material and distinguish type I and type II superconductors.
16. Explain in detail on Debye's theory on specific heat of a solid.
17. Distinguish diamagnetism, para magnetism and ferromagnetism.

PART – C (2 x 7.5 = 15)

Answer any TWO questions.

18. Given that the compressibility of NaCl is 3.3 × 10–11 m2/newton. The Madelung constant a = 1.75, and the equilibrium nearest neighbor spacing is 0.28 nm, determine the repulsive potential exponent n in the total expression for $2N$ ions using the basic equation $U(r) = -N\left[\frac{\alpha e^2}{r} - \frac{B}{r^n}\right]$.
19. The Bragg angle corresponding to the first order reflection from (1 1 1) plane in a crystal is 30°when x-rays of wave length 0.175 nm are used. Calculate the interatomic spacing.
20. For a superconducting specimen, the superconducting transition temperature and critical magnetic field at 0 K are 1.18 K and 99 × 10^{-4} T respectively. If the specific heat constant g is 1.35 × 103 J/m^3 K^2, then determine the ratio of the specific heat discontinuity to the normal state specific heat.
21. A magnetic material has a magnetization of 3200 A/m and flux density 0.005 weber/m^2. Calculate the magnetizing force and the relative permeability of the material.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Physics **COURSE CODE : 5P2 (Upto 2016)**

COURSE TITLE : Basic Electronics **QN.NO : 4247**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(8 x 2 = 16)**

Answer any EIGHT questions.

1. State Norton's theorem.
2. Give the basic concept of filter circuit.
3. Draw the types of transistor symbol and naming the terminals.
4. Define stability factor.
5. Write a note on multistage amplifier.
6. Mention the classification of power amplifier.
7. List out the different types of oscillator circuits.
8. Write a short note on Barkhausen criterion for oscillations.
9. What is pinch off voltage?
10. Differentiate the characteristics of JFET and Bipolar transistor.

PART – B **(4 x 11 = 44)**

Answer any FOUR questions.

11. Derive an expression for the efficiency of a Full wave Rectifier.
12. Describe the working of a Zener diode when it is forward biased and reverse biased also explain its V-I characteristics.
13. Describe with a neat circuit diagram, how the characteristics of a transistor in Common emitter Configuration can be obtained. Also define and explain the three important parameters of the transistors.
14. Discuss the function of Single stage RC Coupled amplifier with suitable circuit diagram.
15. Describe the working of astable multivibrator with circuit diagram.Derive the expression frequency of astable multivibrator.
16. Explain with necessary theory working of wien bridge oscillator.
17. Discuss JFET as an amplifier having common source configuration.obtain an expression for its voltage gain.

PART – C **(2 x 7.5 = 15)**

Answer any TWO questions.

18. With a neat diagram ,Explain the working of crystal diode as a rectifier.
19. Give the h - parameters equivalent circuit of a CE amplifier. Hence obtain expressions for current gain, voltage gain and impedance.
20. Discuss the principle and working of negative feedback amplifier and mention its advantage.
21. Describe the action of Hartley oscillator with a neat circuit diagram.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Physics **COURSE CODE : 5P3(Upto 16) / 3P (Upto 12)**

COURSE TITLE : Relativity and Atomic Physics **QN.NO : 4249**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(8 x 2 = 16)**

Answer any EIGHT questions.

1. State the term Length contraction.
2. What is frame of reference?
3. Define the Auger effect?
4. Give the principle of Proportional counter.
5. Write a note on spectral series.
6. Give the explanation of excitation of collision.
7. List out the various quantum numbers associated with vector atom model.
8. Define Stark effect.
9. Write a short note on meson.
10. Write a note on Van Allen Belts.

PART – B **(4 x 11 = 44)**

Answer any FOUR questions.

11. Explain the concept of Doppler effect with suitable theory.
12. Obtain an expression for the shift in wavelength of X -ray beam in Compton effect.Give its experimental verification.
13. Explain the construction and working of a cyclotron and its limitations
14. Explain the experimental determination of critical potential using Frank Hertz experiment.
15. Describe Stern-Gerlach experiment for the existance of space quantisation.
16. Discuss the quantum mechanical explanation of the normal Zeeman effect.
17. Explain the Latitude and altitude effect in cosmic rays.

PART – C **(2 x 7.5 = 15)**

Answer any TWO questions.

18. Show that the Galilean transformation length or distance and acceleration are invariant to Galilean transformation.
19. Discuss the construction and working of a Geiger muller counter.How is quenching achieved in this counter.
20. State and explain the basic postulates of Bohr atom model and its energy levels.
21. State and explain Larmor's theorem.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME :B.Sc., **COURSE CODE: 4M/5C AP (Upto 16)**

COURSE TITLE : Renewable Energy **QN.NO : 4252**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(5 x 2 = 10)**

Answer any FIVE questions.

1. Define solar constant.
2. What is solar collector?
3. What are the components of photo-voltaic system?
4. List out the applications of solar photo-voltaic system.
5. What is wind energy?
6. What is meant by biomass?
7. Expand OTEC & SSPP.
8. State Lambert's law of absorption.

PART – B **(5 x 13 = 65)**

Answer any FIVE questions.

9. Explain the principle & working of following terms:

i) Natural circulation solar water heater (pressurized) (6 mark)

ii) Solar distillation (7 mark)

10. Describe the principle, construction & working of box type solar cooker. Give its merits.
11. Describe the principle and working of solar cell with a neat sketch.
12. Explain in detail, the concept of solar photo-voltaics.
13. Derive an expression for power developed due to wind.
14. Explain the constructional detail and working of KVIC digester.
15. What are the kinds of geothermal sources? Explain.
16. Describe the open cycle OTEC system with a neat diagram.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Physics **COURSE CODE : 6P2 (Upto 2016)**

COURSE TITLE : Digital Electronics and Communication **QN.NO : 4255**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (8 x 2 = 16)

Answer any EIGHT questions.

1. Under what input conditions, the output in Ex-OR gate will be ONE?
2. Find the binary equivalent of $(32)_{10}$.
3. Draw the diagram and truth table of an R-S flip-flop.
4. Find the 2's complement of $(1011)_2$.
5. Distinguish between synchronous and asynchronous counters.
6. Differentiate between carrier wave and signal wave. Why is the modulation necessary for communication.
7. List down the forms of amplitude modulation.
8. Define modulation index.
9. What is the principle of a photodetector?
10. Under what condition total internal reflection can be achieved?

PART – B (4 x 11 = 44)

Answer any FOUR questions.

11.(a) Prove that NOR and NAND gates are universal gates, (b)Convert $(2019)_{10}$ into binary and Hexadecimal.

12. (a) Illustrate sum of products and product of sums method with examples.

(b) Draw the J-K Master slave circuit and explain its working.

Contd...

13. Discuss the different types of registers with proper diagrams.

14. Describe the working of (i) variable-resister network and (ii) binary ladder network with suitable diagrams.

15. Analyse the amplitude modulation mathematically and obtain the power relations.

16. (i) Compare different aspects of AM and FM modulations. (ii)Also discuss the AM and FM detection.

17. (i)Distinguish between step index and graded index fibers. (ii) Discuss the different losses in an optical fiber.

PART – C (2 x7.5 = 15)

Answer any TWO questions.

18.Simpify the following using Karnaugh map

$F(A,B,C,D) = \Sigma m(0,3,4,7,8,9,11,12,15)$

19.Evaluate the following using 2's complement method: $(17)_{10} - (10)_{10}$

20. A modulating signal $y_1(t)=20\cos(2000\,\pi\, t)$ is amplitude modulated with a carrier signal $y_2(t) = 60\cos(200000\pi t)$. Assuming R=1ohm, find (i) modulation index, (ii) the carrier power and (iii) power required for transmitting AM wave.

21. Given data for an optical fiber: core refractive index of 1.5 and cladding refractive index of 1.47. Calculate the following: (i)critical angle at the core-cladding interface, (ii)numerical aperture, (iii)acceptance angle for the fiber.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Physics **COURSE CODE: 6P3 (Upto 2016)**

COURSE TITLE : Nuclear Physics **QN.NO : 4257**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (8 x 2 = 16)

Answer any EIGHT questions.

1. What is an isotope? Give examples.
2. Define binding energy of nucleus.
3. What is meant by natural radioactivity?
4. State Geiger-Nuttal law.
5. State Soddy Fajan's displacement law.
6. Define mean life of a radioelement.
7. Write the advantages of Bubble chamber.
8. What are cosmic rays?
9. What are Baryons?
10. Write the anti-particles of electron, proton, neutron and neutrino.

PART – B (4 x 11 = 44)

Answer any FOUR questions.

11. Explain in detail about Semi - Empirical mass formula of liquid drop model.
12. Explain the properties of Alpha, Beta and Gamma rays.
13. Write a note on applications of radioisotopes.
14. Describe the construction and working of Wilson Cloud chamber.
15. What are cosmic ray showers? Discuss the theory of their formation.
16. Describe about four kinds of interactions between elementary particles.
17. Explain in detail the Quark model.

PART – C (2 x 7.5 = 15)

Answer any TWO questions.

18. Calculate the binding energy of an α – particle and express the result both in MeV and joules.
19. One gram of radium is reduced by 2.1 mg in 5 years by α-decay. Calculate the half-life period of radium.
20. Show that the number of cosmic ray particle coming from the west is greater than those coming from the east.
21. If the Pion decays from rest to give a Muon of 4.05 MeV energy, what is the kinetic energy of the accompanying Neutrino? What is the mass of the neutrino in this process?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 2M / 6C AP (Upto 2016)**

COURSE TITLE : Optics and Electricity **QN.NO : 4266**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (7 x 3 = 21

Answer any SEVEN Questions

1. What is dispersion and dispersive power of a prism?
2. What is spherical aberration?
3. Write a note on population inversion.
4. What is numerical aperture of a optical fibre?
5. Write any three applications of lasers.
6. Write down the basic principle of hologram.
7. State Gauss law.
8. State inverse square law.
9. Define Ampere.
10. State Kirchhoff's I and II law of current

PART – B (4 x 10 = 40)

Answer any FOUR Questions

11. Describe the various types of aberration in lenses.
12. Distinguish between Huygen's eyepiece and Ramsden eyepiece.
13. Explain the construction and working of He-Ne laser.
14. Describe the process of propagation of light in optical fibre and derive the relation of Δ.
15. State and prove Gauss law and give its applications.
16. Derive the relation to determine the capacitance of a capacitor connected in series and parallel.
17. Determine the resistance of an unknown material by constructing the Carey foster's bridge circuit.

Contd..

PART – C (2 x 7 = 14)

Answer Any TWO questions.

18. Calculate the equivalent focal length of an achromatic combination of two thin lenses of focal lengths 1m and 0.4m respectively separated by a distance. Assume that both the lenses are of same material.
19. Calculate the numerical aperture and hence the acceptance angle for an optical fibre given that refractive indices of the core and the cladding are 1.45 and 1.40 respectively.
20. A positive charge q exerts a force of magnitude - 0.20 N on another charge - 2q. Find the magnitude of each charge if the distance separating them is equal to 50 cm.
21. Calculate the voltage of a battery connected to a parallel plate capacitor with a plate area of 2.0 cm2 and plate separation of 2 mm , if the charges stored to the plates is 4.0 pC

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Physics **COURSE CODE : 3AEP (Upto 16)**

COURSE TITLE : A.C. Circuits **QN.NO : 4301**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 3 = 30)**

Answer any TEN questions.

1. Write the types of Resistor
2. What is Inductance? Write the unit
3. Write the types of capacitors
4. Define time period
5. Write the characteristics of sine waves
6. Two capacitor of 60 μF and 30 μF are in connected in series. Find the circuit current when this combination is connected across 50 Hz and 200 V supply mains.
7. What is Resonance curve?
8. Write main the characteristics series resonance
9. What is a pure resistance
10. Define time constant of an R L circuit
11. What is a tuning circuit?
12. Write the uses of filter circuits?

PART – B **(5 x 9 = 45)**

Answer any FIVE questions.

13. Deduce an expression for the inductors connected in series and parallel without M
14. Obtain an expression for the current in an ac circuit containing a pure inductance.
15. Obtain an expression for the current flowing in a circuit containing a pure resistance
16. Derive an expression for resonant frequency of a series RLC circuit.
17. Explain Q-factor of Series R-L-C circuit.
18. What is time constant? Explain time constant in case of series RL circuit
19. Explain detail the charging and discharging of an capacitor
20. Write the types of filters. Explain low pass and High Pass filter

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME :B.Sc., Physics **COURSE CODE: 4AEP (Upto 16)**

COURSE TITLE : Semiconductor Diodes and Applications **QN.NO : 4303**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 2 = 20)**

Answer all questions.

1. What is Extrinsic semiconductor?
2. What is Drift current?
3. Write the formation of depletion layer in PN diode.
4. Write down the function of clippers in electronic circuits.
5. What is zener diode?
6. Define tunneling effect.
7. Write the function of rectifier circuit?
8. What is filters and Give the types of filters.
9. What is voltage divider?
10. What is multiplier?

PART – B **(4 x 10=40)**

Answer any FOUR questions.

11. Explain the types of semiconductors with examples.
12 Describe the working of PN junction diode with its characteristic I-V curve.
13. Illustrate the types of clippers and clampers with neat circuit.
14. Explain the function of zener diode as peak clippers.
15. Describe the working of bridge rectifier and calculate its efficiency.
16. Construct the CLC and Pi filters and explain its functions.
17. Write notes on the voltage doublers, voltage multiplier and voltage divider.

PART – C **(2 x 7.5= 15)**

Answer any TWO questions.

18. What is depletion layer? Explain the formation of depletion layer?
19. Write notes on series inductance filters.
20. Describe the construction of tunnel diode and PIN diode.
21. Construct the voltage regulator using zener diode.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Physics **COURSE CODE : 5SEP (Upto 16)**

COURSE TITLE : Electronic Instrumentation **QN.NO : 4309**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 3 = 30)**

Answer any TEN questions.

1. Define sensitivity in static characteristics.
2. Mention the sources of errors.
3. Standard deviation – Define.
4. Define Transducer. What is known as electrical transducer?
5. Explain capacitive transducer.
6. Write the term inductive transducer.
7. Define electrical strain gauge.
8. Write a note on thermocouple.
9. Write the principle of operation of Digital frequency meter.
10. What is meant by Digital phase meter?
11. What is meant by frequency response in recording system?
12. Write the term Electromyography.

PART – B **(5 x9 = 45)**

Answer any FIVE questions.

13. Explain statistical analysis methods.
14. Describe Linear Variable Differential Transformer.
15. Describe resistance thermometer.
16. Explain about bonded wire strain gauge with neat diagram.
17. Describe Thermistor with neat diagram.
18. Explain Digital Multimeter.
19. How will you explain digital PH meter with diagram.
20. Explain about ECG recording setup.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Physics **COURSE CODE : 3SEC (2008–13)**

COURSE TITLE : Electronic Equipments and Servicing **QN.NO : 4316**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(5 x 5 = 25)**

Answer any FIVE questions.

1. Draw a neat sketch of functional diagram of a digital voltmeter and explain digital multimeter.
2. Write a note on Vectroscope with ideal keyed rainbow vectogram (Lissajous pattern)for colour difference signals.
3. Explain the merits of employing IC's in TV receivers. Draw the block schematic of a receiver which employs IC's and enumerate the functions performed by each integrated circuit.
4. Describe the initial adjustments which must be made before aligning IF section of the receiver.
5. Enumerate safety precautions which must be observed while servicing a Television receiver.
6. Describe briefly the basic trouble shooting procedure a technician must employ to quickly localize the fault in a TV receiver.
7. Explain the procedure of VCR servicing.
8. Write a short note on basic operation of a TV camera.

PART – B **(4 x 12.5 = 50)**

Answer any FOUR questions.

9. Describe vacuum Tube Voltmeter(VTVM) in the case of i)Rectifier - Amplifier ii)Amplifier-Rectifier types.
10. Illustrate the colour Bar generator with neat sketch of
    i)The Gated Rainbow colour bar generator
    ii)Receiver operation with colour bar signal
    iii)NTSC colour Bar generator
    iv)Colour-Bar Pattern generator.
11. Describe briefly the alignment procedure and precautions for aligning the following sections of the receiver. i)Sound IF section ii)FM discriminator circuit iii)RF tuner iv) Local oscillator.
12. Write short notes on :
    i)Printed circuit board servicing ii)Testing of IC's iii)Servicing Plug-in modules
13. Examine about video recording requirements.
14. List the types of Camera tubes and elaborate it.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., E & C **COURSE CODE : 6EC1 (2008-13)**

COURSE TITLE : Microcontroller 8051 **QN.NO : 4340**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 3 = 15)

Answer any FIVE questions.

1. What are the key features of 8051?
2. What is data pointer register?
3. What is meant by addressing mode?
4. Define mnemonic.
5. Write the operation of ADD A, R_r
6. Give the reasons for choosing 8051 family.
7. Give the specifications of 80C31-1 microcontroller.
8. What is keyboard?

PART – B (5 x 12 = 60)

Answer any FIVE questions.

9. With neat block diagram explain the features of 8051 microcontroller.
10. Write the operations of mode 0 and mode 1 of 8051.
11. Explain in detail about various addressing modes of 8051.
12. Explain various increment and decrement operations of 8051.
13. Write a note on pure software time delay.
14. Discuss about character transmission using a time delay.
15. With program explain in detail about LCD display.
16. Explain the working of A/D converter.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 1B/4MPZ AC (Upto 16)**

COURSE TITLE : Ancillary Chemistry – I / II **QN.NO : 4406**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer Any FIVE questions.

1. Define molecular formula.
2. Define isomerism with an example.
3. State the third law of thermodynamics.
4. What is meant by the term entropy?
5. What is distillation?
6. Give any two applications of paper chromatography.
7. What is meant by mutarotation?
8. Write the causes & control measures for diabetes.

PART – B (5 x 7 = 35)

Answer Any FIVE questions.

9. Explain the substitution & elimination reactions with examples.
10. Give the properties of furan.
11. Explain the various statement of second law of thermodynamics.
12. Write notes on the following
    i) first law of thermodynamics ii) enthalpy iii) Gibbs free energy.
13. Explain the crystallization process for the purification of organic compounds. 14. Discuss the principle & applications of column chromatography.
15. Compare the chemical properties of glucose and fructose.
16. Write notes on cellulose & its derivatives.

PART – C (3 x 10 = 30)

Answer Any THREE questions

17. Discuss the optical isomerism of lactic acid & tartaric acid.
18. Give an account of energy cascade in biological systems.
19. Discuss the principle & applications of Gas-liquid chromatography.
20. a) Elucidate the open chain structure of glucose.
    b) Write the properties of starch.
21. Discuss the preparation and properties of pyrrole.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 2B/6MPZ AC (Upto 16)**

COURSE TITLE : Ancillary Chemistry – II / IV **QN.NO : 4414**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer Any FIVE questions.

1. Define the term isotopes.
2. Define mass defect.
3. State Stark -Einstein's law.
4. Give the reasons for low quantum yield.
5. Outline the preparation of super phosphate of lime.
6. Define fungicides.
7. What is meant by alkaloids?
8. How is citral isolated from natural source?

PART – B (5 x 7 = 35)

Answer Any FIVE questions.

9. Distinguish between chemical reactions and nuclear reactions.
10. State and explain the Group displacement law.
11. Write a note on flash photolysis.
12. Give an account of phosphorescence.
13. With a neat diagram explain the zeolite process for softening of water.
14. Elaborate the classification of pesticides.
15. Draw a flowsheet for the extraction procedure of alkaloids from plant source.
16. Explain how terpenoids are classified?

PART – C (3 x 10 = 30)

Answer Any THREE questions.

17. Give a detailed description of the following:
    a) Carbon dating b) Nuclear fission.
18. Write notes on a) Fluorescence b) Photosensitization
19.. Discuss the role of various elements in plant growth.
20. How will you prepare the following dyes?
    a) Methyl orange b) Bismark brown c) Malachite green
21. How are the following prepared?
    a) Urea b) Mixed fertilizer
    c) DDT d) Bordeaux mixture

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSE CODE : 3C (Upto 2016)**

COURSE TITLE : Organic and Inorganic Chemistry **QN.NO : 4418**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(5 x 2 = 10)**

Answer ALL questions.

1. How is crotonic acid prepared?
2. Mention any one method of preparation of succinic acid.
3. Write the structure of diethyl malonate and laevulinic acid.
4. Mention the ores of Li and Na.
5. How is calcium carbide prepared?

PART – B **(5 x 4 = 20)**

Answer ALL questions.

6. Explain any one method of preparation and any two chemical properties of acid anhydride.
7. Explain any one method of preparation and any two chemical properties of succinic acid.
8. a) Discuss the isolation of noble gases in brief.

   (OR)

   b) Explain any one method of preparation and any two chemical properties of sodium nitrite.
9. a) Write a brief note on the anomalous behavior of Be.

   (OR)

   b) Explain any one method of preparation and any two chemical properties of calcium cyanamide.
10. a) Discuss the extraction of Al from its ore.

    (OR)

    b) Explain the extraction of Be from its ore.

PART – C **(5 x 9 = 45)**

Answer all questions by choosing either (a) or (b)

11. a) Discuss the effect of alkyl and halogen substituents on acidity with suitable examples.

    (OR)

    b) Explain any one method of preparation and any two chemical properties of acid chlorides and amides.
12. a) What is prototrophy and anionotropy? Explain.

    (OR)

    b) Explain any one method of preparation and any two chemical properties of oxalic and malonic acid.

Contd…

13.a) Explain the classification of hydrides with examples.

(OR)

b) Explain any two compounds of noble gases with suitable examples.

14.a) What are borates? Explain the structure of borates.

(OR)

b) Explain the extraction of Sr from its ore.

15.a) Write a short note on the halides of group I elements.

(OR)

b) Write a short note on the hydrides of group III elements.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 3B/5MPZ SC (Upto 2016)**

COURSE TITLE : Clinical Chemistry **QN.NO : 4420**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(9 x 3 = 27)**

Answer ALL questions.

1. What is meant by electrophoresis?
2. Write the relationship between RPM and g.
3. State Beer – Lambert's law.
4. What are radioisotopes? Give examples.
5. Give the clinical significance of LDL & HDL.
6. How can you detect sugar in serum?
7. Write the symptoms and antidotes for mercury poisoning.
8. Enlist the articles to be present in first aid box.
9. Give the first aid for snake bite.

PART – B **(4 x 12 = 48)**

Answer all questions by choosing either (a) or (b)

10.a) i) Describe the moving boundary method of electrophoresis.
ii) Enumerate the application of electrophoretic technique in haemoglobin separation.

(OR)

b) Explain the different types of centrifuges used in clinical laboratory.

11.a) Write notes on the following i) Dialysis ii) Gel filtration.

(OR)

b) Give an account of isotope tracer techniques in biochemistry.

12.a) How is haemoglobin estimated? Give its haematology values.

(OR)

b) Enumerate the routine tests for urine.

13.a) Give a brief account on First aid given for various accidents expected in clinical laboratory.

(OR)

b) Enumerate the antidotes for different types of poisoning.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 3B/5MPZ AC (Upto 2016)**

COURSE TITLE : Ancillary Chemistry- III **QN.NO : 4422**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (9 x 3 = 27)

Answer ALL questions.

1. What are vitamins? Give examples.
2. How is vitamin D formed in the body?
3. Mention the disease caused by the deficiency of vitamin B complex.
4. Name the female sex hormone and their important functions.
5. Give the structure & importance of thyroxin.
6. Calculate the pH value of a solution obtained by mixing 500 ml of 0.1 N CH_3COOH & 500 ml of 0.1 N CH_3COONa. K_a for acetic acid is 1.8×10^5.
7. What are buffer solutions? Give an example.
8. Define pOH.
9. What is meant by EMF?

PART- B (4 x 12 = 48)

Answer all questions by choosing either (a) or (b).

10. a) Discuss briefly the source & physiological role of vitamin B, C & K.

(OR)

b) Elucidate the sources, functions & deficiency of vitamin A, D & E.

11. a) Narrate the source, structure & importance of Androsterone & Testosterone

(OR)

b) Give a detailed account on the following hormones.

i) Estrosterone ii) Progesterone

12. a) i) Write an explanatory note on ionic product of water.

ii) Derive Henderson's equation to calculate the pH of a buffer solution.

(OR)

b) Enumerate the applications of pH & buffer in biological processes.

13. a) i) Write notes on the following

1) relation between EMF & G 2) electrochemical series

ii) Describe the construction and working of calomel electrode.

(OR)

b) i) Define the following terms

1) galvanic cells 2) standard electrode potential

ii) Describe how hydrogen electrode is used for the measurement of pH of aqueous solutions?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Chemistry **COURSE CODE : 3CNM (Upto 16)**

COURSE TITLE : Applications of Chemicals in Human Life **QN.NO : 4423**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (9 x 3 = 27)

Answer ALL questions.

1. What are alloys? Name any two important alloys of copper.
2. What is meant by Pyrotechny? Give examples.
3. Define fertilizer. Explain its classification with examples.
4. What are the colouring chemicals used for hair?
5. What happens when contamination of oils and fats in food?
6. Give any one method of extinguishing fire.
7. Write the disadvantages of corrosion.
8. Give the composition of air.
9. Enlist the effects of the following
   i) air pollution ii) CFC.

PART- B (6 x 8 = 48)

Answer all questions by choosing either (a) or (b).

10. a) What are ferrous alloys? Mention the role of carbon and heat treatment of steel.

(OR)

b) Give a brief account of Match industry.

11. a) Enumerate the role of various nutrient elements in plant growth.

(OR)

b) Discuss the functions of the following fertilizers.
   i) urea ii) super phosphate of lime iii) potassium nitrate

12. a) How are the following cosmetics prepared?
   i) face cream ii) toilet soap iii) shampoo

(OR)

b) Write an explanatory note on food poisons.

13. a) Give a brief account on first aid given for various accidents expected in chemical laboratory.

(OR)

b) Enumerate the antidotes for different types of poisoning.

14. a) Discuss the various methods available for prevention of corrosion of metals.

(OR)

b) How are fuels classified? Give a brief account of advantages & disadvantages of gaseous fuels.

15. a) Discuss the sources and preventive measures of air pollution.

(OR)

b) Write an explanatory note on the following
   i) ozone layer & its depletion
   ii) radioactive pollution - effects of radiation & prevention

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSE CODE : 4C (Upto 2016)**

COURSE TITLE : Organic and Physical Chemistry **QN.NO : 4424**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer ALL questions.

1. Define isolated system with suitable example.
2. What do you mean by heat of reaction?
3. CH_3-CHO + CH_3-CHO + NaOH ---→ ? (CH_3-CH(OH)-CH_2-CHO) 3-hydroxybutanal (aldol)
4. What is stereoisomerism?
5. What is optical activity?

PART – B (5x 4 = 20)

Answer all questions by choosing either (a) or (b).

6. a) State the zeroth law of thermodynamics.

(OR)

b) Explain the following terms:

i) Joule- Thomson effect ii) inversion temperature

7. a) Deduce a relation between C_p and C_v.

(OR)

b) Write a short note on:

i) Heat capacity ii) Heat capacity at constant pressure

8. a) How will you synthesis the following compounds?

i) Diacetone alcohol ii) glyoxal

(OR)

b) Describe the E-Z system of assigning configuration to geometric isomers.

9. a) Write the preparation of maleic acid and fumaric acid.

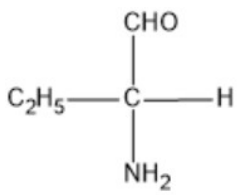
(OR)

b) Write a note on *Erythro* and *Thero* isomers.

10. a) Define the following terms: i) Diastereomers ii) Enantiomers

(OR)

b) Give the configuration symbols (R or S) to the following compounds.



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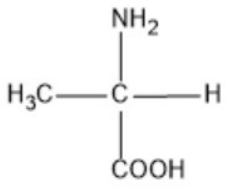

(ii)

Contd…

PART – C (5 x 9 = 45)

Answer all questions by choosing either (a) or (b).

11.a) Derive an expression for work done in isothermal reversible expansion of a gas.

(OR)

b) calculate w, q, ΔE and ΔH in the expansion of a real gas in isothermal reversible expansion.

12.a) Derive an expression for the efficiency of a Carnot's engine working between the two temperatures T_1 and T_2.

(OR)

b) Discuss the following terms with suitable example:

i) heat of neutralizations
ii) Enthalpy of solution
iii) heat of hydration

13.a) Describe the isomerism exhibited by maleic and fumaric acid.

(OR)

b) Discuss the study of pyruvaldehyde and acetal acetone.

14.a) Describe the optical isomerism of lactic acid and tartaric acid.

(OR)

b) Distinguish between absolute configuration and relative configuration.

15.a) Explain the following terms: i) Walden inversion
ii) racemization
iii) resolution

(OR)

b) Enumerate the optical properties of allenes, spirans and diphenyl.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 4B / 3MPZ AC (Upto 16)**

COURSE TITLE : Ancillary Chemistry - IV **QN.NO : 4430**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(9 x 3 = 27)**

Answer all questions

1. Define sulpha drug
2. Explain the term of antimalarial drug.
3. Why is it called as salvarasan 606?
4. When does it mean antibiotics?
5. Write briefly on Maxwell's distribution of molecular velocities.
6. What do you mean by adsorption?
7. What is chemical adsorption?
8. Define catalyst
9. What is meant by the term heterogenous catalyst?

PART – B **(4 x 12 = 48)**

Answer all questions

10.a) Discuss the preparation and application of sulphadiazine and sulphanilamide.

b) Write a short note on chloroquine

11.Explain the following terms: a) arsenical drugs b) antibiotics

12. a) Distinguish between physical adsorption and chemisorption

b) Describe the factors that affected adsorption by solids from solutions.

13. Clarify detailed studies of following terms:

a) acid – base catalyst b) enzyme catalyst c) auto catalyst

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSE CODE : 5C1 (Upto 2016)**
COURSE TITLE : Organic Chemistry - I **QN.NO : 4433**
TIME : 3 Hours **MAX.MARKS :75**

PART – A (4 x $2^1/_2$ =10)

Answer all questions.

1. How do you distinguish primary, secondary and tertiary amines?
2. What is hyperconjugation? Give an example.
3. Write the preparation of TNT.
4. How is cinnamic acid prepared?

PART – B (4x 5=20)

Answer all questions by choosing either (a) or (b)

5. a) Discuss the synthetic importance of diazomethane using any 2 reactions.

(OR)

b) Explain the separation of primary, secondary and tertiary amines with examples.

6. a) Discuss the isolation of aromatic hydrocarbons from coal tar.

(OR)

b) How is the nitration of benzene carried out? Discuss its mechanism.

7. a) Explain the reduction reactions of nitrobenzene under various conditions.

(OR)

b) Explain the preparation of sulphanilic acid and phenylene diamine.

8. a) Discuss any one method of preparation and any two chemical properties of nitrophenol.

(OR)

b) Write the mechanism and explain Perkin reaction.

PART – C (3x 11=33)

Answer all questions by choosing either (a) or (b)

9. a) Discuss any one preparation, two chemical properties, two uses and structure of urea.

(OR)

b) Explain the chemistry of alkyl nitrides, alkyl cyanides and isocyanides with suitable examples.

10. a) Discuss any one preparation, two chemical properties and two uses of Saccharin and Chloramine T.

(OR)

b) Explain any one preparation, two chemical properties and two uses of benzyl chloride and benzal chloride.

11. a) Explain any one preparation, two chemical properties and structure of benzene diazonium chloride.

(OR)

b) Discuss any one preparation, two chemical properties and two uses of benzyl amine and nitroaniline.

12. a) Explain any one preparation, two chemical properties and two uses of anthranilic acid and salicylic acid. **(1 x 12 =12)**

(OR)

b) Explain the mechanism of Benzoin and Claisen condensation.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Chemistry — **COURSE CODE : 5C2 (Upto 2016)**

COURSE TITLE : Inorganic Chemistry - I — **QN.NO : 4434**

TIME : 3 Hours — **MAX.MARKS :75**

PART – A (4 x 2.5 = 10)

Answer ALL questions.

1. Give two ores of Thorium and mention its uses.
2. Write the preparation and uses of spongy platinum.
3. Discuss the variable valency of lanthanides.
4. What are the limitations of Valency bond theory.

PART – B (4 x 5 = 20)

Answer all questions by choosing either (a) or (b).

5a. Discuss the preparation, properties and uses of Thorium nitrate.

(OR)

5b. Write notes on the compound ammonium vanddate.

6a. Write notes on the types of platinum.

(OR)

6b. Write the reactions and uses of the following compounds.

(1) sodium nitroprusside (b) $PtCl_4$.

7a. Write notes on the stability and colour of lanthanides.

(OR)

7b. Discuss the electronic structure of lanthanide elements.

8a. Discuss the stereochemistry of four coordinated complexes with examples.

(OR)

8b. Discuss the splitting of d orbitals CFT. List its limitations.

PART – C (3 x 11 = 33)

Answer all questions by choosing either (a) or (b).

9a. (i) Write the extraction of Titanium from Rutile by Wohlers process. (8)

(ii) Write notes on $Mn(OH)_2$. (4).

(OR)

(P.T.O)

CODE : 5C2 (2008 on) QN.NO : 4434

TITLE : INORGANIC CHEMISTRY I

9b (i) Give the extraction of Vanadium from carnotite ore. (8)
(ii) Discuss the multivalency property of Vanadium. (4)

10a. Give the extraction of copper from its sulphide ore. (11).

(OR).

10b. Discuss the metallurgy of W and give its uses. (11).

11a. Discuss any one method of the separation of lanthanides. (11).

(OR)

11b Write notes on the following.
(i) Lanthanide contraction. (6)
(ii) Magnetic properties of lanthanides (5)

12a. (i) List out the IUPAC rules of naming coordination compounds. (7)
(ii) Give the IUPAC name for the following compounds.
$[Co(NH_3)_4Cl_2]Cl$ and $[Cu(H_2O)_6]SO_4$.
(1 X 12 = 12)

(OR).

12b (i) What are chelates. Give two examples. (4)
(ii) Derive the geometry and magnetic property of the complex $K_4[Fe(CN)_6]$ on the basis of VBT. (7).

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSE CODE : 5C3 (Upto 2016)**

COURSE TITLE : Physical Chemistry- I **QN.NO : 4436**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(4 x $2\frac{1}{2}$ = 10)**

Answer ALL questions.

1. State the second law of thermodynamics.
2. Define Helmholtz free energy.
3. Write short note about Gibb's phase rule.
4. Define i) Paramagnetic ii) Diamagnetic.

PART – B **(4 x 5 = 20)**

Answer all questions by choosing either (a) or (b)

5. a) Prove that [dcp/dp]T = -T [d2v / dT2]P.

(OR)

b) Show that ideal gases Cp – Cv = R.

6. a) Derive the residual property equation for Gibbs energy, volume, enthalpy and entropy.

(OR)

b) Derive the equation relating equilibrium constant and standard free energy change.

7. a) Explain the phase equilibrium in single component systems

(OR)

b) Explain the liquid/liquid solubility diagram for liquid liquid equilibrium.

8. a) What is magnetic susceptibility? and its relationship between molecular structure.

(OR)

b) Discuss the significance/ applications of dipole moment.

Contd…

PART – C **(3 x 11 = 33)(1 x 12 = 12)**

Answer all questions by choosing either (a) or (b)

9. a) Develop equations for evaluating the change in internal energy and change in enthalpy for process involving ideal gases. (11)

(OR)

b) What are different types of thermodynamic diagrams? Explain the method of construction of any two thermodynamic diagrams. (11)

10.a)Explain how the equilibrium constants expressed for gas and liquid phase reactions. (12)

(OR)

b) (i)Describe the effect of reaction conditions on chemical equilibrium conversion. (6)

(ii) Derive the equation relating equilibrium constant and standard free energy change. (6)

11.a) What is eutectic system? Explain phase diagram for simple eutectic system. (11)

(OR)

b) Define reduced phase rule. Describe phase diagram for TWO component Pb-Ag system. (11)

12.a)Why the Langevin-Debye theory of molecular polarization fails in gas phase. (11)

(OR)

b) Dia-magnetic materials have –ve susceptibity – Explain briefly.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSE CODE : 6C1 (Upto 16)**

COURSE TITLE : Organic Chemistry - II **QN.NO : 4440**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (9 x 2 = 18)

Answer All Questions.

1. What are carbohydrates?
2. Define mutarotation.
3. Cyclopropane + $Br_2 \rightarrow$?
4. Give any two uses of pyrrole.
5. Why pyridine is more basic than pyrrole?
6. What is camphor? Write its structural formula.
7. Which of the three intermediates – a nucleophile, an electrophile or a free radical is least stable? Give the reason.
8. Write the preparation of methyl orange (equation only).
9. Distinguish between Reactive intermediates and Transition state.

PART – B (3 x 7 = 21)

Answer all questions by choosing either (a) or (b).

10. How the inter conversion of aldose into a ketose takes place? Explain a suitable example.

(OR)

Write any three preparations of cycloalkanes (3+2+2)

11. a) How pyrrole is synthesized? (4)

b) Write the friedel – crafts acylation reaction in pyrrole. (3)

(OR)

How is the structure of quinolone established? Give its synthesis. (2+5)

12. Discuss any two types of organic reaction with suitable examples (3½ + 3½)

Contd..

(OR)

How free radicals are prepared? (4)

Discuss the stability of free radicals. (3)

PART – C **(3 x 12 = 36)**

Answer all questions by choosing either (a) or (b).

13.Establish the structures of glucose and fructose. (6+6)

(OR)

Write a note on the following:

a) Write short notes on Baeyer's strain theory (6)

b) Discuss briefly on the conformation of cyclohexane (6)

14.Complete the following reactions with suitable reagents and conditions: (two marks each)

i) $C_5H_5N + CH_3I \rightarrow ?$ ii) $C_5H_5N + HNO_3 \rightarrow ?$

iii) $C_5H_5N + H_2SO_4 \rightarrow ?$ iv) $C_5H_5N + Br_2 \rightarrow ?$

v) $C_5H_5N + C_6H_5Li \rightarrow ?$ vi) $C_5H_5N + NaNH_2 \rightarrow ?$

(OR)

a) Discuss the structure of anthracene (5)

b) How alizarin is synthesized from phthalic anhydride? (5)

c) Write the reduction reaction of anthroquinone (2)

15.a) How organic reagents are classified? Explain them in detail. Give three examples each (6)

b) Discuss briefly on the thermodynamic and kinetic control of reaction (6)

(OR)

Explain:

a) Claisen rearrangement (6)

b) Hoffman rearrangement (6)

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSE CODE : 6C2 (Upto 16)**

COURSE TITLE : Inorganic Chemistry - II **QN.NO : 4442**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (9 x 2 = 18)

Answer All Questions.

1. List out the similarities between carbon and Silicon.
2. $SiCl_4$ reacts readily with water while CCl_4 does not. Why?
3. Write notes on lead pigments.
4. What is active nitrogen? How is it produced?
5. Describe and give equation for the Marsh test of Arsenic.
6. What is Inorganic Fertilizer and explain its type with suitable example?
7. Describe the major properties of the halogen elements?
8. What are the properties of Group VI elements?
9. Tell about the interhalogen Compounds.

PART – B (3 x 7 = 21)

Answer all questions by choosing either (a) or (b).

10.a).Show the Dutch process, how is White lead manufactured?

(OR)

b).Explain the chain silicates with examples.

11.a).Write the preparation, properties and structure of hydrazine.

(OR)

b).Discuss the oxidizing and reducing properties of hydroxyl amine

12.a).What are the characteristics of Group VI elements?

(OR)

b).What is pseudo halogens how are they prepared?

PART – C (3 x 12 = 36)

Answer all questions by choosing either (a) or (b).

13.a) Summarize the preparation and properties of different types of Silicones.

(OR)

b).What is silicates? How are they classified? Discuss their structure.

14.a).Justify the inclusion of N, As, Sb and Bi in the same group of the periodic table.

(OR)

b).How is hydrazoic acid prepared? What are its properties? Write the structure also.

15.a).How to prepare the following compounds.

(i) oxyacids of sulphur

(ii) oxyhalides of sulphur

(OR)

b). What are interhalogen compounds? Explain with two examples.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B. Sc. ,Chemistry **COURSE CODE : 6C3(Upto 2016)**

COURSE TITLE : Physical Chemistry -II **QN.NO : 4444**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (9 x 2 = 18)

Answer all questions

1. State Stark Einstein law of photochemical equivalence.
2. What does photosensitization mean?
3. How does the temperature affect the rate of a reaction?
4. Define transport number.
5. What is over voltage?
6. How does the salt bridge differ from the liquid junction potential?
7. Define chemical shift.
8. Mention the point groups for H_2O and NH_3.
9. State Franck – Condon principle.

PART – B (3x 7 = 21)

Answer all questions by choosing either (a) or (b).

10.a) Explain any two symmetry elements and suitable operators (3½+3½)

(OR)

b) Discuss briefly the rotational spectra for a diatomic molecule.

11.a) How the potentiometric titration for a strong acid versus strong base is performed? Explain with suitable example.

(OR)

b) How the solubility product principle is applied in predicting precipitation reactions?

12.a) Discuss on the collision theory of reaction rates.

(OR)

b) Describe the Lindemann theory of unimolecular reactions.

Contd…

PART – C (3x 12 = 36)

Answer all questions by choosing either (a) or (b).

13.a) Elaborate any two spectral vibrations in molecular spectroscopy with help of suitable illustrations.

(OR)

b) Write a note on the following:

i) Instrumentation of ESR (6)

ii) Nuclear Magnetic Resonance Spectroscopy (3)

iii) Proton Magnetic Resonance Spectroscopy (3)

14.a) Derive the rate law expression for the formation of HBr from the reaction: $H_2 + Br_2 \rightarrow 2HBr$.

(OR)

b) i) Discuss briefly on the hydrogen – halogen reactions with respect to the low and high quantum yields. (6)

ii) Account on: 1) Flash photolysis
2) Quantum efficiency
3) Phosphorescence. (2+2+2)

15.a) How the EMF measurements are helpful to determine the following:

i) Solubility product constants (4)

ii) pH from hydrogen and quinohydrone electrodes (4+4)

(OR)

b) i) Discuss the working of lead acid battery (7)

ii) Derive the Nernst equation (5)

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., CHEMISTRY **COURSE CODE : 6C4(Upto 16)**

COURSE TITLE : Pharmaceutical Chemistry **QN.NO : 4446**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (9 x 2 = 18)

Answer all questions

1. Define Pharmacokinetics.
2. Mention the phases of receptors.
3. Define the term molecular pharmacology.
4. Give the basic skeleton of tetracyclin drugs.
5. What are anti-inflammatory steroids? Give an example.
6. What are CNS stimulant drugs? Give an example.
7. Classify discretic drugs.
8. Draw the structure of Aspirin.
9. What do you know about anti tubercular drugs?

PART – B (3 x 7=21)

Answer all questions by choosing either (a) or (b)

10. a) Give an account on concept of bioisosterism and its functions.

(OR)

b) Explain the major process involved in drug action pharmacokinetics.

Contd…

11. a) Notes on the following drugs.
    i) Cyclophosphamide ii) 5 - Fluorouracil.

(OR)

b) Present the structural features and therapeutic uses of caffeine.

12. a) Give the structure and applications of ethambutol.

(OR)

b) Notes on pyrimethamine and diclofenac sodium.

PART – C (3 x 12=36)

Answer all questions by choosing either (a) or (b)

13. a) i) Discuss the drug design by the method of variation.
    ii) Explain pharmacodynamics (9+3)

(OR)

b) Give an account of:
    i) Classification of membrane bound receptors.
    ii) Factors governing drug design. (4+8)

14. a) Write short notes on the following:
    i) Oral contraceptives ii) Anabolic steroids.
    iii) Classification of antineoplastic agents. (3 x 4)

(OR)

b) Explain the following CNS depressant drugs:
    i) Phenelazinc ii) Nortiptyline iii) Desipramine. (3 x 4)

15. a) Write the structure and applications of the following:
    i) Mefenamic acid ii) Ranitidime (6+6)

(OR)

b) i) Discuss the structure and applications of ant inflammatory drugs with example. (7+5)

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSE CODE : 6C5 (Upto 2016)**

COURSE TITLE : Polymer Chemistry **QN.NO : 4448**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(9 x 2 = 18)**

Answer all questions

1. What are living polymers?
2. Write the distinguishing features of addition polymerization.
3. Tabulate the differences between addition and condensation polymerization.
4. Determine the sedimentation velocity.
5. Give the relationship between molecular weight and degree of polymerization.
6. Mention the principle of gel permeation chromatography.
7. Explain Isotactic and Atactic polymers with examples.
8. What is meant by Zeigler – Natta catalyst?
9. Define degree of polymerization with example.

PART – B **(3 x 7= 21)**

Answer all questions by choosing either (a) or (b)

10. a) Explain Free radical polymerization with mechanism.

(OR)

b) Write short notes on bulk polymerization.

11. a) Describe Ultracentrifuge sedimentation in detail.

(OR)

b) Derive Mark – Harwink equation.

12. a) Give a detailed account on the physical properties of polymers.

(OR)

b) Explain the principle and working of XRD.

Contd…

PART – C **(3 x 12 = 36)**

Answer all questions by choosing either (a) or (b)

13. a) Describe Ionic polymerization in detail.

(OR)

b) Write short notes on the following:

i) Addition copolymers

ii) Bulk copolymers

14. a) Explain the oriental architect of polymers.

(OR)

b) Explain Gel permeation chromatography in detail.

15. a) Describe the working principle of IR spectroscopy.

(OR)

b) Draw a neat sketch of NMR spectroscopy and explain in detail.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Botany **COURSE CODE : 2SB (Upto 16)**

COURSE TITLE : Mushroom Cultivation **QN.NO : 4516**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer all questions.

1. Define mushroom.
2. What is spawn?
3. Comment on mushroom bed.
4. Write any two medicinal uses of oyster mushroom.
5. Mention any ingredients of mushroom salad.

PART – B (5 x 7 = 35)

Answer any FIVE questions.

6. Write down the history of mushroom cultivation in India.
7. Describe the steps involved in mother culture preparation for mushroom culture.
8. Write a critical notes on edible mushrooms of India.
9. Briefly explain the types of Indian mushrooms.
10. Explain the culture method of button mushroom.
11. Write a note on mineral and carbohydrate content in mushroom.
12. Explain the energy value of mushroom.
13. Write down the nutritional uses of mushroom.
14. How will you prepare omlet and chips from mushroom?
15. Write down the procedure for mushroom pickle and soup preparation.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Elaborately explain the morphology of mushroom with suitable diagram.
17. How will you cultivate mushroom spawn? Explain.
18. Write an essay on oyster mushroom cultivation.
19. Elucidate the protein and vitamin content in mushroom.
20. Describe the steps in preparation of mushroom sauce and salad preparation.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 3AB (Upto 16)**

COURSE TITLE : Forestry **QN.NO : 4528**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 1 = 5)

Answer all Multiple choice questions by choosing the correct option.

1. Champion and seth categorized the Indian forests into _____ major categories.
   a) 4 b) 5 c) 6 d) 7
2. Sholas – a climax forest type restricted into the areas of_____
   a) Western Gates b) Eastern Gates
   c) Western Himalaya d) Eastern Himalaya
3. Agro forestry is principally _____ system.
   a) afforestation b) deforestation c) intercrapping d) weeding
4. As of 2019, the total forest cover in India is _____
   a) 30.2 % b) 28.4 % c) 26.5 % d) 21.6%
5. Marine biosphere reserve located in Tamil Nadu is _____
   a) Nilgiri b) Gulf of Mannar
   c) Gulf of Kutch d) Nandhadevi

PART – B (5 x 2 = 10)

Answer all questions.

6. What is relict forest?
7. Give note on Myristica – Swamp.
8. Define Social – forestry.
9. Comment on afforestation.
10. Name any two dye yielding plants.

PART – C (5x 6 = 30)

Answer all questions by choosing either (a) or (b).

11. a) Point out the importance of forestry.

(OR)

b) List out the benefits of agroforestry..

12. a) Explain the afforestation programes in India.

(OR)

b) Write note *in situ* conservation strategies.

Contd…

13. a) Mention the important features of timbers.

(OR)

b) Differentiate major and minor forest produces.

14. a) List out the availability of raw materials for paper industry.

(OR)

b) Write an account on botanical sources of gum yielding plants.

15. a) Describe the plant sources of dyes and their importance.

(OR)

b) Discuss the uses of minor forest produces in an day –to – day life.

PART – D (3 x 10 = 30)

Answer any THREE questions.

16. Explain the types of forests in India with vegetation map.
17. Describe the social forestry and its significance.
18. Explicit the causes of deforestation.
19. Analyse the plywood industry and its raw material sources.
20. Write a brief account on aromatic oil yielding plants and their uses.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Botany | **COURSE CODE : 4B (Upto 2016)**

COURSE TITLE : Biochemistry | **QN.NO : 4530**

TIME : 3 Hours | **MAX.MARKS :75**

PART – A (5 x 1 = 5)

Answer all Multiple choice questions by choosing the correct option.

1. The chemical bond which is existing between two aminoacids are called _____ bond.
   a) Glycosidic b) Ester c) Peptide d) Hydrogen
2. Hemoglobin is an example for _____ structure of protein.
   a) primary b) secondary c) tertiary d) Quaterna
3. Enzymes are comparatively _____ than the substrate molecules.
   a) larger b) smaller c) lighter d) thicker
4. The total number of carbon atom in a glucose molecule is _____.
   a) 2 b) 4 c) 6 d) 8
5. Which of the following is an example for polysaccharide?
   a) Glucose b) Fructose c) Sucrose d) Cellulose

PART – B (5 x 2 = 10)

Answer all questions.

6. Comment on globular proteins.
7. Write about aromatic aminoacids.
8. Give note on active site of enzymes.
9. Classify the carbohydrates.
10. What are derived lipids?

PART – C

(5x 6 = 30)

Answer all questions by choosing either (a) or (b).

11. a) Classify the proteins with suitable examples.

(or)

b) What are the biological significance of proteins.

12. a) Describe a structure of an aminoacid.

(or)

b) Write about chemical properties of aminoacids.

13. a) List out the properties of enzymes.

(or)

b) Illustrate the mode of action of an enzyme.

14. a) Describe the structure of sucrose molecule.

(or)

b) What are the properties of polysaccharides?

15. a) Depict the structure triglyceric acid.

(or)

b) Mention the biological role of lipids.

PART – D

(3 x 10 = 30)

Answer any THREE questions.

16. Classify the aminoacids based on its reacti groups.

17. Describe the chemical structure of protein

18. Illustrate the competetive and non-competeti inhibitors in enzyme action.

19. Elaborate the various chemical structure Glucose molecule.

20. Explain the simple and compound protein with their importance.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 4AB (Upto 2016)**

COURSE TITLE : Ethnobotany and Biodiversity **QN.NO : 4536**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 1 = 5)

Answer ALL Questions

1. Who is the Father of Ethnobotany?
   (a) William Harshberger (b) Richard Evans Schultes
   (c) Walter Fewkes (d) S.K. Jain
2. *Withaniasomnifera* belongs to _____ family.
   (a) Apocynaceae (b) Lamiaceae
   (c) Solanaceae (d)Zingeberaceae
3. Which one of the following is NOT a megabiodiverse country?
   (a) Brazil (b) China (c) India (d) Russia
4. Which of the following is an *In situ* conservation method?
   (a) Seed Bank (b) Sacred Groove
   (c) Botanical garden (d) Conservatories
5. Species survive only under cultivation is called_____.
   (a) Vulnerable (b) Least concern (c) Extinct in wild (d) Endangered

PART – B (5 x 2= 10)

Answer ALL Questions

6. What is the basic concept of Ethnobotany?
7. Define 'Ethnopharmacology'.
8. How do you differentiate genetic diversity from species diversity?
9. Define agro-biodiversity.
10. Distinguish between Endangered and Critically Endangered.

Contd...

PART – C (5x 6 = 30)

Answer all questions by choosing either (a) or (b).

11.(a)Comment on the major primitive tribal groups in Tamil Nadu.

(OR)

(b) Can you list down the importance of Ethnobotany.

12.(a) Discuss the distribution and socio-economic details of the Paliyan tribe.

(OR)

(b)Highlight the medicinal importance of *Ocimumtenuiflorum*?

13.(a) Explain the levels of biodiversity.

(OR)

(b)Write the direct and indirect uses of biodiversity.

14.(a) What are the scopes of biodiversity?

(OR)

(b)Give the names of any six endangered plants in Tamil Nadu.

15.(a) Briefly discuss the role of MoEF&CC in the conservation of biodiversity.

(OR)

(b) Discuss the biosphere reserves in Tamil Nadu.

PART – D (3 x 10 = 30)

Answer any THREE questions.

16.Discuss the distribution of Irula tribe in Tamil Nadu and their traditional medicinal knowledge.

17.Describe the morphology and medicinal uses of *Rauvolfia* and *Curcuma*.

18.Analyze the factors causing loss of biodiversity.

19.Explain the IUCN Red List Categories.

20.Discuss the strategies of conservation of natural resources.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Botany | **COURSE CODE : 4BNM (Upto 2016)**

COURSE TITLE : Horticulture | **QN.NO : 4539**

TIME : 3 Hours | **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer ALL questions.

1. Olericulture.
2. Neem oil cakes
3. Root cutting method.
4. Simple layering.
5. Sodium Chloride.

PART – B (5 x 7 = 35)

Answer any FIVE Questions

6. Write down the scope and importance of Horticulture.
7. Draw a design of your kitchen garden.
8. Compare pruning and training with examples.
9. Briefly write about the organic manures required for crops
10. Shortly explain the vegetative propagation methods in horticulture.
11. Comment on limitations of sexual reproduction in plants
12. Write down the technique of approach grafting.
13. Give an account on method of air layering.
14. How do you prepare pineapple jam?
15. What are raw materials required for making mango pickles?

Contd...

PART – C **(3 x 10 = 30)**

Answer Any THREE questions.

16. Write a detail account on "Important Horticultural Research Institutes and Garden" in India.

17. How do you design an Orchard and write down the methods of Orchard creations.

18. Bring out the application of biofertilizers in horticultural crop management.

19. Explain budding techniques in horticulture.

20. Method of tomato pickle preparation – discuss.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Botany **COURSE CODE : 5B2 (Upto 2016)**

COURSE TITLE : Genetics, Breeding and Biostatistics **QN.NO : 4542**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 1 = 5)

Answer ALL questions.

1. The ratio for monohybrid cross is _____
   a) 3 : 1 b) 9 : 3 : 3 : 1 c) 9 : 7 d) 1 : 3 : 1

2. The disease colour blindness is an example for
   a) Sex linked inheritance
   b) Criss-Cross inheritance
   c) Multiple gene inheritance
   d) Complementary genes

3. Institute of Forest Genetics and Tree Breeding is located at
   a) Madurai b) coimbatore c) Theni d) Dindigul

4. The formula for median is
   a) $\left(\frac{n+1}{2}\right)$ b) $\left(\frac{n+1}{n+2}\right)$ c) $\left(\frac{n+1}{4}\right)$ d) $\left(\frac{n+2}{n+2}\right)$

5. The term regression was coined by
   a. John Dalton c. Francis Gralton
   b. Nicolson d. Schmidt

PART – B (5 x 2 = 10)

Answer ALL questions.

6. Define the term Heredity
7. State Hardy-Weinberg Law
8. What is mean by Acclimatization
9. Write short note on frequency distribution
10. List out the types of Probability

(P.T.O)

CODE : 5B2 QN.NO : 4542

TITLE : Genetics, Breeding and Biostatistics

PART – C **(5 x 6 = 30)**

Answer all questions by choosing either (a) or (b).

11. a) Explain Dihybrid cross with suitable example

b) Differentiate - Incomplete dominance and Co dominance

(or)

12 a) Briefly explain the types of Linkage

(or)

b) Comment on multiple gene inheritance with reference to Kernal color in wheat.

13 a) List out the applications of plant breeding.

b) Write down the role of polyploidy in plant breeding

(or)

14 a) Enumerate the kinds of data collection sources

b) Write an account on the measures of central tendency

(or)

15 a) Discuss on binomial and normal distribution

b) Elucidate the applications of computers in statistics

(or)

(P.T.O)

CODE : 5B2 QN.NO : 4542

TITLE : Genetics, Breeding and Biostatistics

-3-

Answer ~~ALL~~ THREE questions. **PART – D** **(3 x 10 = 30)**

16. Describe the complementary genes with suitable example

17. Explain the mechanism of crossing over

18. Write a detailed account on Hybridization techniques

19. Write an elaborate account on the graphic representation of data

20. Comment on the types of correlation.

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SEMESTER EXAMINATIONS – APRIL 2021

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PROGRAMME: B.Sc., Botany **COURSE CODE : 5B3 (Upto 16)**

COURSE TITLE : Morphology & Taxonomy of Angiosperms **QN.NO : 4544**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(5 x 1 = 5)**

Answer ALL questions.

1. Cyathium inflorescence restricted to the genus .
   a) *Ixora* b) *Euphorbia* c) *Knoxia* d) *Hehianthus*
2. *Annona* is an example for _____ fruit.
   a) Compound b) Cypsela c) Aggregate d) Berry
3. Species Plantarum was written by
   a) Bentham & Hooker b) Gamble
   c) Linnaeus d) Thompson
4. First International Botanical congress was held at Paris in the year.
   a) 1713 b) 1813 c) 1913 d) 2013
5. Gynandrophone is found in the flower of _____
   a)*Passiflora* b) *Cleome* c) *Cadaba* d) *Createaeva*

PART – B **(5 x 2 = 10)**

Answer ALL questions.

6. Comment on spike inflorescence.
7. What is OTU?
8. How do you find valid name?
9. Define apocarpous.
10. What is resupination?

PART – C **(5 x 6 = 30)**

Answer all questions by choosing either (a) or (b)

11.a) Describe the various types of phyllotaxy with suitable examples.

(OR)

b) Give a short account on capsule fruits.

12. a) What is artificial classification? Give example.

(OR)

b) List out the significance of molecular taxonomy.

Contd...

13. a) Narrate the history of bionomial nomenclature.

(OR)

b) Explain the effective and valid publication in plant taxonomy.

14. a) Give an account on floral characters of Nymphaeceae with suitable diagrams.

(OR)

b) Illustrate the types of capitulum in Asteraceae.

15. a) Draw and labell the floral diagram of solanaceae.

(OR)

b) Explain the spikelet of Poaceae.

PART – D **(3 x 10 = 30)**

Answer Any THREE questions.

16. Illustrate the types of inflorescence with examples.
17. Give the outline of Bentham and hooker system of plant classification.
18. Elucidate the processes of typification with suitable types.
19. Write a critical account on vegetative and floral characters of cucurbitaceae.
20. Analyse the floral variations in Orchidaceae and list the economic importance.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Botany **COURSE CODE : 6B1(Upto 2016)**

COURSE TITLE : Plant Physiology **QN.NO : 4554**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 1 = 5)

Answer all Multiple choice questions by choosing the correct option.

1. The water remains in the soil particle after gravitational water is drained out.
   a) Hygroscopic b) Capillary c) Gravitational d) rain
2. The Cultivation of plants without soil by using nutritional solution is called_____
   a) Tissue culture b) Aeroculture c) Hydroponics d) Goo tee
3. The type of Photosynthetic pathway is found in succulent plants.
   a) C3 b) CAM c) C2 d) C4
4. Glycol ate pathway is otherwise called as
   a) Photorespiration b) Glyoxylate path way
   c) C2 pathway d) All the above
5. The sudden elongation of floral axis and flowering due to the effect of _____
   a) Auxins b) Gibbrellins b) Cytokinins d) Ethylene

PART – B (5 x 2=10)

Answer ALL questions.

6. Define imbibition.
7. Note on Donnan's equilibrium.
8. State Emerson effect.
9. Comment on Respiratory Quiescent.
10. What are recalcitrant seeds?

PART – C (5 x 6=30)

Answer all questions by choosing either (a) or (b).

11.a) Explain the mechanism of absorption of water by plants.

(OR)

b) Explicit the types of transpiration.

12.a) List out the nutritional element deficiency symptoms in plants.

(OR)

b) Give an account on active absorption of minerals.

13.a) Write a detail account on photosystems in higher plants.

(OR)

b) Enlist the role of Rubisco.

Contd…

14.a) Explain the step-wise reactions in Glycolysis .

(OR)

b) Expound the symbiotic nitrogen fixation.

15.a) Enumerate the physiological role of cytokinins.

(OR)

b) What are the methods used for overcome seed dormancy.

PART – D (3x10=30)

Answer any THREE questions.

16.Critically analyse the mechanisms of stomatal movement.

17.Elaborate the process involved in translocation of organic solutes.

18.Give a comparative account on C3 and C4 pathways.

19.Give the outline of HMP Pathway and its significans.

20.Describe the photoperiodism and physiology of flowering.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Botany | **COURSE CODE : 6B2 (Upto 2016)**

COURSE TITLE : Microbiology | **QN.NO : 4556**

TIME : 3 Hours | **MAX.MARKS :75**

PART – A (5 x 1 = 5)

Answer ALL questions.

1. Who is father of microbiology ?
a) Antony Van Leeuwenhoek b) Louis Pasteur
b) c) Koch d)Jhon Tyndall
2 The maximum bacterial growth occurred in _____ phase
a) Lag phase b) Log phase c) Statoinary phase d)Decline phase
3. Which is used for physical method of sterilization in the following?
a)Temperature b) Pressure c) Radiations d) All the above
4. Which of the following is a milk product?
a)Yoghurt b) Cheese c) Both A&B d) Vinegar
5. HIV is a disease
a) Bacterial b) Fungal c) Viral d) All the above

SECTION—B

Answer All questions (5x2=10)

Write short notes on the following

6. Plasmids
7. Generation time
8. Sterilization
9. Yoghurt
10. TMV

SECTION—C

Answer ALL questions (5x6=30)

11. a. Enlist Koch postulates (OR)
b. Comment on chemistry of gram -ive and gram +ive bacterial cell wall
12. a. Enlist the phases of bacterial growth curve (OR)
b. Discuss different direct methods to measure the bacterial growth
13. a. What are the temperatures methods are using for sterilization of microorganisms? (OR)
b. How radiations are used for sterilization technique and discuss.
14. a. Give a brief account on preparation of bread (OR)
b. Write production procedure of vinegar
15. a. Bringout the properties of viruses (OR)
b. Write an essay about T_4 phage

SECTION — D

Answer ANY THREE questions (3x10=30)

16. Describe in detail structure of bacteria with neat sketches
17. Give in detail account on TCA cycle taking place in bacteria.
18. What is sterilization? Discuss the chemical methods.
19. Explain the biological treatment of seawage water.
20. Describe the lytic cycle of viruses.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Botany | **COURSE CODE : 6B3 (Upto 2016)**

COURSE TITLE : Biotechnology | **QN.NO : 4558**

TIME : 3 Hours | **MAX.MARKS :75**

PART – A (5 x 1 = 5)

Answer ALL questions. by choosing correct answer.

1. A typical fermentor is made up of
   a) Glass b) Wood c) Steel d) Iron.
2. Calcium chloride – Sodium alginate immobilisation works under the principle of
   a) Encapsulation b) Entrapment c) Adhesion d) Adsorption
3. Earlier commercial insulin production was done using
   a) Bacteria b) Fungi c) Pig d) Mice.
4. The first Drosophila gene map was created by
   a) Francis Crick b) James Watson c) Muller d) Alfred Sturtevant
5. This designs primers specific to your PCR template
   a) Smart blast b) Primer Blast c) Vec Screen d) Ig Blast.

PART – B (5 x 2 = 10)

Answer ALL questions.

6. Define the term fermentor
7. What is the use of immobilisation?
8. Write the meaning of gene therapy.
9. Define genomics
10. What are databases?

PART – C (5 x 6 = 30)

Answer all questions by choosing either (a) or (b).

11. a) List the characters of an ideal fermentor

    (or)

    b) What the steps in downstream processing

Contd...

CODE : 6B3 QN.NO : 4558

TITLE : Biotechnology II

12 a) What are the methods of immobilisation ?

(or)

b) List the biochemistry of biogas production.

13 a) Write the composition of insulin protein ?

(or)

b) What are uses of DNA vaccines.

14 a) Define the term computer ? Write its components & uses.

(or)

b) How is a gene isolated ?

15 a) Comment on the term database ? Write its types

(or)

b) Write the applications of PIR.

PART – D (3 x 10 = 30)

Answer ALL questions.

16 Explain the design and the types of a fermentor

17 Describe the steps in mushroom cultivation

18 Discuss the importance of monoclonal antibodies and their production

19 Write in detail the uses of proteomics and the tools in proteomics

20 Define BLAST. Write its applications

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Botany | **COURSE CODE : 6SB**

COURSE TITLE : Forestry | **QN.NO : 4566** (UPTO.16)

TIME : 3 Hours | **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer ALL questions.

1. Who proposed the Indian forest classification in 1968?
2. Define silviculture.
3. Name any two wildlife sanctuaries in Tamil Nadu.
4. Name any four common agroforestry trees.
5. Comment on Palmarosa oil.

PART – B (5 x 7 = 35)

Answer any FIVE questions.

6. What are the causes of deforestation?
7. Mention any two afforestation programmes.
8. State about status of natural forests in India.
9. Explicit the artificial forest regeneration.
10. Write note on any one national parks in Southern India.
11. List out the objectives of social forestry.
12. Give a short account on dye yielding plants.
13. Point out the boon of minor forest products.
14. Discuss the timber yielding trees in Indian forests.
15. What are the role of forests in availability

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Analyze the possible techniques for afforestation.

17. Elaborate the practices of silviculture.

18. Discuss the wildlife management programmes in India.

19. Write in detail procedure involved in agroforestry.

20. Give an elaborate account on gum, resin and medicinal plants in Indian forest sources.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 2Z1(Upto 16)**

COURSE TITLE : Agricultural Entomology **QN.NO : 4610**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all the questions.

1. What is rice bug?
2. What is sugar cane leaf hopper?
3. What is *Earias fabia*?
4. Comment on stored grain pests.
5. Comment on insect scavengers
6. What is entomophily?
7. List out the pests based on their mode of action.
8. What is indigenous pest management?
9. What is biological control?
10. Comment on transgenic technology.

PART – B **(5x 4 = 20)**

Answer any FOUR questions.

11. Write an account on pests of vegetables.
12. Give a short account on pests of banana.
13. Give an account on the medicinal uses of insects.
14. Highlights the weed control insects.
15. Write briefly about the indigenous pesticides.
16. Highlight the technique of pest management.
17. Give an account on the role of biotechnology in biological control of pests.
18. Write an account on the conservation and augmentation of pathogens.

PART – C **(3 x 15 = 45)**

Answer any THREE questions.

19. Give a detailed account on the nature of attack, biology and control measures of pests of paddy.
20. Explain in detail about the insects used as food and plant pollinators.
21. Write an essay on the various types of pesticides.
22. Describe a detailed account on the pests of sugarcane.
23. Discuss a detailed account on the biology of parasitoids and their role in pest control.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 2Z2(Upto 16)**

COURSE TITLE : Aquaculture **QN.NO : 4612**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all the questions.

1. What is fresh water aquaculture?
2. What is mariculture?
3. What is induced breeding?
4. Comment on open system fish seeds transport.
5. Comment on smoking
6. What is food conversion ratio?
7. List out the live feeds of freshwater fishes.
8. What is artificial feed?
9. What is shellfish culture?
10. Comment on shrimp seed collection.

PART – B (5x 4 = 20)

Answer any FIVE questions.

11. Write an account on the scope of aquaculture.
12. Give a short account on tilapia.
13. Give an account on the construction of fresh water fish ponds.
14. Highlights the management of fish forms.
15. Give an account on artificial feed formulation.
16. Write an account on feeding rates and schedule of fresh water fish culture.
17. Briefly explain the culture of marine prawn.
18. Write a short account on the culture of freshwater prawn.

PART – C (3 x 15 = 45)

Answer any THREE questions.

19. Give a detailed account on the type of freshwater aquaculture in
20. India.
21. Explain in detail about the preservation of fishes.
22. Write an essay on the live feed organisms.
23. Describe a detailed account on the edible oyster culture.
24. Discuss a detailed account on Indian major carps.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 2C / 4B AZ (Upto 16)**

COURSE TITLE : Economic Zoology **QN.NO : 4618**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 3 = 15)

Answer any FIVE questions.

1. Define: Bee venom
2. Explain: Moriculture
3. Different breeds of poultry
4. List out the economically important cattle breeds available in Tamil Nadu
5. Write the types of fins in fishes
6. Write different types of pearls
7. List out the pests attack in paddy field
8. Common chemical pesticides applied in sugarcane

PART – B (2 x 10 = 20)

Answer any TWO questions.

9. What are the uses of Bee wax?
10. Explain the nutrition requirement poultry birds
11. Discuss the culture methods of pearls
12. Explain the chemical and biological control methods of cotton pest

PART – C (2 x 20 = 40)

Answer any TWO questions.

13. Discuss the life cycle of mulberry silkworm
14. Write an essay on principles of dairy farming
15. Discuss the culture methods of Indian major Carps
16. Give an account of integrated pest management

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 3Z (Upto 16)**

COURSE TITLE : Biochemistry and Biochemical Techniques **QN.NO : 4622**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 2 = 20)**

Answer all the questions.

1. Anticoagulants.
2. Prevention of rancidity.
3. Co-enzyme.
4. Anti enzymes.
5. Gluconeogenesis.
6. Transamination.
7. Radioactivity.
8. Radioactive isotopes.
9. Paper chromatography.
10. Applications of centrifugation.

PART – B **(5 x 5 = 25)**

Answer all questions by choosing either (a) or (b).

11.a) Give an account on any two Disaccharides

(OR)

b) Write a short note on simple lipids

12.a) Explain lock and key Hypothesis

(OR)

b) Describe the mechanism of enzyme inhibition.

13.a) Write a note on glycogenesis.

(OR)

b) Comment on deamination in protein metabolism.

14.a) State the principles of tracer technique in biology

(OR)

b) Give an account on Autoradiography.

15.a) Explain in brief about TLC.

(OR)

b) Discuss about spectrophotometer.

Contd…

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Write an essay on fat soluble vitamins.
17. Discuss in detail about factors affecting enzyme action.
18. Give an account on Kreb's cycle.
19. Explain in detail on the effect of radiation on biological system.
20. Write a note on poly acrylamide gel electrophoresis

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 3C AZ(Upto 16)**

COURSE TITLE : Essentials of Physiology and Microbiology **QN.NO : 4626**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 3 = 15)

Answer any FIVE questions.

1. Select the role of kidney in acid base balance.
2. Briefly explain the formation of urine.
3. Comment on Oestrogen and Prolactin.
4. Mention the various birth control methods.
5. Inspect the working principles of Autoclave.
6. Determine the process of pasteurization.
7. Write about the pathology of Cholera?
8. What are the symptoms and mode of transmission of Rabies virus?

PART – B (2 x 10 = 20)

Answer any TWO questions.

9. Discuss about the digestive glands in human digestive system, their secretions and functions.
10. Explain the process of the menstrual cycle.
11. What is culture media? Examine the various components of a typical culture medium.
12. Describe the different mode of transmission of HIV virus. Add a note on the preventive measures of HIV infection.

PART – C (2 x 20 = 40)

Answer any TWO questions.

13. Draw a neat labeled diagram of Alimentary canal and explain its structure.
14. Elaborate the structure of kidney with neat diagram.
15. Discuss the different stages of the bacterial growth curve.
16. Write an account of symptoms, transmission, pathogenesis and their control measures of *Mycobacterium tuberculosis*.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 3B AZ (Upto 2016)**

COURSE TITLE : Fundamentals of Invertebrates and Chordates **QN.NO : 4628**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 3 = 15)

Answer any FIVE questions.

1. Schizont
2. Draw and label the mouth parts of Cockroach
3. List out the respiratory organs in Arthropods
4. Madreporite
5. Bird navigation
6. Neurotoxin
7. Synsacrum
8. Adaptive radiation in Metatheria

PART – B (2 x 10 = 20)

Answer any TWO questions.

9. Explain the Golgi cycle
10. Explain the mechanisms involved in respiratory system of arthropods
11. Explain the salient features of migration in birds
12. Briefly discuss the poisonous snakes of South India

PART – C (2 x 20 = 40)

Answer any TWO questions.

13. Give an account of parasitic adaptation of Plasmodium
14. Write an essay on water vascular system in Starfish
15. Discuss the flight adaption in birds
16. Write an essay on adaptive radiation in mammals

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Zoology **COURSE CODE : 3ZNM (Upto 16)**

COURSE TITLE : Economic Zoology **QN.NO : 4629**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 3 = 15)

Answer any FIVE questions.

1. State the main role of a worker bee.
2. Explain the silkworm species that are best for sericulture in India.
3. Write down the scientific classification of Lac insect.
4. What are the nutritive values of fishes?
5. Write a short note on the steps involved in freshwater pearl culture in India.
6. Differentiate between the natural and cultured pearl.
7. Briefly State the advantages of Chicken farming.
8. Mention about the Indigenous dairy breeds of cattle.
9. Enlist any three economic characters in dairy cattle.

PART – B (3 x 8 = 24)

Answer any THREE questions.

10. Add a note on the nutritive value of Egg.
11. How are the Indigenous Ducks economically important?
12. Comment on the distinctive characters of Indian cattle.
13. With a neat sketch & label, describe the life cycle of Mulberry silkworm
14. Explain the comb building mechanism of worker bees.

PART – C (3 x 12 = 36)

Answer any THREE questions.

15. Explain the morphology and function of the Queen bee.
16. Define the terms: (a) Defective cocoons (b) Steam stifling (c) Sun drying
17. Give economic importance of Fishes.
18. What is pearl? Explain the formation of pearl in natural and cultured methods.
19. State the advantages and disadvantages of egg production in layer cages.
20. Why is milk called an ideal food? Explain in detail on the nutritive components of milk.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 4Z (Upto 2016)**

COURSE TITLE : Cell & Development Biology **QN.NO : 4630**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer any FIVE questions.

1. Define Microscopy**.**
2. Write down the principle of SEM**.**
3. What is meiosis?
4. Write down the primary function of sperm**.**
5. Define fertilization**.**
6. What is Oogenesis**?**
7. What is puberty?

PART – B (5 x 7= 35)

Answer any FIVE questions.

8. With neat diagram explain the principle of Electron microscope.
9. Explain the structure of Mitochondria.
10. With neat flow diagram explain Kreb's cycle.
11. Describe gametogenesis.
12. Explain the types of eggs and egg membrane.
13. Explain menstrual cycle.
14. Write down the merits and demerits of test tube baby.

PART – C (2 x 15= 30)

Answer any TWO questions.

15. Explain the structure, composition and functions of plasma membrane.
16. Explain mitosis with suitable diagrams.
17. Describe the development of eye in chick.
18. Explain pregnancy related problems and add a note on causes of infertility**.**

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 4SZ (Upto 16)**

COURSE TITLE : Ornamental Fish Culture **QN.NO : 4634**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 2 = 10)

Answer Any FIVE questions

1. Aquarium.
2. Types of ornamental fishes.
3. Squeezing gun.
4. Aquatic aerator.
5. Water quality in aquarium.
6. guppy.
7. Koi carp.

PART – B (5x 7 = 35)

Answer any FIVE questions

8. List out the significance of ornamental fish culture.
9. Enlist the types of ornamental fishes with examples.
10. Classify the aquarium based on salinity.
11. Prepare the feeding schedule of aquarium fishes.
12. Explain the maintenance of aquarium fish culture.
13. Describe the salient features of Angel fish.
14. Illustrate the breeding methods of ornamental fishes.

PART – C (2 x 15 = 30)

Answer any TWO questions

15. Explicit the exporting and importing ornamental fishes.
16. Write down the procedure for setting an aquarium.
17. Discuss the precaution measures in purchasing the ornamental fishes.
18. Explain the breeding techniques used for Gold fish and Molly.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 5Z1 (Upto 16)**

COURSE TITLE : Biodiversity & Conservation Biology **QN.NO : 4642**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer any TEN questions.

1. Define Niche
2. Define Feeding guild
3. Explain Ecotone
4. Briefly explain Edge effect
5. What is biodiversity hotspot?
6. What are the criteria for endangered species?
7. What are the four major techniques used for census?
8. Define Shannon index
9. Define *in-situ* conservation
10. Define gene bank
11. Expand IUCN
12. What is the role of Central zoo authority in biodiversity conservation?

PART – B (5 x 4 = 20)

Answer any FIVE questions.

13. Explain natality and mortality
14. How population fluctuation affects the dispersal of a species
15. Give a comparative account of global and Indian biodiversity
16. Discuss the ecosystem diversity in India
17. Briefly explain the quadrat and transect sampling method
18. When Morisita Horn Index and Jaccard Index will be used and explain the same with suitable example
19. Explain the role sacred groves in biodiversity conservation
20. How cryopreservation technique used for biodiversity conservation
21. Explain the role of FAO in biodiversity conservation

Contd...

22. Discuss he structure and role of National biodiversity authority in biodiversity conservation

PART – C

(3 x 15 = 45)

Answer any THREE questions.

23. Explain the characteristics of a community

24. Discuss various components in a forest ecosystem

25. Discuss the threats to biodiversity

26. Explain the census methods involved in primates and birds

27. Give an account on Wildlife protection Act and Environmental Protection Act

28. Write an essay on orgainasation associated with biodiversity management

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 5Z2 (Upto 16)**

COURSE TITLE : Molecular Biology and Genetics **QN.NO :4644**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer any TEN questions.

1. Name the nitrogen bases in DNA.
2. How are prokaryotic ribosomes different from eukaryotic ribosomes?
3. Define Translation.
4. Classify the primary types of RNA.
5. Write the characteristic feature of a muton.
6. What is a triplet code?
7. Which bases are purines and pyrimidines?
8. What did Hershey and Chase prove?
9. Why are the Okazaki fragments formed?
10. Name any two enzymes involved in replication of DNA.
11. Why is animal breeding important in the field genetics. Substantiate your answer with an example.
12. What is meant by inborn errors of metabolism?

PART – B (5 x 4 = 20)

Answer any FIVE questions.

13. Discuss on the structure of ribosome with a neat sketch.
14. Distinguish between the Transcription and Translation of DNA.
15. Write a short note on the causes of mutation.
16. Describe the structure of the lac operon with a neat sketch.
17. Describe Griffith's experiments with genetic transformation in bacteria.
18. Write an essay on biological mutagens.
19. Differentiate between conservative and dispersive models of DNA replication.
20. List out the enzymes involved in the eukaryotic DNA replication.
21. Define positive eugenics. Mention a note on its history.
22. Outline the physical signs of genetic disorders in child.

Contd…

PART – C (3 x 15 = 45)

Answer any THREE questions.

23. Illustrate detailed structure of DNA with suitable diagram.
24. Explain the process of translation in protein synthesis.
25. In brief, categorize the different types of genes.
26. Describe the various stages of DNA replication.
27. What is Semi conservative mode of replication? Explain with Meselson – Stahl experiment.
28. Write a detailed note metabolic disorders.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 5Z3 (Upto 16)**

COURSE TITLE : Animal Physiology and Animal Behaviour **QN.NO : 4648**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer any TEN questions.

1. Balanced diet
2. Trace elements
3. Pancreas
4. Duodenal glands
5. Heart beat
6. ECG
7. Supplemental air
8. Bronchus
9. Neurons
10. Nerve impulse
11. Tropism
12. Circadian

PART – B (5 x 4 = 20)

Answer all questions by choosing either (a) or (b).

13.a) What are food constitutions? Explain.

(OR)

b) Explain the types of respiratory organs.

14.a) Enumerate the functions of blood.

(OR)

b) Describe the structure of pituitary gland.

15.a) Write notes on ionic regulation in freshwater fishes.

(OR)

b) Write briefly on osmoregulation in fishes.

16.a) Mention the types of neurons.

(OR)

b) Highlight the chemistry of muscle contraction.

Contd..

17. a) Enlist the types of animal behaviour.

(OR)

b) Critically comment on "Conditioned reflexes"

PART – C (3 x 15 = 45)

Answer any THREE questions.

18.Give an account on the gastro intestinal hormones in digestion.

19. Describe the transport mechanisms of carbon dioxide.

20.Explain the conduction and regulation of heart beat

21.Write an essay on physiology of hibernation and aestivation.

22.Elaborate the ultra-structure and properties of muscle contraction.

23.What is meant by biological clock? Explain with examples.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 6Z1 (Upto 2016)**

COURSE TITLE : Microbiology and Immunology **QN.NO :4654**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer any TEN questions.

1. Who accidentally identified the antimicrobial action of penicillin?
   a) Robert Koch b) Richard Petri c) Alexander Fleming d) Louis Pasteur
2. Sabouraud Dextrose Agar is use to cultivate bacteria.
   a) Bacteria b) Fungi c) Algae d) Virus
3. A 'polysaccharide' that helps bacteria in adherence to surface is named as
   a) Granule b) Glycocalyx c) Mesosome d) Nucleoid
4. Rabies is also known as
   a) Hydrophobia b) Acrophobia c) Autophobia d) Hemophobia
5. Which of the following microbe is used in the production of blue cheese?
   a) Streptococcus thermophiles b) Lactobacillus bulgaricus
   c) Penicilliumroqueforti d) Rhizopusstolonifer
6. Bacteria which is present in raw or undercooked meat, eggs, sea food and unpasteurized milk is
   a) *E.coli* b)*Salmonella* c*) Staphylococcus* d) Cyano bacteria
7. Which type of pathogen is an organism that lives off its host and causes malaria?
   a)Virus b)Bacteria c) Parasite d) Fungi
8. For which of the following organisms is there no known animal reservoir?
   a) Francisellatularensis *b) Bordetella pertussis*
   c) Brucellamelitensis *d) Yersinia pestis*
9. Neutrophils,eosinophils and basophils are known as :
   a) Astocytomas b) Platelets c) Granulocytes d) Buffers
10. The innate immunity obtained from the
    a) Environment b) Parents c) Microbes d) Chemicals
11. Immunity acquired after an infection is
    a) active immunity b) Passive immunity
    c) Innate immunity d) Both B and C
12. Segments of antigen that are recognized by antibody are
    a) Memory regions b) Epitopes c) ondeterminants d) Self limitation

Contd...

PART – B (5 x 4 = 20)

Answer any FIVE questions.

13. List the culture media used for culturing of microorganisms
14. Explain with neat diagram of growth curve
15. What are the microbial techniques employed for determination of water contamination?
16. What is pasteurization? Write the significance of pasteurization.
17. Write a short note on viral Hepatitis and preventions
18. What is tuberculosis? Explain the causative organism and prevention of TB.
19. Lists the immune system in animals and briefly explain any two of immune system.
20. Explain the types of immunity.
21. Illustrate and explain on complement
22. Explain on ABO Blood group testing

PART – C (3 x 15 = 45)

Answer any THREE questions.

23. Write about history and scope of Microbiology
24. Discuss on Whittaker's five kingdom concept of classification
25. Discuss on biological nitrogen fixation and their mechanism.
26. What is AIDS? What does AIDS to do the body? What are symptoms, diagnosis and treatments for AIDS

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 6Z2 (Upto 2016)**

COURSE TITLE : Biotechnology **QN.NO :4656**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer any TEN questions.

1. The cos site in cosmid vector has _____bp.
   a)14 b)16 c)12 d)18
2. Method of selection in pUC18 is _____.
   a) Insertional inactivation b)Blue-white screening
   c) Plaque hybridization d)Colony hybridization
3. Binding of primer to template in PCR is
   a) Denaturation b) Complementation
   c)Extension d)Annealing
4. GATT stands for _____ .
   a) General Agreement on Tariffs and Trade
   b) Global Agreement on Tariffs and Trade
   c) General Agreement on Tax and Tariffs
   d) Global Agreement on Tax and Tariffs
5. Recombinant insulin is
   a) Humotrophin b) Humulin c) Inullin d) Kogenate
6. Organism bearing exogenous DNA is_____.
   a) Transgenesis b) Transgenics c) Euthenics d)Transthenics
7. Natural genetic engineer is
   a) *Agrobacterium tumefaciens* b) *Agrobacterium rhizogenes*
   c) *Rhizobium nodulans* d) *Bacillus thermophilus*
8. "Bt" in Bt cotton refers to _____.
   a) *Bacillus thermophilus* b)*Bacillus thrungiensis*
   c) *Baculo thermotogama* d)*Baculo thermophilus*
9. Fermentation of yoghurt is done by_____
   a) *Lactobacillus delburki* b) *Saccharomyces cerevisiae*
   c) *Escherichia coli* d) *Bacillus subtilis*
10. Biogas production is done under _____ condition.
    a) Aerobic b) Anaerobic c)Microaerophilic d)Thermophilic
11. Superbug is constructed from_____
    a)*Pseudomonas putida* b)*Alcaligens luteus*
    c)*Escherichia coli* d)*Agrobacterium rhizogenes*
12. Biomining is also known as ____.
    a) Bioremediation b) Bioaugmentation
    c) Bioleaching d)Bioprocessing

Contd..

PART – B (5 x 4 = 20)

Answer any FIVE questions.

13. Write the significance and importance of biotechnological organizations in India.

14. Compare and contrast the physical methods of gene transfer.

15. Comment your views on pros and cons of transgenic animals.

16. Outline the production of recombinant interferons.

17. List out and give brief notes on Biosafety guidelines.

18. Summarize the applications of Plant tissue culture.

19. Enlist the microbial enzymes of fermentation industry.

20. Discuss about Biofertilizers with suitable examples.

21. Enlighten your views on solid waste management.

22. Write short notes on Gene Bank.

PART – C (3 x 15 = 45)

Answer any THREE questions.

23. Explain in detail about the various types of Phage cloning vector with neat labeled sketch.

24. Appreciate the principle,components and steps involved involved in PCR.

25. Describe the production of monoclonal antibodies by Hybridoma technology

26. Illustrate the mechanism of Agrobacterium mediated gene transfer in plants.

27. Give and elaborate account on biogas production and list down the merits.

28. How will you ensure biomass production through forestry ? Explain.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 6Z3 (Upto 16)**

COURSE TITLE : Biophysics, Biostatistics and Bioinformatics **QN.NO :4658**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer any TEN questions.

1. What is meant by biophysics?
2. Define osmosis.
3. What is meant by Tyndall effect?
4. Neatly draw the quaternary structure of protein.
5. What is primary data?
6. Write any one of the types of variables.
7. What is histogram?
8. Draw a pie diagram.
9. Expand CPU.
10. What is internet?
11. Define bioinformatics.
12. What is a data base?

PART – B **(5 x 4 = 20)**

Answer any FIVE questions.

13. Explain the mechanism of dialysis and add a note on its role in artificial kidney.
14. Explain entropy and enthalpy.
15. Write down the types of classification of data with suitable examples.
16. Distinguish between primary and secondary data with examples.
17. Write down any four types of averages.
18. What is chi-square test? Explain its applications in Zoology.
19. Compare sequences FASTA and BLAST.
20. Explain the methods to access and download genome sequences.

PART – C **(3 x 15 = 45)**

Answer any THREE questions.

21. Discuss the scope of biophysics and write down the types and biological importance of colloids.
22. Explain the structure of protein.
23. Describe the types of variables.
24. Explain the diagrammatic representation of data.
25. Describe the basic components of computer.
26. Discuss the history and scope of bioinformatics.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 6SZ (Upto 2016)**

COURSE TITLE : Animal Farming **QN.NO : 4664**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 3 = 15)

Answer any FIVE questions.

1. Debeaking.
2. Poultry feed formulation.
3. Breeds of poultry.
4. Heifer
5. Mastitis
6. New form calf.
7. Sausage.
8. Bristles.
9. English class breed.

PART – B (3 x 8 = 24)

Answer any THREE questions.

10. Explain the summer and winter management of broilers.
11. Assess the role of eggs in human nutrition.
12. Discuss the important breeds of cattle.
13. Highlight the nutritive value of milk.
14. Give an account on artificial insemination of pig.

PART – C (3 x 12 = 36)

Answer any THREE questions.

15. Explain in detail the causative organism, symptoms and control measures of poultry diseases.
16. Discuss elaborately the livestock diseases.
17. Give an account on the management of growers and layers.
18. Describe the management of cow.
19. Elucidate the feeding and management of pig.
20. Explain in detail the types of diseases and its control measures in pigs.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 6B AZ (Upto 16)**

COURSE TITLE : Molecular Biology Biotechnology & Immunology **QN.NO :4666**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(5 x 3 = 15)**

Answer any FIVE questions.

1. Elucidate the structure of tRNA.
2. Brief about the genetic code of start and stop codons.
3. Draw and explain the genetic map of pBR322.
4. Mention the importance of biofertilizers with examples.
5. List out the salient features of superbug.
6. Enlist the applications of biosensors.
7. Classify the types of immunity.
8. Distinguish T and B cells of immune system.

PART – B **(2 x 10 = 20)**

Answer any TWO questions.

9. Outline the molecular basis of mutation.
10. Discuss about Transgenic animals with suitable examples.
11. Criticallly comment on Biopesticides.
12. Describe the organs of the immune system

PART – C **(2 x 20 = 40)**

Answer any TWO questions.

13. Illustrate the mechanism of DNA replication.
14. Give an elaborate account on Hybridoma technology.
15. Write in detail "the role of Thiooxillus thioxidants in ore leaching".
16. Explain the structural configuration of antibodies with their functions.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Biotechnology **COURSE CODE : 2SBT (Upto 2016)**

COURSE TITLE : Aquaculture, Apiculture and Vermiculture technology **QN.NO : 4718**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 4 = 20)

Answer any FIVE questions.

1. Write brief note on freshwater culture system and its types?
2. What are the factors responsible for the production of Pearls?
3. How do bees maintain the hive temperature during summer?
4. Mention the importance of bee keeping.
5. What is average life period of a Worker, Drone and Queen bees?
6. Brief account on the requirements for earthworm culture.
7. What are the conditions favourable for earthworms?
8. Select the various advantages of vermicompost.

PART – B (3x 10=30)

Answer any THREE questions.

9. Discuss about the brackish water resources in India.
10. Describe the process of culture of marine pearl producing oysters and their chemical composition.
11. Explain the structure of a bee colony.
12. Demonstrate the different species of honey bees and their distributions.
13. What is Vermicomposting? Explain the process of vermiculture.

PART – C (1 x 25 = 25)

Answer any ONE question

14. Explain the various steps involved in Prawn culture and List out the two species in Indian prawn culture.
15. Discuss about the product and byproduct of Apiculture.
16. Give an account on the use of earthworms on biodegradation of organic waste materials.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Biotechnology **COURSE CODE : 2ABT1(Upto 16)**

COURSE TITLE : Metabolism of Biomolecules **QN.NO : 4720**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 3 = 15)

Answer any FIVE questions.

1. Prototrophy
2. Chemolithotrophs
3. ATP
4. FADH
5. Transamination
6. Putrefaction
7. Oxidation
8. Unsaturated Fatty acids

PART – B (3 x 8 = 24)

Answer any THREE questions.

9. Differentiate between catabolism and anabolism.
10. Discuss the Gluconeogenesis in detail.
11. Discuss HMP shunt with flowchart.
12. Give an account on the following
    a) Deamination b) decarboxylation
13. Explain the biosynthesis of saturated fatty acids.
14. Write a detailed note on Ketogenesis.

PART – C (2 x18 = 36)

Answer any TWO questions.

15. Explain the different kinds of metabolism in plants and animals.
16. Illustrate the TCA cycle in detail.
17. Elaborate the metabolism of Glycine and Tryptophan.
18. Discuss in detail about the oxidation of fatty acids.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Biotechnology **COURSE CODE : 2ABT2 (Upto 16)**

COURSE TITLE : Physiology **QN.NO : 4722**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 3 = 15)

Answer any FIVE questions.

1. Hematology
2. WBC
3. Renal system
4. Acid-base balance
5. Respiration
6. Hyperbaric condition
7. Retina
8. Neurophysiology

PART – B (3 x 8 = 24)

Answer any THREE questions.

9. Discuss the structure and function of RBC.
10. Discuss the mechanism of coagulation. Add note on anticoagulants.
11. Give an account on regulation of extracellular sodium and osmolarity.
12. Explain the principle of oxygen-carbondioxide exchange in detail.
13. Write a detailed note on muscle contraction.
14. Enlist the receptors and neural functions of retina.

PART – C (2 x18 = 36)

Answer any TWO questions.

15. Explain the organization and physical structure of a cell.
16. Elaborate the mechanism of renal system.
17. List out and explain the factors which effect the respiration.
18. Describe the intraneural communication system in detail.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Biotechnology **COURSE CODE : 3SBT (Upto 2016)**

COURSE TITLE : Fisheries Technology **QN.NO : 4736**

TIME : 3 Hours **MAX.MARKS :75**

PART – A

(5 x 4 = 20)

Answer any FIVE questions.

1. Write down the methods of selection of fishes.
2. What are genetic markers?
3. Write a short note on electricity in fishing.
4. Explain an electronic device for detecting fishes.
5. Write a brief note on solar driers.
6. Write any two uses of ambergris.
7. List down the uses of seaweeds.
8. Seaweeds as fertilizer – Justify.

PART – B

(3x 10=30)

Answer any THREE questions.

9. Write any two methods of hybridization in fish.
10. Write down the advantages of genetic improvement in fishes.
11. Describe the devices to lure fish for bumper catch.
12. Explain a moderate sized solar, Tent drier.

Contd...

13. Write down the prospects of sea weeds.

PART – C **(1 x 25 = 25)**

Answer any ONE questions.

14. Write an essay on genetic improvement of fish stock, strategies of fish conservation and add a note on its prospects.

15. Describe the types of solar driers used for drying fish and their advantages and disadvantages.

16. Briefly describe the fishery byproducts of commerce.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Biotechnology **COURSE CODE : 3BTNM (Upto 2016)**

COURSE TITLE : Biodiversity and Conservation **QN.NO : 4742**

TIME : 3 Hours **MAX.MARKS :75**

Answer any FIVE :- 5X4 = 20

1. Biodiversity
2. Genetic diversity
3. α – index diversity
4. γ – index diversity
5. Ecosystem diversity
6. Endemism
7. Biodiversity conservation
8. Insitu conservation
9. Red data book
10. Key stone species.

Part B **Answer any THREE** 3X10 = 30

11. Write a brief note on Endemic species of India.
12. Give a brief account of Biodiversity of India.
13. Discuss about the indices of species diversity.
14. Write an account of impact of climate change on biodiversity.
15. Describe the role of Key stone species in Ecosystem.
16. Briefly explain the Threatened mammals of India.

Part C **Answer any ONE** 1X25=25

17. Describe the different levels of Biodiversity.
18. Explain the criteria for classifying protected area.
19. Describe the legal aspects of protected area management.
20. Write an essay on Conservation of Biodiversity.
21. Give a detailed account of economics of Biodiversity conservation.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Biotechnology **COURSE CODE : 4BT1 (Upto 2016)**

COURSE TITLE : Plant Biotechnology **QN.NO : 4744**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (8 x 2 = 16)

Answer any EIGHT questions.

1. Redifferentiation.
2. Organogenesis
3. Meristem
4. Protoplast
5. Germplasm
6. MS medium
7. Embryoides
8. Karyoplasts.
9. Totipotency
10. Antisense RNA
11. TMV
12. Stress resistant plants.

PART – B (2 x 7 = 14)

Answer any TWO questions.

13. Discuss in brief protocol for protoplast culture.
14. Briefly describe the production of secondary metabolites.
15. Write down the applications of some clonal variation.
16. Give a brief account on transgenic plants.

PART – C (3 x 15 = 45)

Answer any THREE questions.

17. Give an account on callus culture and organ culture.
18. Write about the component of nutritional medium for plant tissue culture.
19. Explain in detail the types of suspension cultures.
20. Write an account on germplasm storage and cryopreservation.
21. Write an essay on herbicide and disease resistant plants.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Biotechnology **COURSE CODE : 4BT3 (Upto 2016)**

COURSE TITLE : Bioprocess& Fermentation Technology **QN.NO : 4748**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (8 x 2 = 16)

Answer any EIGHT questions

1. Define Biofermentation.
2. Mention the factors affecting fermentation.
3. State the growth cycle of a microorganism.
4. What are the events involved in the microbial growth phases?
5. Mention any four parameters that control fermentation process.
6. What is downstream processing?
7. How do you design an enzyme probe?
8. What is principle involved in Bioconversion?
9. Name any four fermented food products.
10. Define: a) SCO b) SCP.
11. What are food additives? Cite two examples.
12. Comment on Biopolymers.

PART – B (2 x7=14)

Answer any Two questions

13. How do you screen, Improve and conserve industrially important microorganisms?
14. Explain the importance of BOD and COD as parameters of bioprocess control.
15. Highlight the procedure for microbial food production.
16. Propose a mass culture technique for *Spirulina* and add its applications.

PART – C (3 x15=45)

Answer any THREE questions

17. Examine the relevance of media-formulations in the fermentation process.
18. Design any two bioreactors along with their suitability for specific microbial fermentation process.
19. Elaborate microprocessor being used in the bioprocess control technique
20. What are enzyme- reactors? How are they designed and used in bioconversion process? What is the significance of immobilization of enzymes?
21. Elaborate the methodology for production of food additives through cell suspension culture.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Biotechnology **COURSE CODE : 4BT4 (Upto 2016)**

COURSE TITLE : Environmental Biotechnology **QN.NO : 4750**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (4 x 4 = 16)

Answer any FOUR questions

1. Biodegradation
2. Biofuels
3. Anaerobic digestion
4. Effluents
5. Biomarkers
6. Biosensors
7. Reduction
8. Bioreactor

PART – B (2 x10=20)

Answer any TWO questions

9. Describe the minimum National Standards of waste disposal.
10. Discuss the types and importance of alternative fuels.
11. Explain the estimation of BOD and COD.
12. Give a detailed account on solid waste management.

PART – C (3 x13=39)

Answer any THREE questions

13. Elaborate the types of environmental pollution.
14. Explain the physico-chemical characterization of industrial waste.
15. Describe the anaerobic digestion of industrial effluent.
16. Discuss the principle and applications of HPLC.
17. Explain any five basic analytical monitoring methods for environmental sample.
18. Describe the waste water treatment by means of bioreactor.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Biotechnology **COURSE CODE : 4SBT (Upto 2016)**

COURSE TITLE : Mushroom Culture **QN.NO : 4756**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 3 = 15)

Answer any FIVE questions.

1. Give a brief account on introduction to mushroom culture
2. Write a note on concept of mushroom culture.
3. Brief on taxonomy of mushrooms
4. In what basis mushrooms are classified?
5. Enlist the poison mushrooms.
6. What are the insects inflicting mushrooms?
7. Write the role of nematode in mushroom culture.
8. What are the diseases encountered in mushroom?

PART – B (3 x 8 = 24)

Answer any THREE questions.

9. Write a note on scope of mushroom culture in India.
10. Give an account of economic importance of mushroom
11. Explain on different types of edible mushrooms.
12. Give an account of mushroom characters, types and classification.
13. Emphasize briefly on postharvest handling and processing of mushroom.

PART – C (2 x 18 = 36)

Answer any TWO questions.

14. Discuss the different methods practicing in mushroom culture.
15. Write the principle, types and management of mushroom culture.
16. How transfer technology is to provide a gift for empowerment of mushroom growers?-Discuss

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Biotechnology **COURSE CODE : 4ABT (Upto 2016)**

COURSE TITLE : Production Technology **QN.NO : 4758**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 4 = 20)

Answer Any FIVE questions.

1. What are the ingredients used by Bakers?
2. What is leavening of bread? Write its significances.
3. How do prepare malt syrup? Explain.
4. What is puffed cereals and write their significances?
5. Lists the Snack foods.
6. What are the factors affecting gelatinization?
7. Write a note on liquid sweeteners.
8. Give an account of Junior food and baby foods.

PART – B (3 x 10 = 30)

Answer Any THREE questions.

9. Emphasize briefly on bread preparation methods.
10. Give an account of Durum wheat product types, raw materials and processing.
11. Write a note on sugar coated products and their significances.
12. What are the factors involving in snack food preparations?
13. Enlist the ingredients required for the chocolate confectionery.
14. Give an account of natural food Beverages and its importance.

PART – C (1 x 25 = 25)

Answer Any ONE questions.

15. Emphasize briefly on commercial baking technology and their importance.
16. Describe the technology involved in beer preparation.
17. How starch used as primary source for food industry? Discuss
18. Write an elaborate account on sugar based confectioneries.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Biotechnology **COURSE CODE : 6BT1 (Upto 2016)**

COURSE TITLE : Genetic Engineering **QN.NO : 4780**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(7 x 2 = 14)**

Answer any SEVEN questions

1. Molecular knives
2. Ligation
3. Plasmid
4. Electroporation
5. Recombinant
6. Gene library
7. Gene amplification
8. Dideoxy method
9. Enzyme engineering
10. Vaccination

PART – B **(4 x 4 = 16)**

Answer any FOUR questions

11. Write a brief note on DNA ligases and its uses.
12. Give a brief account of pBR 322.
13. Discuss about the screening of recombinant in colony hybridization.
14. Write an account of Sanger's method of DNA sequencing.
15. List out the application of PCR techniques.
16. Briefly explain the recombinant Hepatitis B- vaccine.

PART – C **(3 x 15 = 45)**

Answer any THREE questions.

17. Describe the various types of Restriction enzymes.
18. Explain the introduction of rDNA into host cell by using Electroporation and Microinjection method.
19. Describe the cDNA libraries.
20. Write a detailed account of Southern Blotting Techniques.
21. Give a detailed account of Production of Human insulin from E.coli by rDNA techniques.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Biotechnology **COURSE CODE : 6BT2 (Upto 2016)**

COURSE TITLE : Medical Biotechnology **QN.NO : 4782**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (7 x 2 = 14)

Answer any SEVEN questions.

1. Semi-synthetic antibiotics
2. Drug targeting
3. Hybridoma technology
4. ELISA
5. Proteomics
6. Polyclonal antibody
7. Enzyme immobilization
8. Plasma derived enzymes
9. P^{53}
10. Metastasis

PART – B (4 x 4 = 16)

Answer any FOUR questions

11. Explain the types of reactions and processes involved in the microbial transformation of steroids.
12. Enlist the advantages and disadvantages of DNA vaccines.
13. Write a brief account on the types of gene therapy.
14. Highlight the role of proteomics in disease diagnosis.
15. Describe about any two enzymes used as a biomarkers in the diagnosis of diseases.
16. Discuss the properties of cancer cells.

PART – C (3 x 15 = 45)

Answer any THREE questions.

17. Explain the steps involved in the production of recombinant insulin with suitable illustrations.
18. Describe the basic protocol in the production of monoclonal antibodies.
19. Write a detailed account of the role of proteomics in drug discovery.
20. Discuss the principle, components, types and applications of clinical biosensors.
21. Elaborate the steps involved in the process of carcinogenesis.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Biotechnology **COURSE CODE : 6SBT (Upto 16)**

COURSE TITLE : Bio entrepreneurship & Nano biotechnology **QN.NO : 4788**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 4 = 20)

Answer any FIVE questions.

1. Mention the scope of entrepreneurship.
2. Define franchising. Mention its uses.
3. Write short notes on cooperative enterprise with examples.
4. Comment on 'Sole proprietorship'
5. Give an account of private limited company.
6. Define nanotubes. Mention its applications.
7. Write a brief note on 'Bucky balls'.
8. What is nanolithography? State its importance.

PART – B (3 x 10 = 30)

Answer any THREE questions.

9. Give an account of nanofabrication and its applications.
10. Compare and contrast self employment and entrepreneurship.
11. Write a detailed note on the concept, nature and philosophy of entrepreneurship.
12. Explain the role of various agencies in entrepreneurial development.
13. Discuss the contribution and role of institutional support for the establishment of self-employment and entrepreneurial ventures.

PART – C (1 x 25 = 25)

Answer any ONE question.

14. a) Highlight the nature and purpose of planning.
    b) Explain the steps involved in small business strategic planning.
15. Describe the various types and functions of business organization using suitable illustrations.
16. Discuss the role of nanotechnology in drug delivery and drug discovery. Add a detailed note on the health risks concerned with nanobiotechnology.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 2SD (Upto 2016)**

COURSE TITLE : Office packages **QN.NO : 4818**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 3 = 15)

Answer ALL questions.

1. How will you undo and redo changes in MS-Word?
2. What is MS-Excel? State its important features.
3. Define Active cell and cell pointer?
4. State the advantages of using Dates in Ms Excel.
5. Define database and list out its facilities.

PART – B (5x 6 = 30)

Answer any FIVE questions.

6. Explain how will you using copy to repeat the exit in MS-Word.
7. Explain about how to find and replace the text in Ms Word.
8. What are the steps to find and replace a word in MS-Word?
9. Explain the organization of the Worksheet area.
10. How will you inserting rows and columns in MS-Word?
11. Explain the Day, Month and Year functions in Ms Excel.
12. Write short notes on sorting a database in Ms-Excel.
13. Explain how to create and sorting a database.

PART – C (3 x 10 = 30)

Answer ALL questions by choosing either (a) or (b).

14. a) Explain the following in Ms Word.
    i) Editing a document (4 marks)
    ii) Smart cut and paste (3 marks)
    iii) Auto complete (3 marks)

(OR)

b) Explain the following in Ms Word.
    i) What is mail merge ? Explain its steps involved (7 marks)
    ii) Calculations in a Table (3 marks)

15. a) Explain in detail about Organization of the worksheet.

(OR)

b) Explain in detail about Formatting a Worksheet in MS-Excel.

16. a) Explain the following in Ms Excel.
    i) Naming ranges (5 marks)
    ii) Mathematical function any five only (5 marks)

(OR)

b) Explain the following in Ms Excel with suitable example.
    i) IF Function (6 marks)
    ii) Protecting a workbook with password (4 marks)

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 2AD1 (Upto 2016)**

COURSE TITLE : Graph Theory **QN.NO : 4820**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 3 = 15)

Answer ALL questions.

1. What do you mean by Graph?
2. Write the following terms with example:
   i) Spanning Tree ii) Fundamental Circuit iii) Rooted Tree
3. Define seperability.
4. Define the following terms with example:
   (i) Planar Graph (ii) Kuratowski's Two graphs
5. What do you mean by polynomial matching?

PART – B (5x 6 = 30)

Answer any FIVE questions.

6. Explain finite and infinite graphs with example.
7. Explain the various operations on Graphs.
8. Discuss the pendent vertices in a tree.
9. Prove that, every tree has either one or two centers.
10. Bring out the properties of cut set.
11. Prove that every Circuit has an even number of edges in common with any cut-set.
12. Explain about kuratowski's two graphs.
13. Prove that every tree with two or more vertices is 2 – chromatic.

PART – C (3 x 10 = 30)

Answer all questions by choosing either (a) or (b).

14. a) Describe about incidency and degree isolated vertex with example.

(OR)

b) Prove that a given connected graph G is an Euler graph if and only if all vertices of G are of even degree.

15. a) Discuss in detail about spanning trees fundamental circuits.

(OR)

b) Prove that a graph can be embedded in the surface of a sphere if and only if it can be embedded in a plane.

16. a) Prove that a complete matching of V_1 into V_2 in a bipartite graph if and only if every subset of r vertices in V_1 is collectively adjacent to r or more vertices in V_2 for all values of r.

(OR)

b) Explain in detail about coloring, covering and partitioning chromatic number.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 3D2 (Upto 2016)**

COURSE TITLE : Object Oriented Programming with C++ **QN.NO : 4828**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(5 x 3 = 15)**

Answer ALL questions.

1. What is an Object?
2. Define Call by Reference.
3. Comment on Operator overloading.
4. Define this pointer.
5. What are Virtual base classes?

PART – B **(5x 6 = 30)**

Answer any FIVE questions.

6. Explain about Benefits of OOP's.
7. Narrate Function overloading with a program.
8. Illustrate Nesting of Member function with a program.
9. List out rules for Overloading operators.
10. Discuss about Pointer to Object with an example.
11. How to Open and Close a file in C++?
12. Define and explain Class templates.
13. Summary Exception Handling Mechanism in C++.

PART – C **(3 x 10 = 30)**

Answer all questions by choosing either (a) or (b).

14. (a) Explain in detail about Basic concepts of Object Oriented Programming.

(OR)

(b) Give a difference between While statement and Do while loop statement in C++.

15. (a) Discuss about Array of Objects in C++ with example.

(OR)

(b) Explain in detail about Destructor in C++ with example.

16. (a) Analyze Hierarchical inheritance with suitable examples.

(OR)

(b) Write a C++ program to overload Binary operator.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 3AD2 (Upto 16)**

COURSE TITLE : Statistics and Numerical Methods **QN.NO : 4838**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 3 = 15)

Answer ALL questions.

1. How many types of errors are there in computer arithmetic?

2. Define Gauss elimination method.

3. What is Newton's backward difference interpolation formula?

4. Define Numerical integration.

5. Comment on Simple linear regression.

PART – B (5 x 6 = 30)

Answer any FIVE questions.

6. Discuss about floating point representation of numbers.

7. Solve the following system of equations using Gauss elimination method.

$x + y + z = 2$

$x + 2y + 3z = 5$

$2x + 3y + 4z = 11.$

8. Derive equations for Gauss-Seidel method to solve

$$\begin{aligned} 4x_1 - x_2 - x_3 &= 3 \\ -2x_1 + 6x_2 + x_3 &= 9 \\ -x_1 + x_2 + 7x_3 &= -6 \end{aligned}$$

9. Estimate the value of y=log10 337.5 by using Gauss's forward interpolation formula.

X	310	320	330	340	350	360
y=log10x	2.4913617	2.5051500	2.5185139	2.5314789	2.544068	2.5563025

Contd...

10. Find Solution using Newton's Divided Difference Interpolation formula.

x	300	304	305	307
y	2.4771	2.4829	2.4843	2.4871

11. Evaluate $\int_0^1 e^x dx$, by Simpson's ⅓ rule.

12. Use Gauss quadrature and integrate $f(x)=1/0.3-x^4$ between 1 and 0.8. Compare the value obtain with the exact value.

13. Find the mean of the discrete random variable X whose probability distribution is

x	-2	1	2	3.5
P(x)	0.21	0.34	0.24	0.21

PART – C (3 x 10 = 30)

Answer All questions.

14. (a) Consider finding the root of $f(x) = e^{-x}(3.2 \sin(x) - 0.5 \cos(x))$ on the interval [3, 4], this time with $\varepsilon_{step} = 0.001$, $\varepsilon_{abs} = 0.001$.

(OR)

14. (b) Find a root of an equation $f(x)=x^3-x-1$ using Newton Raphson method.

15. (a) Find solution x = 301using Lagrange's Interpolation formula from the given data.

x	300	304	305	307
y	2.4771	2.4829	2.4843	2.4871

(OR)

15. (b) Use Stirling's formula to show y(12.2)=0.324951 from the given data.

x	10	11	12	13	14
y	0.23967	0.2806	0.31788	0.35209	0.38368

16. (a) . Find Solution using Simpson's 3/8 rule

x	0	0.1	0.2	0.3	0.4
y	1	0.9975	0.99	0.9776	0.8604

(OR)

16. (b) Describe about Comparison of integration formulae.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Computer Science **COURSE CODE : 3DNM (Upto 2016)**

COURSE TITLE : Internet and its Applications **QN.NO : 4840**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(5 x 3 = 15)**

Answer ALL questions.

1. What is an Internet?
2. Define HTML.
3. Write any three uses of E-Mail.
4. Comment on Intranet.
5. Define E-Commerce.

PART – B **(5 x 6=30)**

Answer Any FIVE Questions:

6. Explain about Internet Access.
7. Narrate Web browser in detail.
8. Discuss about Internet Chat.
9. How do create a mailing list?
10. Summary about Newsgroups.
11. Write about Advantages of Intranets.
12. Give a difference between Intranet and Groupware.
13. What is digital middleman in E-Commerce?

PART – C **(3 x 10 = 30)**

Answer all questions by choosing either (a) or (b).

14. (a) Explain in detail about Internet Addressing.

(OR)

(b) Define and explain World Wide Web.

15. (a) How does Email work? Explain it.

(OR)

(b) List out Advantages and Disadvantages of E-Mail.

16. (a) Discuss about Characteristics of Intranets in detail.

(OR)

(b) Write about Business to Business E-Commerce in detail.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 4D1 (Upto 2016)**

COURSE TITLE : Computer Networks **QN.NO : 4842**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 3 = 15)

Answer ALL questions.

1. List out the uses of Computer Networks.
2. What are the services provided to the Network Layer?
3. Write note on Static channel allocation
4. Explain about Store-and-Forward Packet Switching
5. Bring out the elements transport protocols.

PART – B (5 x 6 = 30)

Answer any FIVE Questions

6. Explain the following :
   i) LAN ii) WAN iii) MAN
7. Explain about Coaxial Cable in guided transmission media.
8. Write a note on Framing.
9. Explain about simple stop-and-wait protocol for a noisy channel.
10. Write a note on Carrier Sense Multiple Access Protocol.
11. Distinguish between Virtual Circuit and Datagram networks.
12. Explain about Traffic aware Routing
13. What are the services provided to the upper layers in Transport Layer?

PART – C (3 x 10 = 30)

Answer Any THREE Questions

14. Explain OSI Reference model with neat sketch
15. Discuss in detail about error detection and correction methods
16. State the following
    i) ALOHA ii) Collision Free Protocols
17. Explain the following
    i) Shortest Path Algorithm ii) Distance vector Routing
18. Discuss in detail about Addressing in a establishing and releasing a connection in a transport layer

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 4D3 (Upto 2016)**

COURSE TITLE : System Programming & Operating System **QN.NO : 4846**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 5 = 25)

Answer any FIVE questions.

1. What are Recursive Macros. Give an example.
2. Explain Macro calls within Macros.
3. Describe about the Absolute Loaders with an example.
4. Write short notes on Evolution of multiple processor system?
5. How the OS perform the Partitioned allocation?
6. Define and Differentiate paging and segment.
7. What is meant by Race Condition? Discuss.
8. Discuss about the Device Management Techniques.

PART – B (5 x 10 = 50)

Answer all questions by choosing either (a) or (b).

9. a) Explain about the Implementation of Restricted facility: A Two pass Algorithm?

(OR)

b) Write down the two phases of Macro processor.

10. a) Briefly explain the design of an Absolute Loader.

(OR)

b) Explain about Relocating Loaders with an example.

11. a) Explain about Multiple processor system.

(OR)

b) What are Interruputs? How Interrupts are handled?

12. a) Discuss about Segmented-paged allocation.

(OR)

b) Explain about the Demand paged Allocation with an example.

13. a) Write in detail about Device Management.

(OR)

b) Explain about the Features of general file system.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 4D4 (Upto 2016)**

COURSE TITLE : Visual Programming **QN.NO : 4848**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 5 = 25)

Answer any FIVE questions.

1. Explain from events with example.
2. Write down the steps to use the form Wizard.
3. Discuss about Text Box with properties.
4. Explain about variable types in VB.
5. Examine the usages of Arrays.
6. Explain menu object in VB.
7. Discuss about Tool bars.
8. Explain the DLL calling conventions.

PART – B (5 x 10 = 50)

Answer all questions by choosing either (a) or (b).

9. a) Explain about IDE features.

(OR)

b) Write the steps to work with MDI.

10. a) Identify the different between Picture Box and Image Box.-Explain.

(OR)

b) Explain list box control properties & methods.

11. a) Explain about procedures in VB.

(OR)

b) How to working with Menus? –Explain.

12. a) Create a Simulation of Note-Pad using Menu editor.

(OR)

b) How to creating a Query & Datable Table in VB? Explain.

13. a) Explain in detail the role of Active X in software development.

(OR)

b) Explain Dynamic Link Libraries (DLL).

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 4AD (Upto 2016)**

COURSE TITLE : Operation research **QN.NO : 4854**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 5 = 25)

Answer any FIVE questions.

1. What is Linear Programming Problem? List out the characteristics of the standard from of LPP.
2. Write the simplex algorithm to solve the LPP.
3. Form the dual of the following primal problem.

   Maximize $Z = 4x_1 + 10x_2 + 25x_3$

   Subject to constraints

   $2x_1 + 4x_2 + 8x_3 <= 25$

   $4x_1 + 9x_2 + 8x_3 <= 30$

   $6x_1 + 8x_2 + 2x_3 <= 40$

   and $x_1\ x_2\ x_3 >= 0$
4. Explain the Hungerian method of the assignment problem.
5. Discuss on the classification on inventory models.
6. Solve the game whose pay-off matrix is given below:

$$\begin{bmatrix} -2 & 0 & 0 & 5 & 3 \\ 3 & 2 & 1 & 2 & 2 \\ -4 & -3 & 0 & -2 & 6 \\ 5 & 3 & -4 & 2 & -6 \end{bmatrix}$$

7. Define the following terms :

   i) Player ii) Strategy iii) Pure strategy

   iv) Mixed strategy v) Optimum strategy
8. Write the guidelines for constructing a project network.

PART – B (5 x 10 = 50)

Answer all questions by choosing either (a) or (b).

9. a) Solve the following LPP using graphical method.

   Minimize $Z = 2x1 + 3x2$

   Subject to constraints

   $X_1 + X_2 \geq 6$

   $7X_1 + X_2 \geq 14$

   $X_1, X_2 \geq 0$

(OR)

b) Solve the following LPP using graphical method.

Minimize $Z=10x_1 +15x_2 + 20\ x_3$

Subject to constraints

$2x_1+4x_2+6x_3 <=24$

$3x_1+9x_2+6x_3 <=30$

and $x_1, x_2, x_3>=0$

Contd…

10. a) Find the optimum solution using MODI method to solve the following transportation problem.

	A	B	C	AVAILABLE
I	50	30	220	1
II	90	45	170	3
III	250	200	50	4
REQUIRED	4	2	2	

(OR)

b) Solve the following assignment problem in order to minimize the total cost. The cost matrix given below gives the assignment cost when different operators are assigned to various machines.

		Operators				
		I	II	III	IV	V
Machines	A	30	25	33	35	36
	B	23	29	38	23	26
	C	30	27	22	22	22
	D	25	31	29	27	32
	E	27	29	30	24	32

11. a) What are the various costs associated with inventory control? Explain.

(OR)

b) The annual demand for a component is 7200 units. The carrying cost is Rs.500/ unit/year, ordering cost is Rs. 1500 per order and the shortage cost is Rs.2000/ unit/ year. Find the optimal values of economic order quantity, maximum inventory, maximum shortages quantity, cycle time, inventory period and shortage period.

12. a) Solve the following game graphically.

$$\begin{pmatrix} 2 & 2 & 3 & -1 \\ 4 & 3 & 2 & 6 \end{pmatrix}$$

(OR)

b) Solve the game whose payoff matrix is given by

			Player B		
			B 1	B 2	B 3
Player	A	A 1	1	3	1
		A 2	0	− 4	− 3
		A 3	1	5	− 1

13. a) What are the two ways to calculate critical path? Explain.

(OR)

b) Differentiate between CPM and PERT.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A. ,Sociology **COURSE CODE : 4GAD (2012 on)**

COURSE TITLE : Basics of Computers **QN.NO : 4855**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 3 = 15)

Answer all questions.

1. Define memory units.
2. What are the various phases of Software Development Steps?
3. What is data processing?
4. Define router.
5. Comment on data mining.

PART – B (5 x 6 = 30)

Answer any FIVE questions.

6. Give a short account on Input and Output devices.
7. Write short note on functions and types of operating system.
8. Present an elaborate note on programming languages.
9. Discuss the database management system.
10. Write short notes on database in system design.
11. Write the basic components and telecommunication media of network.
12. Write short notes on OLAP.
13. Discuss the role of GIS in computer networking.

PART – C (3 x 10 = 30)

Answer all questions by choosing either (a) or (b).

14.a) Describe about classification and Digital Computer System

(OR)

b) Write an account on Computer Memory and Secondary storage Memory

15.a) Explain in detail about networking.

(OR)

b) List out the contributions of Communication system.

16. a) Explain in detail about data warehousing.

(OR)

b) Write an essay on tools used in multimedia.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME – Computer Science **COURSE CODE : 4D NM (Upto 16)**

COURSE TITLE : PC Software (MS-Office) **QN.NO : 4856**

TIME : 3 Hours **MAX.MARKS :75**

PART - A (5 x 3 = 15)

Answer ALL the questions.

1. What are advance tools in Word 2000?
2. How to you create animation in power point?
3. What is Clip Art?
4. Define Slideshow.
5. How to export image in PowerPoint?

PART - B (5 x 6 = 30)

Answer any FIVE questions

6. How do you create a new document in Word? Explain.
7. Explain about page setup in word document.
8. List out the applications of mail merge.
9. Write a note on cut, copy and paste options in WORD.
10. How to create a new presentation? Explain.
11. Write a note on enhancing a presentation.
12. Discuss about features of power point.
13. How to include a table in power point document? Explain.

PART - C (3 x 10 = 30)

Answer all questions by choosing either (a) or (b)

14. a) Describe about the proofing tools in MS WORD.

(OR)

b) Explain about the table creation in MS WORD.

15. a) Discuss the process of creating slideshow in MS Power Point.

(OR)

b) Explain the advance concepts of power point.

16. a) Describe about importing and exporting charts in power point.

(OR)

b) Analyse an automatic work with macros in power point.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 5D1 (Upto 16)**

COURSE TITLE : Relational Database Management Systems **QN.NO : 4858**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 5 = 25)

Answer any FIVE questions.

1. Examine Data Abstraction in view of Data with neat diagram.
2. Elucidate different types of Keys used in Relational Databases with examples.
3. Illustrate various Aggregate Functions used in SQL with examples.
4. Discuss in brief Constraints on Generalizations in Database Design.
5. List out the set operations? Explain in detail any two set operations.
6. What is OBE? Write short note on the following terms.
   (i) The condition Box (ii) The result Relation
7. Give a detailed description on nested sub queries.
8. Give a note on domain relational calculus.

PART – B (5 x 10 = 50)

Answer all questions by choosing either (a) or (b).

9. a) Characterize in detail Purpose of Database Systems

   (OR)

   b) Explain in detail about the views of data.
10. a) Explain in detail about structures by relational Database.

    (OR)

    b) Illustrate in detail Modification of Database in Relational Model with Examples.
11. a) Explain in detail about basic structure by SQL queries with example.

    (OR)

    b) Discuss in detail Nested Subqueries in SQL with examples.
12. a) Describe joins in SQL.

    (OR)

    b) What are the symbols used in an ER diagram? Explain with suitable examples.
13. a) Explain in detail about functional-Dependency theory.

    (OR)

    b) Examine File Organizations in Storage and File Structure with examples.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 5D2 (Upto 16)**

COURSE TITLE : Software Engineering **QN.NO : 4860**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 5 = 25)

Answer any FIVE questions.

1. What are all the factors affecting calculating.
2. Describe about types of coupling.
3. Explain about project structure.
4. Write short notes on desirable properties of software requirement specifications.
5. Write brief notes on test plan.
6. Differentiate Qualitative and Quantitative goals.
7. Explain the rules for forming regular expressions.
8. Write short notes on Software maintenance.

PART – B (5 x 10 = 50)

Answer all questions by choosing either (a) or (b).

9. a) Explain about quality and productivity factors of a software product.

(OR)

b) Explain various project size categories of software projects.

10. a) Explain in detail about Project structure.

(OR)

b) What is project Estimation? Explain COCOMO model of estimation.

11. a) Explain in detail about software cost estimations techniques.

(OR)

b) Explain use of State-Oriented notations.

12. a) In Software Engineering, How much design notations available. Explain it.

(OR)

b) Discuss in detail about Design notations.

13. a) Discuss on Source code metrics.

(OR)

b) Discuss about managerial aspects of software maintenance.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 6D2 (Upto 2016)**

COURSE TITLE : Programming in JAVA **QN.NO : 4880**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 3 = 15)

Answer all questions.

1) Write down any three features of Java.

2) Compare and contrast overriding and overloading a method.

3) What are the applications of wrapper classes?

4) What is the use of thread priorities?

5) Mention the purpose of Graphics class.

PART – B (5 x 6 = 30)

Answer any FIVE questions.

6) List the basic data types used in Java. Explain with suitable example.

7) Describe the different types of inheritance with examples.

8) Compare and contrast between interface and classes.

9) What is a package? What are the advantages of package? Write down the steps to create a package.

10) Explain with an example how a Java performs thread synchronization.

11) Write a Java program that will count the number of characters in a file.

12) Explain the three ways of drawing polygons.

13) Write an applet to draw the cylinder shape.

PART – C (3 x 10 = 30)

Answer all questions by choosing either (a) or (b).

14) a) Explain any two looping constructs in Java.

(or)

b) Write a Java program to find the sum of the digits of a given integer.

15) a) Describe the complete life cycle of a thread.

(or)

b) Write a Java program that will count the number of characters and words in a file.

16) a) Explain the life cycle of an applet.

(or)

b) Write an applet to draw the square inside a circle.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 6D3 (Upto 16)**

COURSE TITLE : Active Server Page (ASP) **QN.NO : 4882**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 3 = 15)

Answer all questions.

1. What is Virtual Directories?
2. Define sessions in ASP.
3. Write about the Drive object available.
4. List out the ASP support development model.
5. Describe the Record set.

PART – B (5x 6 = 30)

Answer all FIVE questions.

6. Write a note on: Virtual Directory.
7. Write a program to read, write (save) values using coouies in ASP.
8. Explain about Application and session objects.
9. Write a programme to create folders using ASP.
10. Describe the content rotator component in detail.
11. Discuss briefly about Advanced Error-handling Techniques in ASP.
12. Describe the Record locking.
13. Summarize object the properties record.

PART – C (3 x 10 = 30)

Answer all questions by choosing either (a) or (b).

14. a) Explain in detail about how to develop online applications and list out develop issues.

(OR)

b) Write a ASP program to process the student mark statement.

15. a) Explain the scripting object model in detail.

(OR)

b) Write a programme to create home page using Master page.

16. a) Explain recordest object methods and properties.

(OR)

b) Write a programme to develop a web page to store the student details in the Database.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 6SD (Upto 16)**

COURSE TITLE : Desk Top Publishing(DTP) **QN.NO : 4894**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 3 = 15)

Answer all questions.

1. How to open an existing photoshop Document?
2. What is the purpose of Grow and Similar commands?
3. What is Property Inspector?
4. Specify the advantages and types of bitmaps.
5. What is layer? What are the points to remember about layers in Flash?

PART – B (5 x 6 = 30)

Answer any FIVE questions.

6. Explain the eight different image modes in Photoshop.
7. Write a brief note on TIFF format and JPEG format.
8. How to use Selection Tools?
9. Explain stage in a flash with a neat diagram.
10. Explain the uses of paint bucket and dropper tool.
11. Describe about working with colors in flash.
12. How insertion and frame editing will simplify editing process of a movie?
13. What are the elements of animation and motion tweening?

PART – C (3 x 10 = 30)

Answer all questions by choosing either (a) or (b).

14. a) Discuss the various painting tools available in Photoshop.

(OR)

b) Discuss the functions of Blur and Noise Filters.

15. a) Briefly discuss about panels in flash.

(OR)

b) Write down the steps for creating a curved path from a straight line and creating outline and solid ovals.

16. a) What are the types of bitmap images? What are the three sound formats used in Flash? Explain.

(OR)

b) How will you use, import, edit sounds in a flash by adding and manipulating video?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Information Tech. **COURSE CODE : 4IT3 (upto 16)**

COURSE TITLE : Visual Programming **QN.NO : 4946**

TIME : 3 Hours **MAX.MARKS :75**

PART - A **(5 x 3 = 15)**

Answer ALL the questions.

1. What are IDE features?
2. What is a text boxes? State any five properties of text box.
3. Write short notes on code modules.
4. What is cool bar control?
5. What is ActiveX? State its roles in software development.

PART - B **(5 x 6 = 30)**

Answer any FIVE questions

6. Explain the anatomy of a Form.
7. Explain the various properties of Form
8. Explain the Drive & Directory List Boxes.
9. What is Code library? How to create it.
10. What is a Sub procedure? Explain in detail.
11. What is Database table? How to create and modify a table?
12. Develop a VB application for adding two numbers.
13. Explain about API applications.

PART - C **(3 x 10 = 30)**

Answer all questions by choosing either (a) or (b)

14. a) Explain about visual basic editor and its working details.

(OR)

b) Explain check box and picture box with suitable example.

15. a) Explain the following:

i) Arrays

ii) Working with class modules

(OR)

b) Explain how to create code modules and their retrieving parameters.

16. a) What is Menu? Explain the steps to create a menu using menu editor.

(OR)

b) What is Data Control? State the steps to create a data control and manipulating the data.

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SEMESTER EXAMINATIONS – APRIL 2021

CLASS: B.Sc., Information Technology **COURSE CODE : 5IT2 (Upto 16)**

COURSE TITLE : Client/Server Computing **QN.NO : 4960**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 4 = 20)

Answer all questions.

1. List out the Characteristics of Client/Server?
2. What are the Components of server operating System?
3. Explain Structured Query Language.
4. Write note on LAN hardware.
5. Mention the future trend of Client / Server Computing.

PART – B (5x 7=35)

Answer any FIVE questions.

6. Describe the benefits of client/server computing.
7. Differentiate Client hardware and Software.
8. How to access the Database tools? Describe any three.
9. What is server? Explain about Data server and Compute server.
10. Describe the TCP/IP Architecture.
11. Differentiate bridges and routers.
12. What are the environments for application development? Describe any one.
13. Explain SQL Toolset.

PART – C (2x10=20)

Answer any TWO questions.

14.a) Discuss the components of client/server system.

(OR)

b) What are the advantages of a Client/Server Architecture*?*

15.a) Discuss X Window vs Windowing.

(OR)

b) Explain OSI Model in Network Standard Architectures.

16.a) What are the classes of server machines? Explain any two in detail.

(OR)

b) Describe the development pf application tools in managing Client / Server computing.

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SEMESTER EXAMINATIONS – APRIL 2021

CLASS: B.Sc., Information Technology **COURSE CODE : 6IT2 (Upto 16)**

COURSE TITLE : Data Mining **QN.NO : 4976**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 3 = 15)

Answer all questions.

1. Define Data Mining.
2. What is data cube computation?
3. Comment on Association Mining.
4. Write short notes and Prediction.
5. Mention the hierarchical methods.

PART – B (5 x 6= 30)

Answer any FIVE questions.

6. Describe about the Data Preprocessing.
7. Describe the Data Warehousing.
8. Explain an OLAP Technology.
9. Describe the Association and Correlations.
10. Explain the Support Vector Maching.
11. Describe the classification in Data Mining.
12. Briefly Explain Cluster Analysis.
13. Describe the Grid Based Clustering Methods.

PART – C (3 x 10= 30)

Answer ALL questions.

14. a) Explain in detail about Data Integration and Transformation.

(OR)

b) Explain in detail about the Data Reduction and Hierarchy Generation.

15. a) Explain the Rule Based classification with example.

(OR)

b) Explain in detail about classification of Back Propagation.

16. a) Explain the different types of data in Cluster Analysis.

(OR)

b) Explain the Density based Clustering methods with example.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 3K1 (Upto 16)**

COURSE TITLE : Foreign Trade-Practice and Procedure **QN.NO : 5022**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer ALL questions.

1. What is foreign Trade?
2. Give the meaning of DDP
3. Explain the meaning of Nominal Exchange Rate.
4. Write a note on forward rate.
5. What is mean by regulatory documents?
6. Describe the meaning of certificate of inspection.
7. Elucidate the meaning of Duty Drawback
8. State the meaning of revocable letter of credit.
9. Write the meaning of EXIM Bank.
10. List out any three type of policies offered by ECGC for shipment made on short term credit.

PART – B (4 x 5 = 20)

Answer any FOUR questions.

11. State the Importance of Foreign Trade.
12. Explain the types of Pre – shipment finance
13. What is Bill of lading? State the various types of Bill of lading
14. Distinguish between Mate's Receipt and Bill of Lading
15. Discuss in detail about the procedure for pre shipment inspection for exportable goods.

Contd...

16. Compare and contrast document against payment and document against acceptance.

17. Critically examine the objectives of GATT?

PART – C (3 x 10 = 30)

Answer any THREE questions.

18. Describe the causes of disequilibrium in Balance Of Payments.

19. Elaborate the factors determining the Exchange rates.

20. State the various kinds of marine insurance policies as contained in the Marine Insurance Act, 1963.

21. Explain in detail the procedure for obtaining clearance from excise department for exportable goods.

22. What are the functions of WTO?

PART – D (2 x 5 = 10)

Answer any TWO questions.

23. Elucidate the benefits of Fixed exchange rate.

24. What is commercial invoice? State its significance?

25. What is Letter of Credit? State its advantages.?

26. Write a note on financial guarantees of ECGC.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 3K2 (Upto 2016)**

COURSE TITLE : Special Accounts **QN.NO : 5024**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer all questions.

1. Mention different types of branches.
2. What is an interdepartmental transfer?
3. What is down payment?
4. Who is called as Insolvenet?
5. Write a short note on Deficiency.
6. What is work uncertified?
7. Define Contract Account.
8. What are the expenses debited to voyage accounts?
9. What is the meaning of Investment?
10. Mention any two fixed income bearing scripts.

PART – B (4x 6 = 24)

Answer any FOUR questions.

11. On 1st April 2007, John purchased 100 (7%) debentures of Rs. 1,000, for Rs. 1,100 from Pual, each cum-interest. Interest is payable on these debentures on 30th June and 31st December each year. Pass the necessary entries in the books of purchaser and seller.
12. A scent manufacturing company had a stock of 10.000 bottles valued at Rs. 25,000 on 1st Jan. During the year, the company purchased 50.000 bottles @ Rs. 2.50 per bottle. At the close of the year 7.000 bottles were in the stock. Prepare the Containers Stock Account.
13. Goods Luck Ltd., opened a branch on 1.1.2011 at Calcutta. The following information is supplied to you, prepare Branch account

	Rs.
Goods sent Branch	50,000
Cash sales	20,000
Credit sales	36,000
Cash received from Debtors	32,000
Discount allowed to them	600
Cash sent to branch for expenses	7,000
Stock on 31.12.2011	8,000
Debtors on 31.12.2011	3,400

Contd…

14. Mr. X purchased a cycle on hire purchase for Rs. 1,000 to be paid as follows

On signing the agreement	Rs. 120
At the end of first year	Rs. 170
At the end of second year	Rs. 160
At the end of third year	Rs. 550

The vendor charged interest at 10% per annum on the cash value remaining unpaid each year. Calculate the cash value of the cycle.

15. Sundaram of Chennai owes the following sums

	Rs.
Income tax	4,000
Corporation tax	600
Wages to 2 servants	500
Salaries to 4 clerks	2,700
Rent to Land lord for 3 months	3,000

Determine the amount payable by him as preferential creditors and unsecured creditors if he becomes insolvent.

16. The following expenses were incurred on a contract still unfinished on 31.12.2007

	Rs.
Materials	40,000
Wages	35,000
Other expenses	25,000

Rs. 2,00,000 was received from the contractee being 80% of work certified. Work uncertified was Rs. 10,000. You are required to calculate the profit to be credited to profit and loss account.

a) If the contract price was Rs. 4,00,000
b) If the contract price was Rs. 8,00,000
c) If the contract price was Rs. 20,00,000

PART – C (3 x 12 = 36)

Answer any THREE questions.

17. The following purchases were made by a business house having three departments

Department – A – 1,000 units
Department – B – 2,000 units at a total cost of Rs. 1,00,000
Department – C – 2,400 units

Stocks on 1st January were

Department – A - 120 units
Department – B – 80 units
Department – C - 152 units

Sales were:

Department – A - 1,020 units at Rs. 20 each
Department – B – 1,920 units at Rs. 22.50 each
Department – C - 2,496 units at Rs. 25 each

The rate of gross profit is same in each case. Prepare departmental trading account

Contd…

18. Mr. Raju purchased a machinery from Kumar & Co on hire purchase system on 1st January 2005. The cash price of the machine was Rs. 1,00,000, Rs. 20,000 to be paid at the time of taking delivery and balance by four instalments of Rs. 20,000 plus interest @ 5% on yearly balances.

    Raju failed to pay the instalment due on 31st December 2006. Kumar &Co., took possession of the machinery and valued the same in their books after charging depreciation at 10% p.a on reducing balance method. In 1997 Kumar & Co., incurred Rs. 1,000 for reconditioning and re sold the machinery for Rs. 90,000. Show the ledger accounts in the books of both parties.

19. Distinguish between balance sheet and statement of affairs.

20. From the following details you are required to prepare contract account for the year ended on 31.12.2001.

	Rs.
Materials directly purchased	1,80,000
Materials issued from stores	50,000
Wages	2,44,000
Direct expenses	24,000
Plant purchased	1,60,000
Proportionate establishment charge	54000

The contract was for Rs. 15,00,000 and up to 31.12.2001 Rs. 6,00,000 had been received in cash which represented 80% of work certified

The materials at site unconsumed were valued at Rs. 15,000. The contract plant was to be depreciated by Rs. 16,000.

Prepare the contract account showing what profits thereon have been earned to date.

21. The Lakshman Sea ways undertook a voyage from Athens to Kolkatta on 1st January 2004 and reaching on 31st March, 2004. The cargo consisted of 900 tonnes of food grains and 100 tonnes of engineering goods. The freight charges were Rs. 150 per tone for food grains and Rs. 100 per tone fro engineering goods. In addition primage was 10%. Brokerage was payable at 5%. The expenses were

	Athens Rs.	Kolkatta Rs.
Coal and Driver	20,000	
Port charges	9,000	2,000
Harbour wages	3,000	1,000
Loading charges	2,000	
Other expenses		
Stores	10,000	
Discharging expenses	2,000	
Postage	1,000	
Salaries of crew	10,000	

Contd….

The ship was insured for Rs. 10,00,000 at 1% for voyage policy of Hull. The freight was insured @0.5%, Depreciation is charged on the written down value of the ship at 5% per annum. The value of ship as on 1st January, 2004 was Rs. 8,00,000.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 3K3 (Upto 2016)**

COURSE TITLE : Business Mathematics & Statistics - I **QN.NO : 5026**

TIME : 3 Hours **MAX.MARKS :75**

Business Mathematics –I

PART – A **(5 x 1.5 = 7.5)**

Answer any FIVE questions.

1. Define Surds with example.
2. Find the value of $5^{10} \div 5^{8.}$
3. If $a^x = b$, $b^y = c$, $c^z = a$, prove that xyz = 1.
4. Define logarithm and state its two forms with notations.
5. Change the base of $\log_3 42$ into the common logarithmic base.
6. If $y = x^2 + x^3$, find dy/dx.
7. If $y = x^7 + x^{3/2} + 5 + e^x + \log x$, find dy/dx.
8. Define Matrix and state the order of matrix with general format.
9. If A = [1 2 and B = [5 -6, then find A+B.

   -3 4] 7 8]
10. Write short notes on Matrix Inverse.

PART – B **(5x 6 = 30)**

Answer any FIVE questions.

11. Define Indices and explain the laws of Indices.
12. Briefly explain the classification of surds and operations on similar surds.
13. Explain the law of logarithm and types of logarithms.
14. If a, b, c are any three consecutive positive integers, prove that log (1+ac) = 2 log b.
15. Define Calculus and state the rules of differentiation.
16. State the procedure to find the maxima and minima of a function.
17. Find the differential co-efficient of $x^2 e^x \log x$.
18. Briefly explain any 6 types of matrices with examples.
19. Solve by matrix inversion method: $x_1 + 2x_2 = 20$; $2x_1 + 8x_2 = 56$.

Contd...

Business Statistics –I

PART – A (5 x 1.5 = 7.5)

Answer ALL questions.

1. Define Statistics, and state the "Father of Statistics".
2. What are data and state the types of data.
3. State the significance of classification.
4. Define Average and state its types.
5. Define dispersion, State the difference between mean deviation and standard deviation.

PART – B (2x 6 = 12)

Answer any TWO questions.

6. Represent the following data in a Pie Diagram.

ITEMS	EXPENDIURE (in Rs)
Food	87
Clothing	24
Recreation	11
Education	13
Rent	25
Miscellaneous	20

7. State the functions of statistics.
8. Calculate Harmonic Mean from the given data: 3834, 382, 63, 8, 0.4, 0.03, 0.009, and 0.0005.
9. Find the Range and its coefficient of range for heights of 8 students from the following data: 158, 160, 165, 166, 168, 170, and 173.

PART – C (2x 9 = 18)

Answer any TWO questions.

10. Calculate Mean, Median and Mode from the following data:

Age	Number of students
15-19	4
20-24	20
25-29	38
30-34	24
35-39	10
40-44	9

11. Calculate Standard Deviation from the given data: 30, 43, 45, 55, 68, 69, and 75.
12. Find out Karl Pearson's Skewness: 25, 15, 23, 40, 27, 25, 23, 25, and 20.
13. What is Diagrammatic presentation and state various types of bar diagram.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 3AK1 (Upto 2016)**

COURSE TITLE : Company Law – I **QN.NO : 5030**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer all questions.

1. What is a company?
2. What is the regulating act for a company?
3. Who is a promoter?
4. What is the purpose of creating the project MCA-21?
5. What is the meaning for the term 'ultra vires'?
6. Which is the Fundamental document for a proposed company?
7. What companies shall have their own Articles?
8. How can the Articles of Association be altered?
9. Who are liable for misstatement in a prospectus?
10. What is offer document?

PART – B (4 x 5= 20)

Answer any FOUR questions.

11. Explain the characteristics of a company.
12. What is a corporate veil? When is it lifted?
13. Explain the special privileges given to a private company.
14. How is a company formed under the Companies Act, 1956? Explain the various documents to be filed with the registrar.
15. Explain about the doctrine of indoor management.
16. Explain the process of book building.
17. The Articles of a company provided for the reference of disputes between the members and the company to arbitration. H, a member, brought an action against the company which applied to the court for a stay of the proceedings. Will the company succeed?

PART – C (3 x 10 = 30)

Answer any THREE questions

18. Define a company. Distinguish it from a partnership.
19. Describe the various kinds of classification of companies.

Contd…

20. "The Memorandum of Association is the fundamental law or a charter defining the objects and limiting the powers of a company" Explain.
21. What are articles of association? Discuss the limit upon the powers of a company to alter or add to the articles of association.
22. Discuss the extent of civil and criminal liabilities for misstatement in a prospectus.

PART – D **(2 x 5 = 10)**

Answer any TWO questions

23. During the war all the members of a private company, while in general meeting were killed by a bomb. Does the company cease to exist because all the members died? State the reasons.
24. A joint Hindu family consisting of a father and five major sons and another family consisting of a father, five major sons and 1 minor son carried on banking business, as owners thereof. Does the organization require registration under the Companies Act, 1956?
25. The promoters of a company, before its incorporation, enter into an agreement with P to buy a plot of land on behalf of the company. After incorporation the company refuses to buy the said plot of land. Can P claim any remedy either against the promoters or against the company?
26. A company put up telephone wires in a certain area. There was no power in the Memorandum to put up wires there. The defendants cut them down. Can the company sue for the damage done to the wires?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 3AK2 (Upto 2016)**

COURSE TITLE : Commercial Law **QN.NO : 5032**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1.5 = 15)**

Answer all questions.

1. What is the object of law of contract?
2. Name four persons who are not competent to contract.
3. Write the meaning of contingent contract.
4. Is Guarantee a contract of 'uberrimae fidei'?
5. In what ways a surety can be revoked in case of continuing guarantee?
6. What is bailment?
7. State the meaning of the term Lien.
8. What is hire-purchase agreement?
9. When is a seller of goods deemed to be an unpaid seller?
10. Differentiate sale from bailment.

PART – B **(4 x 5= 20)**

Answer any FOUR questions.

11. What are the legal rules as to consideration?
12. Write short notes on a) Coercion b) Undue influence
13. Distinguish between a contract of indemnity and a contract of guarantee.
14. What are the requisites of bailment?
15. What are the circumstances in which a non-owner can create a valid pledge?
16. Explain the essentials of a contract of sale.
17. State the doctrine of caveat emptor and exceptions to it.

Contd..

PART – C (3 x 10 = 30)

Answer any THREE questions

18. Describe the essentials of a valid contract.
19. "If a contract is broken, the law will endeavour, so far as money can do it, to place the injured party in the same position as if the contract had been performed." Comment.
20. Enumerate the rights of Surety.
21. Discuss the rights and duties of bailor.
22. Describe the rights of an unpaid seller.

PART – D (2 x 5 = 10)

Answer any TWO questions

23. Arjun is aged 17 years. He enters in to an agreement with Balu for hiring out certain machinery belonging to B. After the agreement was signed, Arjun backs out of the agreement and Balu wants to enforce the same. Discuss with reasons whether B will succeed or not.
24. What are the essential features of a contract of guarantee?
25. When is a contract of bailment terminated?
26. Differentiate sale and agreement to sell.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Commerce **COURSE CODE : 3KNM (Upto 2016)**

COURSE TITLE : Business Accounting **QN.NO : 5034**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer all questions.

1. Define Accounting
2. What is Book Keeping?
3. What is Trial Balance?
4. What are the items shown in credit side of trial balance?
5. State the meaning of Petty Cash book.
6. What is sales book?
7. Give the meaning of Bank Reconciliation statement.
8. What is Profit and Loss account?
9. What is the need for preparing final accounts?
10. Write the meaning of balance sheet.

PART – B (3 x 10 = 30)

Answer any THREE questions

11. Distinguish between single entry system and double entry system.
12. What are the objectives of preparing the Trial balance?
13. Prepare a sales book and purchases book from the following particulars.

2013	
1-Jun	Purchased 40 carpets from M/s Perumal & Co at Rs. 35 each
8	Sold 10 carpets to Rahim at Rs. 42 each
14	Purchases from Palani & Co, 24 carpets at Rs. 60 each
20	Purchased 14 carpets from Delhi trading co., at Rs. 23 each
22	Sold for cash 25 carpets at Rs. 46 each
30	Purchased for cash 8 carpets at Rs. 10 each
31	Sold to M/s Roy & Co., 14 carpets at Rs. 52 each.

14. From the following particulars prepare a bank reconciliation statement as at 31st December

Balance as per pass book Rs. 62,460

(i) Cheques issued but not presented
Rajini Rs. 4,590
Kamal Rs. 5,960
Bhavani Rs. 9,580

(ii) Cheques deposited but not cleared until after close of the year
John Rs. 5,060
Balu Rs. 9,130

(iii) The bankers had wrongly debited the account Rs. 2,250, the error was rectified by them on 4th January of the following year.

Contd…

15. Prepare a profit and loss account from the following extracted from the trial balance of Mr. Kumar for the year ending 31.12.2008

	Rs.		Rs.
Salary	4,000	Discount allowed	400
Insurance	2,000	Bad debts	1,200
Advertisement	1,400	Telephone charges	1,100
Office rent	1,000	Trade expenses	900
Salesmen's salary	3,200	Gross profit	22,000
Printing & Stationery	1,200	Rent received	1,000
Carriage inwards	800		

PART – C (2 x 15 = 30)

Answer any TWO questions

16. You are required to prepare Trial balance from the following as on 31st March, 2010.

	Rs.			Rs.
Capital	52,000		Printing	240
Sales	1,01,200		Debtors	31,000
Purchase returns	1,900		Purchases	72,000
Opening stock	22,000		Rent	560
Furniture	5,500		Carriage inwards	390
Creditors	6,000		Bad debts	160
Investments	16,700		Postage	210
Salaries	1,800		Travelling expenses	770
Wages	1,300		Cash at Bank	3,270
Sales returns	5,200			

17. Enter the following transactions in Purchase book, Sales book, Returns inward and Returns outward book of Mr. Thangaraj

		Rs.
Jan. 1	Bought goods from Arun	6,000
2	Sold goods to Balu	3,000
6	Sasi sold goods to us	3,000
10	Bharathi bought goods from us	1,800
11	Received goods returned by Balu	240
13	We returned goods to Arun	200
15	Dharani returned goods	300
18	Sold goods to Velu	1,400
23	Purchased goods from Mohan	1,600
25	Returned goods to Sasi	200
31	Sold goods to Anand	2,400

18. From the following Trial balance of Mr. Raja as on 31st March 2005, Prepare Trading and Profit &Loss account and Balance Sheet taking into account the adjustments:

Contd…

Debit balances	Rs.		Credit balances	Rs.
Land and buildings	42,000		Capital	62,000
Machinery	20,000		Sales	98,780
Patents	7,500		Return outwards	500
Opening stock	5,760		Sundry creditors	6,300
Debtors	14,500		Bills payable	9,000
Purchases	40,675			
Cash in hand	540			
Cash at bank	2,630			
Return Inwards	680			
Wages	8,480			
Fuel & Power	4,730			
Carriage on sales	3,200			
Carriage on Purchases	2,040			
Salaries	15,000			
General expenses	3,000			
Insurance	600			
Drawings	5,245			
	176,580			176,580

Adjustments:

(i) Stock on 31st March 2005 was Rs. 6,800
(ii) Salary outstanding Rs. 1,500
(iii) Insurance Prepaid Rs. 150
(iv) Depreciate machinery @ 10% and patents @ 20%
(v) Create a provision of 2% on debtors for bad debts.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 4K1 (Upto 2016)**

COURSE TITLE : Business Finance **QN.NO : 5036**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer all questions.

1. Define the term financial management.
2. What do you mean by bond?
3. What is capital structure?
4. Define the term undercapitalization.
5. What is capital rationing?
6. What is the significance of capital budgeting?
7. Explain the term operating cycle in working capital.
8. What are different types of working capital?
9. Explain the Gordon model of dividend policy.
10. What are the types of dividend policy?

PART – B (4x 6 = 24)

Answer any FOUR questions.

11. Explain the various functions of financial management.
12. Distinguish between shares and debentures.
13. The capital structure and after tax cost of different sources of funds are given below:

Source of funds	Amount Rs.	Proportion to Total	After tax cost %
Equity share capital	720000	0.30	15
Retained earnings	600000	0.25	14
Preference share capital	480000	0.20	10
Debentures	600000	0.25	8

You are required to compute the weighted average cost of capital.

14. A project cost Rs.500000 and yields annually a profit of Rs.80000 after depreciation at 12% p.a. but before tax of 50%. Calculate pay back period.
15. From the following balance sheet compute (a) Gross working capital and (b) Net working capital.

Contd…

Liabilities	Rs.	Assets	Rs.
Share capital	600000	Land & Building	300000
Reserves	100000	Plant & Machinery	400000
Debentures	300000	Cash	60000
Bank loan	100000	Investments	100000
Creditors	60000	Debtors	140000
Bills payable	40000	Inventory	200000
	1200000		**1200000**

16. Discuss the factor affecting dividend policy.

PART – C (3 x 12 = 36)

Answer any THREE questions.

17. Enumerate the major responsibility of financial manager in an organization.
18. Discuss the in detail, the factors which determine the capital structure of a firm.
19. Consider the following proposed investments with the indicated cash inflows.

Investment	Initial outlay	Year – end cash inflows		
		Year 1	Year 2	Year 3
A	200000	200000	Nil	Nil
B	200000	100000	100000	100000
C	200000	20000	100000	300000
D	200000	200000	20000	20000
E	200000	140000	60000	100000
F	200000	160000	160000	80000

Rank the investments deriving the Net Present Value (NPV) using a discount rate of 10 per cent, and state your views.

P.V. Factor @10% 0.909 (I year), 0.826 (II year) and 0.751 (III year).

20. Explain the factors which determine the working capital needs of a firm.
21. The earnings per share of company are and the rate of capitalization applicable to the company is 10%. The company has before it an option of adopting a payout ratio of 25% or 50% or 75%. Using Walter's formula of dividend payout, compute the market value of the company's share if the productivity of retained earnings is (i) 15% (ii) 10% and (iii) 5%.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 4K2 (Upto 16)**

COURSE TITLE : Partnership Accounts **QN.NO : 5038**

TIME : 3 Hours **MAX.MARKS :75**

PART – A

(10 x 1.5 = 15)

Answer ALL questions.

1. Who are called partners?
2. Define. Goodwill.
3. A and B are partners sharing profit 3: 2. A sacrifices3/20 and 1/20 in order to give 1/ 5th share to a new partner C. What is their new profit-sharing ratio?
4. Give the format of Revaluation account.
5. Distinguish between sacrificing ratio and Gaining ratio.
6. X, Y, Z sharing profit in the ratio of 3: 2:1 respectively and Z retires. Nothing is mentionedregarding new ratio. Find out New ratio and Gaining ratio.
7. What is joint life policy?
8. What is the difference between Revaluation and Realisation account?
9. What is purchase consideration?
10. What is piece- meal distribution?

PART – B

(5 x 6 = 30)

Answer any FIVE questions.

11. Prepare capital account under fixed capital method.

Items	Raja Rs.	Mohan Rs.
Capital as on 1.1.2018	3,200	2,800
Drawings during 2018	6,400	5,600
Interest at 5% on drawings	160	80
Share of profits for 2018	3,360	2,640
Interest on capital at 6%	1,920	1,680
Salary	2,880	-

12. A and B entered into partnership, contributing capitals of Rs. 30,000 and Rs.15,000 respectively. They agreed to share profits and losses in the ratio 2: 1. During the year A andB withdraw Rs. 5000 and Rs.3000 respectively. The profit for the year ended December 31,2019was Rs. 21,000. Prepare profit and loss appropriation account taking into consideration the following:
    - I. A to be allowed a salary of Rs. 1500 p.a.
    - II. Interest on capital is to be provided at 5%p.a.
    - III. Interest on B 's loan account of Rs. 10,000 is to be charged for the whole year.
    - IV. Interest on drawing is to be charged at 6%.

Contd...

13. X and Y shared profits in the ratio of 7: 3. Z was admitted as a partner. X surrendered 1/7th of his share and Y 1/ 3rd of his share in favor of Z. Calculate the new profit-sharing ratio.
14. A and B are partners sharing profits in the ratio of 7: 3. In view of C's admission, theydecided to revalue their assets and liabilities below
    a. The value land and building were to be increased by Rs30,000.
    b. To bring into record at Rs. 5000 investment which have not so for being brought intoaccount.
    C. To decrease stock by Rs. 3000 and furniture by Rs.1500.
    d. A provision for outstanding expenses was to be created for Rs.500.Prepare Revaluation account.
15. Kalila partner, retired from the firm on 1.1.2015 and the amount due to him is Rs 40 ,000.The retiring partner is paid Rs 10,000 immediately and the balance is to be paid in three equal Annual installments in Ludington interest @ 5% pa. The annuity table shows that Rs.
    1.00 can buy an annuity if Re. 0.367208 @ 5% for 3 years. Prepare a kalil loan account.
16. A, B and C are in partnership sharing profit and losses equally. They take out a joint life policyfor Rs. 30,000 on 1.1.2017 and pay an annual premium of Rs.3000. The books of account areclosed on 31 st December every year. C died on 1.1.2019. The firm realised the policy amount the ne t day. Pass journal entries.
17. A, B and C are in partnership sharing profit and losses in the ratio of 4:3:2 respectively. TheirBalance sheet as on 31.12.2012stood as follows:

Liabilities	Rs.	Assists	Rs.
Creditors	7000	cash	3000
Capital accounts:		Debtors	2000
A	8000	stock	4000
B	4000	buildings	11000
C	1000		
	20000		20000

The firm was dissolved on the date. "A" agreed to take over the stock at agreed value of Rs.3000 and debtors at Rs. 1400.

The buildings was sold at auction for Rs. 5400. Pass journal entries and prepare Realisationaccount.

Contd...

18. Big, Small and Short profits and losses in proportions of 1/2,1/4 and ¼. On the date ofdissolution their balance sheet as follows:

Liabilities	Rs.	Assets	Rs.
Creditors	14000	sundry assets	40000
Capitals:			
Big	10000		
Small	10000		
Short	6000		
	40000		40000

The assets realised as follows:
Ist installment Rs.14,000, 2nd installment Rs. 10000, 3rd installment Rs. 10000. Show howthe proceeds should be distributed under proportionate capital method.

PART – C

Answer any THREE questions. **(3 x 10 = 30)**

19. The following was the balance sheet ot A, B and C who were equal partners:

Liabilities	Rs.	Assets	Rs.
Capital accounts:		Building	19500
A	16800	Furniture	2400
B.	12600	stock	11400
C	6000	Debtors	10800
Creditors	6000	cash	600
Bill's payable	3300		
	44,700		44,700

They agreed to take D into partnership and give him1/4 th share in the profits onthe following terms:

I. That D should be in Rs. 9000 for goodwill and Rs. 15000 as capital.
II. That ½ of the goodwill shall be withdrawn by the old partners
III. That stock and furniture be depreciated by 10%
IV. That a provision of 5% on debtors be created for doubtful debts.
V. That a liability for Rs. 1080 be created against Bill's discounted.
VI. That the value of the building having appreciated, should.be valued at Rs. 27000.Give journal entries and prepare a Balance sheet.

Contd. ..

20. X and Y are partners in a business sharing profit and losses as 3: 2. Their balance sheet as on 1st January ,2017 is given below:

Liabilities		Rs.	Assets	Rs.
Capitals	X	20000	Machinery	19500
	Y	15000	Stock	16000
Reserve		15000	Debtors	15000
Sundry creditors		7500	Cash at bank	6000
			Cash in hand	1000
		57500		57500

Y decides to retire from the business to illness and X takes it over and theFollowing Revaluation are made

A. Goodwill of the firm is valued at Rs. 15000.
B. Depreciate machinery by 7.5% and stock by 15%
C. A bad debts provision is raised against debtors at 5% and a Discount reserveagainst creditors at 2.5%.

Prepare the Ledger account and Balance sheet.

21. The following is the balance sheet of A,B and C on 31 st December 2016.

Liabilities	Rs.	Assets	Rs.
Sundry creditors	4500	cash in hand	300
Reserve fund	4800	cash at bank	7500
Capital accounts:		stock	9000
A	15000	sundry debtors	9000
B	7500	Furniture	12000
C	7500	Tools	1500
	39300		39300

C died on 31.03.2017. Under the terms of the partnership deed the executor of a deceasedpartner were entitled to:

a. Amount standing to the credit to the partner's capital account.
b. Interest on capital at 5%.
c. Share of goodwill on the basis of the twice the average of the past three years profits.
d. Share of profits from the closing of the financial year to the death on the basis of the lastyear profits.
e. Profit for 2014 Rs.9000, for 2015 Rs. 12000, for 2016 Rs. 10500.

Contd...

Pass journal entries and find out the amount payable to the heir of C.

22. A,B, C and D were partners sharing profits in the ratio of 3: 2:3:2. Their Balance sheet on thedate of dissolution was as follows:

Liabilities	Rs.	Assets	Rs.
A' s capital	20000	Asset	34000
B' s capital	10000	C' s capital	12720
Reserve fund	8000	D' a capital	3280
Creditors	12000		
	50000		50000

On the above date C becomes insolvent and was able to contribute only 50 paise in the rupee. Assets realised Rs. 25000. Realisation expenses amounted to Rs. 800. Make ledgeraccounts.

I,J and K share profits in the ratio of 3: 2: 1. They have decided to sell their firm to IJK Ltd. As for.31.12.2013,on which date their balance sheet was;

Liabilities		Rs.	Assets	Rs.
Creditors		12000	properties	18000
Capitals:			Machinery	12000
	I	20000	Debtors	15000
	J	15000	Stock	13000
	K	13000	Cash	2000
		60000		60000

Company takes over the assets at the following valuation:
Properties Rs.22,000 ; Machinery Rs.11,000 ; Debtors Rs. 14,000; stock Rs. 12,000; Goodwill Rs.4,000.
Company's settlement is as follows:
Rs. 33,000 In shares of each Rs. 10 face value and the balance is paid in cash.Give ledger accounts in the books of the firm.

23. The following is the Balance sheet of Red, White and Blue as at 31.12.2012.

Liabilities		Rs.	Assets	Rs.
Capitals:			plant & Machinery	50000
	Red	75000	Land & Building	100000
	White	22500	Stock	20000
	Blue	67500	Debtors	70000
White' s loan		13000		
Creditors		62000		
		24000		240000

Contd...

On the above date, they decided to dissolve the firm and to repay the amounts due topartners as and when the assets were realized namely.

I Realisation Rs. 45,000 ; II Realisation

Rs.1,09,500III Realisation Rs. 70,500.

Prepare the statement showing the distribution as minimum loss method

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE.CODE : 4K3 (Upto 16)**

COURSE TITLE : Business Mathematics & Business Statistics **QN.NO : 5040**

TIME : 3 Hours **MAX.MARKS :75**

BUSINESS MATHEMATICS

PART – A **(5 x 2 ½ = 12 ½)**

Answer any FIVE questions.

1. The first term of an arithmetic progression is 15 and the last term is 85. If the sum of all terms is 750, what is the 6th term?
2. If A= {1,2,3,4,5}; B= {3,4,5,6,7}and C= {1,2,6,7}find $A \cup (B \cap C)$
3. Find the sum of the geometric series: 2 + 6 + 18 + 54 + . . . where there are 6 terms in the series.
4. What is the probability of getting a sum of 7 when two dice are thrown?
5. A bag contains 4 red balls, 3 white balls and 5 black balls. Two balls are drawn one after the other with replacement. Find the probability that first is red and the second is black.
6. A bag contains 7 red balls and 5 white balls. 4 balls are drawn at random. What is the probability that all of them are red?
7. Obtain the binomial distribution for which mean is 20 and the variance is 15.
8. Find the probability that at most 5 defective bolts will be found in a box of 200 bolts, if it is known that 2% of such bolts are expected to be defective(e^{-4}=0.0183)
9. State the properties of normal distribution.

PART – B **(5 x 5 = 25)**

Answer any FIVE questions.

10. In a certain town, there are 5000 people. Out of them, 1200 do not subscribe for any paper, 2700 subscribe for Hindu and 1800 subscribe for Indian express. Find how many subscribe for both? Show the data by Venn diagram.

Contd…

11. In an A.P a7 = 30, then find sum of first 13 terms of that A.P

12. Sum of three terms in a G.P. is 31 and their product is 125. Find the numbers.

13. A university has to select an examiner from a list of 50 persons, 20 of them women and 30 men, 10 of them knowing Hindi and 40 not. 15 of them being teachers and the remaining 35 not. What is the probability of the university selecting a Hindi knowing woman teacher?

14. Finicky's Jewelers sells watches for $50 each. During the next month, they estimate that they will sell 15, 25, 35, or 45 watches with respective probabilities of 0.35, 0.25, 0.20, and ... (figure it out). They can only buy watches in lots of ten from their dealer. 10, 20, 30, 40, and 50 watches cost $40, 39, 37, 36, and 34 per watch respectively. Every month, Finicky's has a clearance sale and will get rid of any unsold watches for $24 (watches are only in style for a month and so they have to buy the latest model each month). Any customer that comes in during the month to buy a watch, but is unable to, costs Finicky's $6 in lost goodwill. Find the best action under each of the four decision criteria.

15. What is the chance that a leap year, selected at random will contains 53 days.

16. 5 Coins are tossed 3200 times. Find the frequencies of the distribution of heads ad tails and tabulate the results.

17. 100 car radios are inspected as they come off the production line and number of defects per set is recorded below:

No. of defects	0	1	2	3	4
No. of sets	79	18	2	1	0

Fit a Poisson distribution to the above data and calculate the frequencies of 0,1,2,3 and 4 defects ($e^{-0.25}$=0.779)

18. The average daily sale of 500 branch offices was Rs 150 thousands and the standard deviation is Rs 15 thousand. Assuming the distribution to be normal, indicate how many branches have sales between

a) Rs 1,20,000 and Rs 1,45,000

b) Rs 1,40,000 and Rs 1,65,000.

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BUSINESS STATISTICS

PART – A (5x1.5 = 7.5)

Answer any FIVE questions.

1. If two regressions co-efficient are 0.61 and 0.5. Calculate co-efficient of correlation.
2. What is an index number?
3. State the components of time series?
4. What are the types of sampling?
5. A person throws 10 dice 500 times and obtains 2560 times 4,5, or 6. Test the hypothesis that can this be attributed to fluctuations of sampling.

PART – B (2 x 6 = 12)

Answer any TWO questions.

6. Calculate the coefficient of concurrent deviations

No. of workers	300	350	400	450	500	550
Production (in Units)	30	32	33	35	40	50

7. Construct the two regression equations from the following

X	1	2	3	4	5	6
Y	5	6	7	8	9	10

8. What are the uses of index numbers?
9. What are the various methods of determining trend in a time series?

PART – C (2 x 9 = 18)

Answer any TWO questions.

10. Explain the non-random sampling methods.

Contd…

11. Calculate rank correlation co-efficient for the following data

A	6	5	3	10	2	4	9	7	8	1
B	3	8	4	9	1	6	10	7	5	2

12. Using Fisher's method, calculate price index

Commodity	2002		2003	
	Price	Quantity	Price	Quantity
A	7	10	9	12
B	8	15	10	13
C	5	21	7	20
D	11	30	12	35
E	9	20	11	21

13. A sample of 1000 students from Bombay university was taken and their average weight was found to be 112 lbs with a standard deviation of 20 lbs. could the mean weight of students in the population be 120 pounds?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 4AK1 (Upto 16)**

COURSE TITLE : Company Law - II **QN.NO : 5044**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer all questions.

1. Define Share.
2. What is surrender of shares?
3. Define the term member.
4. Can minor be a shareholder of a company?
5. Who are first directors of a company?
6. What is DIN?
7. What are the essentials of a company meeting?
8. What is a class meeting?
9. Define the expression "Winding Up".
10. What appoints the company liquidator?

PART – B (4 x 5 = 20)

Answer any Four questions.

11. Distinguish between share warrant and share certificate.
12. Who can become a member of a company?
13. Who is not eligible to become a director?
14. Explain the procedure to remove a director.
15. What are minutes? Discuss the legal provisions regarding minutes.
16. What is a notice? What are the requisites of a valid notice?
17. Explain the powers of a liquidator.

PART – C (3 x 10 = 30)

Answer any THREE questions

18. Describe the various kinds of share capital.
19. Discuss the various rights of member.
20. Explain the powers and duties of directors.

Contd…

21. Describe the different kinds of company meetings.

22. Discuss the various modes of winding up of a company.

PART – D **(2 x 5 = 10)**

Answer any TWO questions

23. "*All shareholders are members of a company but all members need not be shareholders of the company*". Discuss this statement and explain who is entitled to become a member of a company.

24. Ashwin was a director of a public limited company. The shareholders of the company, by altering its Articles of Association with immediate effect, made it a compulsory qualification for directors to be at least graduates. Ashwin, who was not graduate, was asked to quit. Advise Ashwin.

25. At a meeting of a company only 15 shareholders were present, 9 voted for a special resolution and 2 against, and 4 did not vote at all. No poll was demanded and chairman declared resolution to be carried. Is this a valid resolution?

26. A creditor of a company applied for the winding up of the company for its inability to pay his claim, after the lapse of 3 weeks from the date of proper demand made on the company. It was proved to the satisfaction of the court, during inquiry, that the company was commercially solvent. Discuss.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 4AK2 (Upto 2016)**

COURSE TITLE : Industrial Law **QN.NO : 5046**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **Answer all the questions** **(10 X1.5=15)**

1. What is factories act?
2. Who is Adolescent?
3. Define Young person.
4. What is Retrenchment?
5. What is Employ's Liability?
6. Who is managing Agent?
7. Who is Dependant?
8. Define Available Surplus.
9. Who is Adult?
10. What is EPF?

PART – B **Answer any Four questions** **(4x5 =20)**

11. State the rights of Factories Act.
12. Explain the working hours of Adults?
13. Describe Unfair Labour Practice.
14. Difference between Lock out and Lay off.
15. Explain the nature of workmen's compensation act.
16. How is gross profit calculated in case of a company for the purpose of bonus?
17. Explain the determination of money due from employer under the EPF Act 1952.

PART – C **Answer any Three questions** **(3x10 =30)**

18. Explain the provisions with regard to safety under the Factories Act.
19. Narrate the different matters over which a labour court can exercise jurisdiction?
20. How is the amount of compensation payable to be injured employee calculated under the Employees Compensation Act 1923?

21. Describe the special provisions of the payment of Bonus Act 1965 in respect of new establishment?
22. State the scheme relating to Employees Provident Fund.

PART – D **Answer any Two questions** **(2x5 =10)**

23. Discuss about Employment of women and young persons and their leave with wages with examples.
24. Explain briefly about Accident Compensation.
25. What the duties of conciliation offices are as laid down in the Industrial Disputes Act 1947?
26. What are the rules for determination and Distribution of bonus? How can Bonus be recovered by the employee?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: UG NME-Commerce **COURSE CODE : 4KNM (upto 2016)**

COURSE TITLE : Business Accounting **QN.NO : 5048**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1.5 = 15)**

Answer ALL questions.

1. What are the different types of accounts?
2. State the meaning of Trial balance.
3. What is Journal?
4. Mention any two items in credit side of trial balance.
5. Mention any three subsidiary books.
6. Write a short note on petty cash book.
7. State the meaning of Journal Proper.
8. What is Trading Account?
9. Mention any two fixed assets.
10. Give the meaning of liabilities.

PART – B **(3 x 10 = 30)**

Answer any THREE questions.

11. Explain the rules of accounting and give suitable examples.
12. Distinguish between Trial balance and Balance sheet.
13. Enter the following transactions in the proper subsidiary books:

2003 July

1. Bought goods from Mohan Rs. 2,500
2. Sold goods to Raman Rs. 1,500
3. Bought goods from Kannan Rs. 1,000
4. Sold goods to Muruali Rs. 1,500
5. Received goods returned by Raman Rs. 100
6. Returned goods to kannan Rs. 200

14. X and Co., gives the following information. Prepare the reconciliation statements

	Account I	Account 2
	Rs.	Rs.
Balance as per Cash book	50,000 (Dr)	1,80,000(Cr.)
Cheques issued but not presented	39,300	21,500
Cheques deposited but not collected	--	47,500
Interest not adjusted in cash book	--	2,500
Cheques issued in Account No. 2, wrongly entered in Account No. 1		1,800

Contd…

15.Prepare trading and P&L account from the information given below:

	Rs.		Rs.
Opening stock	3,600	Rent (Factory)	400
Purchases	18,260	Rent (Office)	500
Wages	3,620	Sales returns	700
Closing stock	4,420	Purchase returns	900
Sales	32,000	General expenses	900
Carriage on purchases	500	Discount to customers	360
Carriage on sales	400	Interest from Bank	200

PART – C **(2 x 15 = 30)**

Answer any TWO questions.

16.Correct the following Trial balance

	Rs.		Rs.
Opening stock	10,000	Loan account (Cr)	15,000
Purchases	49,000	Debtors	42,000
Wages	15,000	Capital	50,000
Rent and Taxes	1,000	Provision for bad debts	2,800
Salaries	8,000	Sales returns	2,000
General expenses	900	Discount allowed	500
Mahcinery	15,000		
Creditors	20,000		
Furniture	8,000		
Cash at Bank	5,000		
Sales	1,28,600		
Buildings	60,000		
	3,20,500		**3,20,500**

17.Enter the following transactions in a three column cash book

1999		Rs.
1-Jan	Cash in hand	410
	Balance at bank	8,920
2	Cash sales	4,500
3	Paid into bank	4,000
5	Purchased machinery	100
8	Paid Mahesh by cheque	280
	Discount received	20
12	Gave a cheque for cash purchases	1,500
15	Drew for personal use	500
	Received from Suresh, a cheque for Rs. 1,970 in full settlement of account for Rs.2,000	
	and deposited it in bank	
20	Drew from bank	1,000
21	Paid wages	800
25	Bank returned cheque of Suresh dishonored	
31	Bank charges as per pass book	10

Contd…

18.From the following trial balance, prepare trading, profit and loss account for the year
ended 31.12.2001 and a balance sheet as on that date

	Rs.		**Rs.**
Purchases	11,870	Capital	8,000
Debtors	7,580	Bad debts recovered	250
Returns inwards	450	Creditors	1,250
Bank deposit	2,750	Returns outwards	350
Rent	360	Bank overdraft	1,570
Salaries	850	Sales	14,690
Travelling expenses	300	Bills payable	1,350
Cash	210		
Stock	2,450		
Discount allowed	40		
Drawings	600		
	27,460		**27,460**

Adjustments:

(i) The closing stock on 31.12. 2001 was Rs. 4,200

(ii) Write off Rs. 80 as bad debts and create a reserve for bad debts at 5% on sundry debtors.

(iii) Three months rent is outstanding.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 5K1 (Upto 2016)**

COURSE TITLE : Principles & Practice of Insurance **QN.NO : 5050**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer all questions.

1. Define 'Utmost good faith'.
2. Infer 'doctrine of subrogation'.
3. Difference between insurance and assurance.
4. List out various types of annuity policies.
5. Why do insurance policies lapse?
6. Distinguish assignment from nomination.
7. What is the surrender value of an insurance policy?
8. What is the meaning of perils?
9. What is meant by marine insurance?
10. What do you understand by Reinsurance?

PART – B (5x 6 = 30)

Answer any FIVE questions.

11. Portray the general principles of insurance.
12. List out different kinds of insurance.
13. Distinguish life insurance from annuities.
14. Explain the conditions relating to commencement of risk conditions of premium.
15. Enumerate the claim process in life insurance policy.
16. Describe the principles of marine insurance.
17. Explain the difference types of marine insurance policy.
18. Difference between fire insurance and life insurance.

PART – C (3 x 10 = 30)

Answer any THREE questions.

19. Elaborate the role and importance of insurance.
20. Critically assess the advantages of life insurance.
21. Explain the different types of life insurance policies in India.
22. Enumerate the different types of Marine Perils in Marine Insurance.
23. Describe the nature and uses of fire insurance policies.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 5K2 (Upto 2016)**

COURSE TITLE : Elements of Operations Research **QN.NO : 5052**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer ALL questions.

1. List out the limitations of operation research.
2. What is feasible solution?
3. What is Degeneracy?
4. Differentiate between Tranportation problem and Assignment problem.
5. What is meant by successor Activity?
6. What is Pay- off Matrix?
7. Define the term PERT.
8. What are the assumptions of linear programming?
9. Define Queuing Theory.
10. Write shot notes on Saddle point.

PART – B (4 x 6 = 24)

Answer any FOUR questions.

11. XYZ factory manufactures two articles A and B. To manufacture the article A, a certain machine has to be worked for 1.5 hours and in addition a craftsman has to work for 2 hours. To manufacture the article B, the machine has to be worked for 2.5hoursandin addition the craftsman has to work for 1.5 hours. In a week the factory can avail. Of 80 hours of machine time and 70 hours of craftsman's time. The profit on each article A is Rs. 50 and that on each article is Rs.40. If all the article produced can be sold away, find how many of each kind should be produced to earn the maximum profit per week. Formulate the problem an LP MODEL.
12. A compute Centre has got four expert programmers. The center needs four application programmes to be developed. The head of the computer Center,after studying carefully, the programmes to be developed, estimates the computer time (in minutes) required by the respective experts to develop the application programmes as follows:

	Programmes			
	A	B	C	D
1	120	100	80	90
2	80	90	110	70
3	110	140	120	100
4	90	90	80	90

Assign the programmers to the programmes in such a way that the total computer time is minimum.

13. Solve the Transportation problem under North West.Corner method.

Factory	Warehouse				Capacity
	W1	W2	W3	W4	
F1	21	16	25	13	11
F2	17	18	14	23	13

Contd...

F3	32	27	18	41	19
Requirement	6	10	12	15	43

14. Solve the LP Problem under Graphical method.
Maximize (total profit) $Z = 80x_1 + 120\ x_2$
Subject to the constraints
$X_1 + x_2 \leq 9,\ x_1 \geq 2,$
$20x_1 + 50x_2 \leq 360$
$X_1 \geq , x_2 \geq 0.$

15. Find optimal strategies of A and B and value of game using principle of dominance:

	B1	B2	B3	B4
A1	7	6	8	9
A2	-4	-3	9	10
A3	3	0	4	2
A4	10	5	-2	0

16. Prepare the network diagram

Activity	Name of the activity	pre- requisites	Estimated time
1-2	A	None	3
1-3	B	None	5
1-4	C	None	4
2-5	D	A	2
3-5	E	B	3
4-6	F	C	9
5-7	G	D,E	8
3-6	H	B	7
6-7	I	H,F	9

PART – C (3 x 12= 36)

Answer any THREE questions.

17. Solve the problem under simplex method.
Maximixe $Z = 800\ x_1 + 600\ x_2 + 300x_3$
Subject to the constraints,
$10x_1 + 4x_2 + 5x_3 \leq 2000$
$2x_1 + 5x_2 + 4x_3 \leq 1009$
$X_1 \geq 0\ x_2 \geq 0\ x_3 \geq 0.$

18. A company has received a contract to supply gravel for three new construction projects located in towns A,B and C. Construction engineer have Estimated the required amounts of gravel which will be needed at these construction projects.

Project location	A	B.	C
Weekly requirements	144	204	82

The co., has 3 gravel pits located in towns, W,X and Y respectively. The gravel required by the construction projects can be supplied by these three plants. The amount of gravel which can be supplied by each plant is as follows:

Plant	W	X	Y
Amount available	152	164	154

The co., has computed the deliver cost from each plant to each project site. These costs (in rupees) are shown in the following table:

Contd...

		Cost per truck load ('000 Rs.)		
		A	B	C
Plant	W	8	16	16
	X	32	48	32
	Y	16	32	48

Find the minimum cost

19. A firm produces 4 products. There are 4operators who are capable of producing any of these four products. The processing time varies from operator to operator. The firm records 8 hours a day and allows 30minutes for lunch. The processing time in minutes and the profit for each of the product are given below:

Operators	products			
	A	B	C	D
1	15	9	10	6
2	10	6	9	6
.3	25	15	15	9
4	15	9	10	10
Profit (Rs. Per unit)	8	6	5	4

Find out the optimal assignment.

20. Obtaining the optimal strategies for both players and value of the game for two- person zero sum game whose pay- off Matrix is as follows

	B1	B2
A1	-6	7
A2	4	-5
A3	-1	.-2
A4	-2	5
A5	7	-6

21. Customers arrive at the First Class Ticket counter of u Threatre at a rate of 12 per hour. There is no one clerk serving the customer at a rate of 30 per hour. Assuming the conditions for use of the single channel Queuing model evaluate :
    a. The probability that there is no customer at the counter
    b. The probability that there are more than 20 customers at the counter.
    c. The probability that there is no customer waiting to be served.
    d. The probability that customer is being served and nobody is waiting.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 5K3 (Upto 2016)**

COURSE TITLE : Corporate Accounting **QN.NO : 5054**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer all questions.

1. What is allotment of shares?
2. What do you mean by bonus shares?
3. What do you mean by firm underwriting?
4. What is schedule VI of CompaniesAct 1956?
5. What do you understand by goodwill?
6. How you can calculate purchase consideration under net assets method?
7. What is external reconstruction of a company?
8. Define Holding company.
9. What is minority interest?
10. What do you understand liquidators final statement of account?

PART – B (4x 6 = 24)

Answer any FOUR questions.

11. X and Company issued 50,000 Equity Shares of Rs.10 each and 3,000 Redemption Preference Shares of Rs.100 each. All shares being fully called and paid up. On 31st March 2004, Profit and Loss Account showed an undistributed profit of Rs.50,000 and the General Reserve Account stood at Rs.1,20,000. On 2nd April 2004, the directors decided to issue 1,500 6% Preference Shares of Rs.100 each for cash and to redeem the existing Preference Shares at Rs.105 utilizing as much profits as would be required for the purpose.
    Show the journal entries to record these transactions
12. Lion Ltd. was incorporated on 1.8.2011 to take over the running business of M/s Happy with assets from 1.4.2011. The accounts of the company were closed on 31.3.20X2.
    The average monthly sales during the first four months of the year (2011-12) was twice the average monthly sales during each of the remaining eight months.
    Calculate time ratio and sales ratio for pre and post incorporation periods.
13. A business earned average profits of Rs. 1,00,000 during the last few years. The normal rate of return in similar type of business is 10%. The assets of the business were Rs. 10,00,000 and external liabilities was Rs. 1,80,000. Calculate the value of goodwill of the firm by super profit method, if the goodwill is valued at 2. 1/2 years' purchase of super profits.

Contd..

14. X Ltd and Z Ltd amalgamated on and from 1st January 2015. A new company XZ Ltd was formed to take over the business of the existing companies.

BALANCE SHEET AS ON 31.12.2014

Liabilities	**X Ltd**	**Z Ltd**	**Assets**	**X Ltd**	**Z Ltd**
Equity share capital Rs.10	60,00,000	70,00,000	Sundry Fixed assets	85,00,000	75,00,000
General reserve	15,00,000	20,00,000	Investment	10,50,000	5,50,000
Profit & Loss A/c	10,00,000	5,00,000	Stock	12,50,000	27,50,000
Statutory Reserves	5,50,000	2,00,000	Debtors	18,00,000	40,00,000
12% Debentures	30,00,000	40,00,000	Bank & Cash	4,50,000	4,00,000
Sundry creditor	10,00,000	15,00,000			
	1,30,50,000	1,52,00,000		1,30,50,000	1,52,00,000

Z Ltd issued enough number equity shares for the net assets, compute purchase consideration and draft the balance sheet of XZ Ltd. After amalgamation.

15. The following is the Balance sheet of S Ltd. as on 31st March, 2010.

Liabilities	**Rs.**	**Assets**	**Rs.**
Share capital		Fixed Assets	2,90,000
Equity shares of Rs. 10 each	2,70,000	Investment	2,75,000
General Reserve Profit & Loss A/c	3,60,000	Current Assets	1,30,000
Current liabilities		Preliminary	
	85,000	Expenses	20,000
	7,15,000		7,15,000

H Ltd. acquired 25,000 shares in S Ltd. on 31st March, 2010 at a cost of Rs. 2,75,000. fixed assets were revalued at Rs. 3,28,000. find minority interest

16. Following particulars relate to a limited company which has gone into voluntary liquidation. You are required to prepare the Liquidator's Final account allowing for his remuneration at 3% on the amount realized and 2% on the amount paid to the unsecured creditors.Share capital issued: Preference shares of Rs. 100 each fully paid ; 20,000 equity shares of Rs. 10 each fully paid ; 4,000 equity shares of Rs. 10 each (8 paid)

Assets realized Rs. 3,08,000 excluding amount realized by sale of securities held by the secured creditors.Secured creditors (security realized Rs. 54,000) Rs. 46,000; unsecured creditors Rs. 2,83,698; Preferential creditors Rs. 8,000; Debentures having a floating charge on the assets Rs. 1,00,000; expenses of liquidation amounted to Rs. 3,000.

A call of Rs. 2 per share on the partly paid equity shares was duly paid except in case of one shareholder owing 400 shares.

Contd..

PART – C (3 x 12 = 36)

Answer any THREE questions.

17. X Ltd., issued for public subscription 20,000 equity shares of Rs. 10 each at a premium of Rs. 2 per share payable as under:
Rs. 2 per share on application; Rs. 5 per share (including premium) on allotment; Rs. 2 per share on first call; Rs. 3 per share on final call.
Applications for 30,000 shares were received. Allotment was made pro rata to the applicants for 24,000 shares, the remaining applications being rejected. Money overpaid on application was utilized towards sum due on allotment.
Shri Y to whom 800 shares were allotted failed to pay the allotment money, first and second calls money and Shri Z to whom 1,000 shares were allotted failed to pay the last two calls. These shares were subsequently forfeited after the second call was made.
All these forfeited shares were reissued to Shri W as fully paid up at Rs. 8 per share.
Give the necessary journal entries to record the share transactions.
18. Swiss Ltd., issued 40,000 equity shares of Rs. 10 each at par. The entire issue was underwritten as follows:
A - 24,000 shares (Firm underwriting 3,200 shares)
B – 10,000 shares (Firm underwriting 4,000 shares)
C – 6,000 shares (Firm underwriting 1,200 shares)
The total applications including firm underwriting were for 28,400 shares. The marked applications were as under:
A – 7,200 shares
B – 9,000 shares
C – 3,200 shares
The underwriting contract provides that credit for unmarked applications be given to the underwriters in proportion to the shares underwritten.
Determine the liability of each underwriter and the amount of commission payable to them assuming it to be 2%.
19. White limited agreed to acquire the business of Green Ltd. As on 31st march 2014 on which date the liabilities and assets of Green Ltd. Were as follows

Liabilities	Rs	Assets	Rs
Capital (in fully paid shares of Rs.10 each)	6,00,000	Goodwill	1,00,000
General reserve	1,70,000	Land and building	3,00,000
Surplus account	1,10,000	Plant	3,40,000
6% debenture	1,00,000	Stock	1,68,000
Creditors	20,000	Debtors	56,000
		Cash	36,000
	10,00,000		10,00,000

Contd...

The consideration payable by White Ltd was:

i. A cash payment of Rs.2.50 for every share in Green Ltd.

ii. The issue of 90,000 Rs. 10shares at an agreed value of Rs.12.50 per share and

iii. 6% debentures of Green Ltd are taken over by White Ltd and are discharged by the issue of such an amount of fully paid 5% debentures in White Ltd at 96% as is sufficient to discharge the 6% debentures in Green Ltd at a premium of 20% .

iv. The directors of White Ltd valued Land and Buildings at Rs. 4,00,000 and created a provision of 5% on debtors against doubtful debts.

v. The expenses of liquidation of Rs. 6,00,000 were paid by White Ltd.

Give journal entries to close the books of Green Ltd and to record the acquisition of business in the books of White Ltd.

20. Following are the liabilities and assets of Godbole Co. Ltd as on 31st March 2014.

Liabilities	**Rs.**	**Assets**	**Rs.**
Share Capital: 3000 5% Pref. shares of Rs. 100 each 6000 Equity shares of Rs. 100 each	 3,00,000 6,00,000	Goodwill	22,500
6% Debentures	1,50,000	Land & Building	3,00,000
Bank Overdraft	1,50,000	Machinery	4,50,000
Creditors	75,000	Stock	65,000
		Debtors	70,000
		Cash	7,500
		Surplus A/c (Negative Balance)	3,50,000
		Discount on Debentures	10,000
	12,75,000		**12,75,000**

On the above date, the company adopted the following scheme of reconstruction:

i) The preference shares are to be reduced to fully paid shares of Rs. 75 each and equity shares are to be reduced to shares of Rs. 40 each fully paid.

ii) The debenture holders took over stock and debtors in full satisfaction of their claims.

iii) The fictitious and intangible assets are to be eliminated.

iv) The land & building to be appreciated by 30% and machinery to be depreciated by 33 1/3%

v) Expenses of reconstruction amounted to Rs. 4,500

Give journal entries incorporating the above scheme of reconstruction and prepare the reconstructed balance sheet.

Contd...

21. The balance sheets of H Ltd. and S Ltd. as at December, 31st 2010 given below.

Liabilities	H Ltd.	S Ltd.	Assets	H Ltd.	S Ltd.
Share capital (Rs.10 each)	8,00,000	2,00,000	Fixed Assets	7,00,000	2,00,000
General Reserve	2,00,000	80,000	Investment 16,000 shares in S Ltd.	2,00,000	
Profit and Loss A/c	1,00,000	60,000	Current Assets	3,00,000	1,60,000
Creditors	1,00,000	20,000			
	12,00,000	3,60,000		12,00,000	3,60,000

S Ltd. had a credit balance of Rs. 80,000 in the General Reserve when H Ltd. acquired share in S Ltd. S Ltd. decided to capitalize Rs. 40,000 out of post-acquisition profits earned by making a bonus issue of one share for every five shares held.

Prepare a consolidated Balance sheet as of December, 31st2010.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 5K4 (Upto 2016)**

COURSE TITLE : Cost Accounting **QN.NO : 5056**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1.5 = 15)**

Answer all questions.

1. Define the term costing.
2. What are the elements of cost?
3. List out the various types of stock level.
4. Find out the EOQ. Annual Consumption – 3000 Kg; Cost of placing and receiving per order Rs.1000; Annual carrying cost per Kg. Rs.20
5. Find labour turnover under separation method. No of workers on the payroll – at the beginning of the month – 500; at the end of month – 600; during the month, 5 workers left, 20 persons were discharged.
6. Write a short note on motion study.
7. Define over head.
8. From the following information, you are required to calculate the overhead absorption based on direct wages for the month. Direct wages Rs.30000; Factory overheads allocated and apportioned to the department Rs.12000.
9. Calculate Economic Batch Quantity, Annual demand for the parts 4000 units; setting up cost Rs.100; cost of manufacture one unit Rs.200; rate of interest pen annum 10%.
10. Prepare a cost reconciliation statement from the following: Profit as per cost accounts Rs.1,50,000; The works overhead were under-recovered in the cost account by Rs.6200; The administration expenses under recovered in financial accounts by Rs.2750. Interest received on investment Rs.1000.

PART – B **(4 x 6= 24)**

Answer any Four questions.

11. Distinguish between cost accounting and financial accounting.
12. Explain ABC analysis for material control.
13. The following information relates to the personnel departments of a factory for the month of April 2004.

Number of workers on April, 1, 2004	950
Number of workers on April 30, 2004	1050
Number of workers who quit the factory in April	10
Number of workers discharged in April	30
Number of workers engaged in April (including 120 on account of expansion scheme)	140

Calculate the labour turnover rate under different methods.

Contd…

14. Work out the machine hour rate for the following machine whose scrap value is nil:

Cost of machine Rs.360000
Freight and installation Rs. 40,000
Working life 20 years
Working hours 8000 per year
Repair charges 50% of depreciation
Power 10 units per hour @ 10 paise per unit
Lubricating oil @ Rs.2 per day of 8 hours
Consumable stores @ Rs. 10 per day of 8 hours
Wages of operator @ Rs. 4 per day

15. Following information relates to the manufacturing of component in a cost centre:

Cost of materials 6 paise per component
Operator's wages 72 paise an hour
Machine-hour rate Rs.1.50
Setting up time of the machine 2 hours and 20 minutes
Manufacturing time 10 minutes per component
Prepare a cost sheet showing both production and setting up cost total and per unit, when the batch consists of 100 components.

16. State the reasons for difference in profits revealed by cost and financial accounts.

PART – C (3 x 12 = 36)

Answer any THREE questions

17. Following information has been obtained from the records of manufacturing company.

	01-01-2012 Rs.	31-12-2012 Rs.
Stock of Materials	40000	50000
Stock of Finished goods	100000	150000
Stock of Work-in-progress	10000	14000

Transaction during the year

	Rs.		Rs.
Indirect Labour	50000	Carriage outward	20000
Lubricants	10000	Power	30000
Insurance on Plant	3000	Direct labour	300000
Purchase of Raw Materials	400000	Depreciation on Machinery	50000
Sale commission	60000	Factory Rent	60000
Salaries of salesman	100000	Property Tax on Factory Building	11000
Administration Expenses	100000	Sales	1200000

Contd…

Prepare a statement of Cost and profit showing: a) Cost of Raw materials consumed, b) Prime cost, c) Total manufacturing cost, d) Factory manufacturing cost, e) Cost of production, f) Cost of goods sold, g) Cost of sales and h) Profit.

18. From the following ;particulars you are required to work out the earnings of a worker for a week under a) Straight piece-rate b) Differential piece rate, c) Halsey premium scheme (50% sharing) and d) Rowan premium scheme.

Weekly workings hours	48
Hourly wage rate	Rs. 7.50
Piece rate per unit	Rs. 3.00
Normal time taken per piece	20 minutes
Normal output per week	120 pieces
Actual output for the week	150 pieces
Differential piece rate	80% piece rate when output below normal 120% of piece rate when output above normal

19. Strongman Ltd., has three production departments P_1, P_2 and P_3 and two service departments S_1,and S_2. Following particulars are available for the month of March 2013 concerning the organisation:

Expenses	Rs.
Rent	15000
Municipal tax	5000
Electricity	2400
Indirect wages	6000
Power	6000
Depreciation on Machinery	40000
Canteen Expenses	30000
Other related cost	10000

Following further details are also available:

Particulars	Total	P_1	P_2	P_3	S_1	S_2
Floor Space (Sq. mts)	5000	1000	1250	15000	1000	250
Light points	240	40	60	80	40	20
Direct wages	40000	12000	8000	12000	6000	2000
Horse power of Machines	150	60	30	50	10	--
Cost of Machine (Rs)	200000	48000	64000	80000	4000	4000
Working hours	--	2335	1510	1525	--	---

The expenses of service departments are to be allocated in the following manner:

	P_1	P_2	P_3	S_1	S_2
S_1	20%	30%	40%	--	10%
S_2	40%	20%	30%	10%	--

You are required to calculated the overhead absorption rate per hour in respect of the three production departments.

Contd…

20. Following information is extracted from the cost accounts of a factory producing a commodity in the manufacture of which three processes are involved. Prepare Process Accounts showing the cost of the output and the cost per unit at each stage of manufacture. You may presume that:

a) The operation in each separate process are completed daily; and
b) The value at which units are to be charged to Process two and three is the cost per unit of Process one and one plus tow respectively.

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Particulars	**Process – 1**	**Process – II**	**Process - III**
Direct Wages	2500	5000	6500
Machine Expenses	1400	1200	1200
Factory overheads	1100	1550	900
Raw materials consumed	8000	-	-
	Units	Units	Units
Production (Gross)	2750	--	--
Wastage	150	210	200
Opening stock of Raw Materials	--	250	500
Closing Stock of Raw Materials	--	440	100

21. A company's Trading and Profit and Loss Account was as follows:

Particulars	Rs.	Particulars	Rs.
Purchases	25210	Sales: 50000 units at Rs.1.50 each	75000
Direct wages	10500	Discount received	260
Works Expenses	12130	Profit on sale of land	2340
Selling Expenses	7100	Closing stock	4080
Administration Expenses	5340		
Depreciation	1100		
Net Profit	20300		
	81680		81680

The Profit as per cost accounts was only Rs.197770. Reconcile the financial and cost profits using the following information:

A) Cost accounts value of closing stock Rs.4280
B) The works expenses in the accounts were taken as 100 per cent of direct wages.
C) Selling and Administration expenses were charged in the cost accounts at 10%of sales and Rs.0.10 per unit respectively.
D) Depreciation in the cost accounts was Rs.800.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 5K5 (Upto 2016)**

COURSE TITLE : Income Tax Law Procedure and Practice - I **QN.NO : 5058**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all questions.

1. Income Tax Act was passed in the year_____
   a. 1955 b. 1961 c. 1956 d. 1962
2. A citizen of India who goes abroad for the purpose of employment, he must stay in India at least for _____days to become a resident
   a. 90 days b. 162 days c. 180 days d. 182 days
3. CBDT stands for _____
   a. Central Bureau of Direct Taxes b. Central Board of Direct Taxes
   c. Citizen's Board of Direct Taxes d. Citizen's Bureau of Direct Taxes
4. The highest Administrative Authority for Income Tax in India is_____
   a. Finance Minister b. CBDT
   c. President of India d. Director of Income Tax.
5. Any benefits attached to an office or position in addition to salary or wages is called _____
   a. Allowances b. Perquisites c. Benefits d. basic pay
6. Pension is taxable under _____head.
   a. Salary b. House property c. Capital gains d. other sources
7. Mr. X has two house properties, both are self-occupied. The Gross Annual Value for A.Y. 2020-21:
   a. One House will be Nil b. Both House will be Nil
   c. No House will be Nil d. None of the above
8. The fair rental value is 3,50,000, actual rent 3,30,000, Standard rent 3,20, 000.Municipal tax paid during the previous year for the last 7 years is 3,40,000. The net annual value will be:
   a. Loss 10,000 b. 10,000 c. 3,30,000 d. Loss 3,30,000
9. Under the Income Tax Act,1961, depreciation on machinery is charged on _____
   a. Purchase price of the machinery b. Written down value of the machinery
   c. Market price of the machinery d. All of the above
10. Which is the charging section of income under the head profits and gains of business or profession?
    a. Section 15 b. Section 24 c. Section 28 d. Section 17

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11.a. Show the types of assessee under Income tax act

(OR)

b.Mr. Dust left India for the first time on November 25, 2017 for meeting his friends. During the calendar year 2018 he came to India on September 1 and stayed for a period of 10 days. During the calendar year 2019, he did not visit India at all but finally came to India on January 16, 2020. Determine the residential status of Mr. Dust for the assessment year 2020-21.

12.a.Interpret the functions of central board of direct taxes.

(OR)

b. Summarizethe various functions of appellate tribunal of income tax

13. a. Mr. A, a bank manager was transferred to Jaipur where he stayed in a hotel free of rent. His salary particulars are:

	□
Pay	20,000 p.m.
D.A. under the terms of employment treated as pay	5,000 p.m.
Bonus	30,000
Education allowance for two children @ □ 250 p.m. per child	
Transport allowance	1,000 p.m.
Entertainment allowance	1,500 p.m.

Calculate the value of rent free accommodations if he stayed in a hotel for

a) 12 days and actual bill is □ 3,600.
b) 41 days and actual bill is□ 38,450.

(OR)

b. Illustrate the types of allowance under the head salary.

14.a. Compute income from house property from the particulars given below for the assessment year 2020-2021

	□
Municipal rental value	24,000 p.a.
Actual rent received	30,000 p.a.
Municipal taxes	2,400 p.a.
Date of completion	31-3-2015
Date of letting	1-4-2015
Fire insurance premium(due)	400 p.a.
Ground rent(due)	600 p.a.
Interest on loan taken to construct the house 2013-14 to 2018-19 2019-20	@ 15,000p.a. 10,000 1,000
Interest on delayed payment of interest	

(OR)

b. Outline the deductions allowed from the annual value in computing taxable income from house property.

Contd…

15.a. Mr. Rawat gives you the following particulars from his accounts for the year ended 31-3-2019:

	Rs.
Net profit as per P&L account (without changing the following items)	2,75,000
Expenditure on family planning	45,000
Lump sum consideration for purchase of technical know –how developed in government laboratory	90,000
Entertainment expenditure	30,000
Expenditure on acquisition of patent right	84,000
Expenditure on advertisement paid in cash	8,000
Provision for GST (He paid Rs.20,000 on 27-6-2020 and Rs.7,000 on 10-11-2020. Due date of filing of return is 31-7-2019)	45,000
Amount paid to Rajasthan University for an approved Research programme in the field of social science not connected with his business.	50,000

Compute his business profits for the year ending 31-3-2020.

(OR)

b. Following particulars are furnished by a Pvt. Ltd., company relating to its plant and machinery (15% block) for the year ending on 31st March,2020

W.D.V on 1st April,201 9 Rs.4,00,000

Additions made during the year (installed on 1-7-2019) Rs.60,000

During the year an item of machinery was sold for Rs.20,000. The W.D.V of this item (as on 1-4-2019) was Rs.11,000. The item was purchased for Rs.16,000.

Compute depreciation and W.D.V.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Identify any ten fully exempted incomes with relevant sections under section 10 of income tax act.

17. Build the administrative structure of income tax authorities

18. Mr. A received the following incomes during the year ending 31.3.2020.

	Rs.
Salary from his employer @ Rs. 36,000 p.m.	3,96,000
Leave travel concession for proceeding on leave to home town (Actual Expenditure Rs. 51,000)	54,000
Lunch allowance @ Rs. 1,250 p.m.	13,750
Reimbursement of medical expenses	9,700

Mr. A also enjoyed the following other benefits and perks:

Free unfurnished flat at Mumbai for which his employers were paying monthly rent of Rs. 10,000 p.m.

One free car of 1.3 lt. capacity with driver which was used partly for personal and partly for employment purposes.

Contd…

Mr. A's salaries and allowances (which remained unchanged) for the month of March 2020 were due on 31.3.2020 but were received in April 2020. Compute his income under the head salaries for the year ended 31.3.2020.

19. Sri H. Mukherjee constructed a building on 30th June, 2013. It had two flats of equal dimensions. One flat was let out to a tenant for residential purpose on a monthly rest of Rs. 1,000 and other flat was let out to a friend for residential purposes on a monthly rent of Rs. 1,000. Sri Mukherjee paid the following expenses during the year ended 31st March 2020.
    Municipal taxes @ 10% on Municipal value of Rs. 20,000
    Fire Insurance Premium @ 2% of Municipal value.
    Rent collection charges in case of 1st flat Rs. 600.
    Repairs and alterations Rs. 1,000.
    Interior decoration charges Rs. 2,000.
    Legal charges for recovery of rent in case of 1st flat Rs. 1,000.
    Interest on loan taken for renovation of 2nd flat Rs. 4,200.
    Conservancy tax in addition to Municipal Tax Rs. 300.
    Find out the income of Shri H. Mukherjee under the head "Income from House Property" for the assessment year, 2020-21.
20. Mr. Shamsher Singh is engaged in the business of hiring motor buses. On 1-4-2019 the WDV of his various assets was as given below:

		Rate
A	Office building	10%
B	Motor buses	30%
C	Car	15%

During the year he sold one of the buses for Rs.1,50,000. It was replaced on 5-8-2019 by another vehicle at the cost of Rs. 8,70,000. A new vehicle was purchased on 1-1-2020 for Rs. 12,00,000. Calculate depreciation admissible for the previous year 2019-20.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 5SK (Upto 2016)**

COURSE TITLE : Tally - I **QN.NO : 5060**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1.5 = 15)**

Answer All questions.

1. Comment on Tally.
2. Define TDS.
3. What is inventory feature used for in Tally?
4. How can enter sales order in Tally?
5. Write about confirmation statement in Tally.
6. What are the primary groups in Tally?
7. Define Ledgers.
8. How can open detailed trial balance in Tally?
9. Define Voucher.
10. How to Cancelled voucher in tally?

PART – B **(6 x4 =24)**

Answer any SIX Questions:

11. How is the account heads classified in tally?
12. How do you maintain inventory in Tally?
13. Illustrate Journal entry in tally with example.
14. How can add description in tally sales invoice?
15. Narrate Create Company in tally.
16. Explain Balance sheet display in Tally.
17. What are the methods of numbering vouchers in Tally?
18. List out Types voucher in Tally record.

PART – C **(3 x12=36)**

Answer any THREE Questions:

19. Explain in detail about input VAT and output VAT in tally.
20. Discuss about Credit note entry and Debit note entry in tally.
21. Elaborate Create Multiple Groups in Tally with buttons.
22. How to create, alter and delete ledgers in Tally?
23. Summary the steps involved in access, edit and delete of new voucher type.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 6K1 (Upto 2016)**

COURSE TITLE : Principles of Management **QN.NO : 5062**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer all questions.

1. Define the term "Management" .
2. Write any two steps in planning.
3. Define Planning.
4. Define decision making.
5. What is formal organization?
6. What is delegation of authority?
7. What do you mean by direction?
8. What is horizontal communication?
9. Write the meaning of motivation.
10. What do you mean by control?

PART – B (4x 5 = 20)

Answer any FOUR questions.

11. Describe the role of manager's in management.
12. Write a note on Maslow's theory of motivation.
13. Explain the Job evaluation.
14. Explain the different sources of recruitment.
15. Explain the features of direction.
16. Discuss the barriers of communication.
17. Bring out the importance of control.

PART – C (3 x 10 = 30)

Answer any THREE questions.

18. Explain the functions of management.
19. Explain the various steps involved in planning.
20. Write a note on Trait theory of leadership.
21. Discuss the Process of communication.
22. Write a note on PERT & CPM.

PART – D (2 x 5 = 10)

Answer any THREE questions.

23. Management is a science and art – comment.
24. Explain the Graicunas theory of Span of Control.
25. Enumerate the stages of selection?
26. Write down the principles of MBO.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 6K2 (Upto 2016)**

COURSE TITLE : Auditing **QN.NO : 5064**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer all questions.

1. What is an Audit?
2. What is the role of auditor in detecting the errors and frauds?
3. What is the first step in preparation before commencement of new audit?
4. What are the objectives of working papers in auditing?
5. Define internal check.
6. What do you understand by vouching?
7. Explain the 'vouching is the essence of auditing'.
8. List out various duties of auditor.
9. Why is physical verification of stock important?
10. What are the liabilities of auditors for negligence?

PART – B (4 x 5 = 20)

Answer any Four questions.

11. Compare and contrast auditing with investigation.
12. List out various types of audit.
13. Define the audit notebook. Narrate the contents of an auditor's note books.
14. Indicate the need of internal control.
15. How would an auditor vouch the petty cash book maintained on the basis of imprest system?
16. As an auditor of a company, how would you verify the following assets?
    i) sundry debtors ii) Plant and machinery.
17. Write a note on liability of a company auditor towards third parties.

PART – C (3 x 10 = 30)

Answer any THREE questions

18. Elaborate the advantages of audit.
19. Summarise the procedure of audit.
20. Assess the internal check regarding sales.
21. Analysis the procedure of vouching cash payments.
22. Explain the duties of an auditor in verification of trade creditors and outstanding liabilities for expenses.

PART – D (2 x 5 = 10)

Answer any TWO questions

23. Distinguish accounting from auditing.
24. Enumerate the advantages of audit programme.
25. Compare and contrast verification with valuations.
26. Outline the extent of an auditor's liability for criminal liabilities under companies act.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 6K3 (Upto 16)**

COURSE TITLE : Investment Management **QN.NO : 5066**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer all questions.

1. What do you mean by Investment?
2. Distinguish between speculation and gambling.
3. Write any two investment alternatives.
4. What is mutal fund?
5. Give the meaning of Expected return.
6. List down the three elements of investment.
7. What is financial risk?
8. Write a brief note on present value of estimation.
9. What is meant by Industrial analysis?
10. What is Technical analysis?

PART – B (4 x 6 = 24)

Answer any Four questions.

11. What are the steps to be followed while an Investor to make an Investment?
12. List out the characteristics of zero coupon funds.
13. Bring out the measures of computing Dividend yield?
14. An investor buys a bond in 2000 having a maturity in 2015, at Rs.900. It has a maturity value of 10 years and par value of the bond is Rs.1,000. It gives an annual return of Rs.90. Calculate i) current yield and ii) yield to maturity.
15. The following information is provided k_e=20%, earnings per share is Rs.5, calculate the value of the share using Walter's model when expected return is 25%. And the dividend is Rs.5 and Rs.4
16. What are the assumptions of Dow's Technical School of Thought?

PART – C (3 x 12 = 36)

Answer any THREE questions

17. Why we need Investment? Explain the factors favorable for investment.
18. "Bonds do not give the right of ownership, yet they are considered to be senior securities" Discuss.
19. "Systematic risk cannot be controlled but unsystematic risk can be reduced" – Elaborate.
20. A firm pays a dividend of Rs.3 with a 10% growth rate, the risk free rate is 6% and market rate of return is 12%. The firm has a beta factor of 1.50.
    i) What would be the value of the share?
    ii) If beta increases to 2 what would be the value of the share?
21. What are the limitations of charts?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 6K4 (Upto 2016)**

COURSE TITLE : Management Accounting **QN.NO : 5068**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer all questions.

1. State any three objectives of Management Accounting.
2. Ascertain the Gross Profit Ratio from the following particulars:
   Sales ₹ 5,00,000; Cost of goods sold ₹ 3,00,000.
3. Bring out any three benefits of Cash Flow Statement.
4. Find out the funds from operations from the details given below:

	₹
Net Profit for the year 2019-20	95,000
Depreciation charged on fixed assets	42,000
Profit on sale of Long-term Investments included in the P&L A/c	13,000
Goodwill written off	20,000

5. What is Margin of safety?
6. From the following data find out P/V Ratio.
   a) Sales ₹ 1,50,000 b) Variable costs ₹ 1,20,000 c) Fixed cost ₹ 40,000
7. Define Standard Costing.
8. Calculate material cost variance for the following:
   Standard : 400 units at ₹ 2 each
   Actual : 460 units at ₹ 1.50 each
9. Bring out any three objectives of budgetary control.
10. What do you mean by master budget?

PART – B (5 x 6 = 30)

Answer any FIVE questions.

11. Describe the scope of Management Accounting.
12. What are the uses of Ratio Analysis?
13. From the following information, calculate fund from operations.

	2018 ₹	2019 ₹
Profit and Loss Account	25,000	40,000
General reserve	40,000	45,000
Goodwill	7,000	4,000
Preliminary expenses	5,000	3,000
Provision for depreciation on machinery	10,000	12,000
Refund of tax	----	5,000

14. From the following data you are required to calculate the cash from operation. Fund from operations for the year 2018-19 ₹ 84,000. Current assets and liabilities as on 1-4-2018 and 31-3-2019 were as follows:

Contd…

	1-4-2018 ₹	31-3-2019 ₹
Trade creditors	1,82,000	1,94,000
Trade debtors	2,75,000	3,15,000
Bills receivables	40,000	35,000
Bills payable	27,000	31,000
Inventories	1,85,000	1,70,000
Outstanding expenses	20,000	25,000
Prepaid expenses	5,000	8,000

15. From the following information relating to Quick Standards Ltd., you are required to find out (a) P.V. ratio (b) Break-even point (c) Profit and (d) Margin of safety.

	₹
Total Fixed cost	45,000
Total Variable cost	75,000
Total Sales	1,50,000

16. Assuming that the cost structure and selling prices remain the same in periods I and II find out:

i) P.V. ratio ii) B.E.P. Sales

iii) Profit when sales are ₹ 1,00,000

iv) Sales required to earn a profit of ₹ 20,000.

Period	Sales ₹	Profit ₹
I	1,20,000	9,000
II	1,40,000	13,000

17. From the following information, compute

a) Material cost variance b) Material price variance and

c) Material usage variance

Material	Standard			Actual		
	Quantity	Unit price ₹	Total ₹	Quantity	Unit price ₹	Total ₹
A	10	2	20	5	3	15
B	20	3	60	10	6	60
C	20	6	120	15	5	75
Total	50	4	200	30	5	150

18. Prepare a production budget for three months ending March 31, 2018 for a factory producing four products, on the basis of the following information:

Type of Product	Estimated stock on January 1, 2018 (Units)	Estimated Sales during January – March, 2018 (Units)	Desired closing stock on March 31, 2018 (Units)
A	2,000	10,000	5,000
B	3,000	15,000	4,000
C	4,000	13,000	3,000
D	5,000	12,000	2,000

Contd…

PART – C (3 x 10 = 30)

Answer any THREE questions.

19. Following are the income statements for the year ending 31st March 2019 and 2020. You are required to prepare a comparative income statement for the two years.

	31.3.2019 ₹	31.3.2020 ₹
Net Sales	10,00,000	12,00,000
Cost of goods sold	5,50,000	6,05,000
Operating expenses		
Administration	80,000	1,00,000
Selling	60,000	80,000
Non-operating expenses		
Interest	40,000	50,000
Income-tax	50,000	80,000

20. The following information is given:

Current ratio	2.5
Liquid ratio	1.5
Fixed assets turnover ratio	2 times
Average debt collection period	2 months
Stock turnover ratio (Cost of sales/ Closing stock)	6 times
Fixed assets/ Shareholders Net worth	1:1
Gross Profit ratio	20%
Reserve/ Share Capital	0.5:1
Net working capital	₹ 3,00,000

Draw up a Balance sheet from the above information.

21. From the following balance sheets of Apple Ltd. on 31st March, 2018 and 2019 you are required to prepare funds flow statement.

Balance Sheets

Liabilities	2018	2019	Assets	2018	2019
Share capital	1,00,000	1,00,000	Goodwill	12,000	12,000
General reserve	14,000	18,000	Building	40,000	36,000
Profit & Loss a/c	16,000	13,000	Plant	37,000	36,000
Sundry creditors	8,000	5,400	Investment	10,000	11,000
Bill payable	1,200	800	Stock	30,000	23,400
Provision for taxation	16,000	18,000	Bill receivable	2,000	3,200
Provision for doubtful debts	400	600	Debtors	18,000	19,000
			Cash	6,600	15,200
	1,55,600	**1,55,800**		**1,55,600**	**1,55,800**

The following additional information has also been given:

i) Depreciation charged on plant was ₹ 4,000 and on building ₹ 4,000.

ii) Provision for taxation of ₹ 19,000 was made during 2018-19.

iii) Interim dividend of ₹ 8,000 was paid during 2018-19.

Contd…

22. From the following balance sheets of Ponni Ltd., make out the statement of Cash flow.

Balance Sheets

Liabilities	2019	2020	Assets	2019	2020
Equity Share capital	3,00,000	4,00,000	Goodwill	1,15,000	90,000
8% Redeemable Pref. Share Capital	1,50,000	1,00,000	Land & Building	2,00,000	1,70,000
General reserve	40,000	70,000	Plant	80,000	2,00,000
Profit & Loss a/c	30,000	48,000	Debtors	1,60,000	2,00,000
Proposed Dividend	42,000	50,000	Stock	77,000	1,09,000
Creditors	55,000	83,000	Bill receivable	20,000	30,000
Bill payable	20,000	16,000	Cash in hand	15,000	10,000
Provision for taxation	40,000	50,000	Cash at bank	10,000	8,000
	6,77,000	**8,17,000**		**6,77,000**	**8,17,000**

Additional Information:

a) Depreciation of ₹ 10,000 and ₹ 20,000 have been charged on plant account and land and buildings and respectively in 2020.

b) An interim dividend of ₹ 20,000 has been paid in 2020.

c) Income tax ₹ 35,000 was paid during the year 2020.

23. Following information has been made available from the cost records of United Automobiles Ltd. manufacturing spare parts.

Direct Materials	Per unit
X	₹ 8
Y	₹ 6
Direct Wages	
X	24 hours at 25 paise per hour
Y	16 hours at 25 paise per hour
Variable overheads	150% of wages
Fixed overheads	₹ 750
Selling price	
X	₹ 25
Y	₹ 20

The directors want to be acquainted with the desirability of adopting any one of the following alternative sales mixes in the budget for the next period.

a) 250 units of X and 250 units of Y. b) 400 units of Y.

c) 400 units of X and 100 units of Y. d) 150 units of X and 350 units of Y.

State which of the alternative sales mixes you would recommend to the management?

24. The information regarding the composition and hourly wage rates of labour force engaged on a job scheduled to be completed in 30 hours are as follows:

Categories of workers	Standard		Actual	
	No. of workers	Hourly wage rate per worker (₹)	No. of workers	Hourly wage rate per worker (₹)
Skilled	75	6	70	7
Semi-skilled	45	4	30	5
Unskilled	60	3	80	2

The work was completed in 32 hours. Calculate

i) Labour cost variance ii) Labour Rate variance iii) Labour Efficiency variance

iv) Labour mix variance v) Labour Sub-Efficiency variance.

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No of Pages	4

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 6K5 (Upto 2016)**

COURSE TITLE : Income Tax Law Procedure & Practice- II **QN.NO : 5070**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1.5 = 15)**

Answer all questions.

1. What are the kinds of Capital Assets?

2. Mr. Viswanath purchased a house for ₹ 5,45,000 in 2003-04. He sold this house on 1-7-2019 for ₹ 39,00,000. The cost inflation index in 2003-04 and in 2019-20 was 109 and 289 respectively. Compute the capital gains for the Assessment Year 2020-21.

3. What do you mean by Tax Free Securities?

4. From the following compute the income from other sources for the Assessment Year 2020-21.

		₹
(a)	Dividend from Indian Company	16,000
(b)	Winnings from horse races	40,000
(c)	Winnings from lottery tickets	1,00,000

5. State any three deemed incomes.

6. Mr.Prakash submits the following relevant for the Assessment Year 2020-21:

	₹
Salary income computed	50,000
Income from house property (Computed)	
House A	40,000
House B –Loss	(-)70,000
Determine the net income of Mr.Prakash for the Assessment Year 2020-21	

7. Write a note on Deduction u/s 80E.

8. The gross total income of Mr. Babu is ₹ 7,50,000. He has made the following donations. Calculate net income

(a)	National foundation for communal harmony ₹ 15,000.
(b)	National children's fund ₹ 30,000.
(c)	National Defence fund ₹ 37,500.

9. What is the special rate of tax applicable to senior citizens?

10. What is meant by voluntary filing of return?

Contd…

PART – B (4 x 6 = 24)

Answer any Four questions.

11.Mr. A provides the following data regarding his transaction for the sale of his residential house for the Assessment Year 2020-21. Compute the amount of capital gain to be included in the Total Income for the Assessment Year 2020-21:

	₹
House purchased in 2001-02	4,50,000
Sold in November 2019	42,00,000
Purchased another residential house in September 2019	16,00,000
Invested in bond of NHA of India u/s 54EC in January 2020	10,00,000

The cost inflation index in 2001-02 was 100 and for 2019-20 it was 289.

12.Thiru Gunasekaran earned the following incomes during the previous year ending on 31st March, 2019. Compute his taxable income from other sources:

		₹
(i)	Income from agriculture land in Burma	3,60,000
(ii)	Income from agriculture land in Tamil Nadu	1,80,000
(iii)	Interest on fixed deposit in Indian Bank	16,200
(iv)	Interest on Post Office Saving Bank A/c	13,500
(v)	Dividends from Co-operative societies	12,000
(vi)	Director's fee	54,000
(vii)	Net winnings from Manipur lottery	4,20,000
(viii)	Advance money received and forfeited during negotiation to sell a capital asset	60,000

13. What are the circumstances in which income of other persons is included in the total income of an Assessee?

14. Calculate the qualifying amount u/s 80C for the Assessment Year 2020-21 from the information given below:

(a)	Life insurance premium paid ₹ 20,000 on his own policy.
(b)	His own contribution to R.P.F. ₹ 5,000 and Employer's contribution to R.P.F. ₹ 4,000.
(c)	Repayment of loan taken for construction of residential house ₹ 80,000 out of which ₹ 30,000 is interest.
(d)	Purchased NSC (IX issue) of ₹ 10,000.
(e)	Contribution to Family Benefit Fund ₹ 1,000.
(f)	Accrued interest on NSC (VIII issue) amounted to ₹ 1,000.
(g)	Life insurance premium paid by him on his brother's life policy was ₹ 5,000.

15. What are the various types of companies under income-tax Act?

16. What do you understand by Advance Payment of Tax? On what dates of the instalments of advance tax are due and what amount is to be paid on them?

PART – C (3 x 12 = 36)

Answer any THREE questions

17. Mr.Z sold the following assets during the year 2019-20:

Contd..

1.	Land purchased in 2001for ₹ 1,40,000 sold for ₹ 3,00,000.
2.	Machinery purchased ₹ 12,000 in 2013 sold for ₹ 21,000 (WDV ₹ 6,000).
3.	Office furniture purchased in April, 2018 for ₹ 1,200(W.D.V.₹ 1,080) sold for ₹ 1,700.
4.	Shop purchased in 2004-05 for ₹ 1,13,000 sold for ₹ 1,80,000.
5.	Residential house purchased in 2004-05 for ₹ 2,26,000 sold on 15.4.2019 for ₹ 10,60,000.
	He purchased another residential house on 15.3.2020 for ₹ 4,50,000. Compute his taxable income under the head Capital gains. Cost inflation index for 2001-02 is 100, 2004-05 is 113 and 2019-20 is 289.

18.Mr. Lalit an ordinarily resident in India earned the following incomes during the financial year 2019 -20.

	₹
Director's fees	2,000
Income from agricultural land in Pakistan	5,000
Interest on postal savings bank account	100
Ground – rent for land in Pathankot	10,000
Interest on deposits with Industrial Finance Corporation of India	500
Dividend from foreign company	700
Rent from sub-letting a house	26,250
Rent payable by Mr. Lalit for the sub-let house	12,000
Other expenses incurred on this sub-let house	1,000
Winning from Race-course	12,300
Interest on Securities	4,000

You are required to calculate 'Income from Other Sources' of Mr. Lalit for the Assessment Year 2020 -21.

19. The statement of income and losses for the year ended 31st March, 2020 of Mr.Y is as follows:

	₹
(1) Taxable Income from Salary	1,16,800
(2) Taxable Income from Interest on Debenture (gross)	8,400
(3) Taxable Income from House Property:	
(a) Income from House 'A'	7,200
(b) Loss from House 'B'	(-) 3,400
(c) Loss from House 'C'	(-) 9,200
(4) Income from Business:	
(a) Profit from Iron Business	12,800
(b) Loss from Stationery Business	(-) 8,900
(c) Profit from Speculation Business 'A'	10,600
(d) Loss from Speculation Business 'B'	(-) 4,600
(5) Income from Capital Gains:	
(a) Short-term Capital Gains	18,600

Contd..

(b) Long-term Capital Gains	4,200
(c) Long-term Capital Loss	(-) 8,300
(6) Income from Other Sources	7,700

incomes during the financial year 2019-20: Compute Gross Total Income of Mr.Y for the Assessment Year 2020-21.

20. AnAssessee, who is an individual received the following

		₹
(i)	Insurance commission received from LIC	10,656
(ii)	Cloth business profits	2,75,000
(iii)	He made the following payments during the year:	
	(a) Deposit of ₹ 10,000 in National Saving Scheme 1992	
	(b) Payment of ₹ 500 p.m. to Jeevan Dhara Policy	
	(c) Investment of ₹ 10,000 in units of mutual funds so notifiedu/s 80C as equity linked saving scheme	
	(d) Donations given to:	
	National Children welfare Fund	2,500
	P.M. National Relief Fund	5,000
	Gujrat Earthquake Relief fund	2,000
	P.M. Folks Arts Fund	1,000
	P.M. Students' Aid Fund	2,000
	Maharashtra C.M. Earthquake Relief fund	2,000
	Local authority to promote Family Planning	2,000
	Public Charitable Trust (Approved)	10,000
	National fund for control of drug abuse	4,000
(iv)	He paid ₹ 6,000 by cheque to GIC under Mediclaim	

Compute his Total Income.

21. Roy Traders Ltd., closes its accounts on 31st March every year. During 2019-20 it had the following incomes and expenses:

	₹
(a) Profit from business	2,00,000
(b) Long term capital gain on transfer of land	1,00,000
(c) Long term capital gain on transfer of building	1,50,000
(d) Short term capital loss	60,000
(e) Rent from house property	36,000
(f) Municipal tax paid relating to house property	4,000
(g) Dividend from an Indian company	10,000
(h) Income from units of UTI	5,000
(i) Dividend from a co-operative society	10,000
(j) Income from royalty from a foreign company	1,00,000

Calculate Total Income of the company for the Assessment Year 2020-21.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 6SK (Upto 16)**

COURSE TITLE : Tally - II **QN.NO : 5072**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer all Multiple choice questions by choosing the correct option.

1. A bank reconciliation statement is prepared by
   a) Banker b) Accountant of the business
   c) Auditors d) Registrar
2. The balance on the debit side of the bank column of cash book indicates
   a) The total amount has drawn from the bank b) Cash at bank
   c) The total amount overdraft in the bank d) None of the above
3. Production budget is dependent on
   a) Purchase budget b) Sales budget
   c) Cash budget d) Overhead budget
4. To create scenario which option is required to activate
   a) Reverse Journal & Optional Voucher in F12
   b) Optional Voucher in F11
   c) Reversing Voucher in F11
   d) Reverse Journal & Optional Voucher in F11
5. In which option we can get list of optional vouchers
   a) Cash Bank Books b) Exceptional Reports
   c) Accounts Books d) Balance Sheet
6. We get report of interest from
   a) Account Books b) Cash and Fund Flow
   c) Inventory Books d) Statements of Accounts
7. The shortcut key to cancel a voucher
   a) Alt + x b) Ctrl + Shift + x
   c) Ctrl + x d) Shift + x
8. Single entry mode is applicable for
   a) Payment voucher b) Contra voucher
   c) Receipt voucher d) All of these
9. The shortcut key to switch from accounting voucher to inventory voucher
   a) F2 b) Alt + F1
   c) Ctrl + F1 d) F11
10. Bill of materials option is activated for
    a) Ledgers b) Cost Category
    c) Stock Items d) Budgets

Contd..

PART – B (4 x 6 = 24)

Answer any Four questions.

11. Narrate the disadvantages of Bank Reconciliation Statement.
12. How to view Reconciled vouchers in BRS?
13. Write down the steps to create Budget for Cost Centre.
14. Explain about the optional voucher in Scenario Management.
15. What is Simple Interest? Explain its calculation in Tally.
16. How to view the report on interest calculation?
17. State the methods of Stock Category.
18. What is stock item? Explain the alteration and display of stock item.

PART – C (3 x 12 = 36)

Answer any THREE questions

19. What is Bank Reconciliation Statement? Explain its process.
20. Explain creation, alteration and deletion of a budget.
21. Write down the process of interest calculation in Advanced Mode.
22. How would you pass voucher entry for booking interest on balances?
23. Explain about inventory vouchers.

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No of Pages	5

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 3AE (Upto 16)**

COURSE TITLE : Financial Accounting **QN. NO : 5518**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer all questions.

1. Difference between 'single entry and double entry' system.
2. What are the accounting conventions?
3. What do you understand by 'subsidiary books'?
4. State whether the balance in the following accounts should be placed in debit column or credit column of trial balance:-

a. Loan from rohini b. Bank overdraft c.Sundry debtors d. Sundry creditors

5. What do you mean by rectification of errors?
6. What are the basic objectives of preparing final accounts?
7. What is manufacturing account?
8. From the following information, prepare trading accounts for the year 31.12.2020.

Jana1 2020	Opening stock	Rs. 5000
	Purchases	Rs.16,100
	Sales	Rs. 30,600
Dec.31	Closing stock	Rs.3,500

9. Describe the characteristics of balance sheet.
10. Define depreciation.

PART – B (5 x 6 = 30)

Answer any FIVE questions.

11. Discuss in details the accounting concepts.
12. In taking out of a Trial Balance, a Book-keeper finds that debit total exceeds the credit total by Rs.352. The amount is placed to the credit of a newly opened suspense account. Subsequently the following mistakes were discovered. You are required to pass the necessary entries for rectifying the mistakes, and show the Suspense Account;
    (a) Sales Day Book was overcast by Rs.100.
    (b) A sale of Rs.50 Shri Ram was wrongly debited to Shri Krishna.
    (c) General Expenses Rs.18 were posted as Rs.80.
    (d) Cash received from Shri Govind was debited to his account Rs.150.
    (e) While carrying forward the total of one page of the Purchases Book to the next, the amount of Rs.1,235 was entered as Rs.1,325.
13. A. On June 30,2017. The Cash Book of John showed a bank balances of Rs. 5,250. While verifying with the Pass Book, the following facts were noted:
    (i) Cheques issued amounting to Rs.3,670 had not presented to the Bank for payment until after 30th June, 2017.

Contd...

(ii) A deposit of Rs. 492 paid on 29th June,2017, had not been entered by the bank until 1st July,2017

(iii) Pass book showed bank charges Rs. 50 debited by the bank. It also showed Rs. 300 collected by the bank as interest.

(iv) The banker has given a wrong credit for Rs. 250.

(v) cheques sent in for collections before June 30,2017,and not credited by the bank amounted in all to Rs.840.

(vi) Discount Rs. 100 allowed to sundar has been credited to discount a/c

14. Explain the different types of errors.

15. From the following particulars, prepare of factory manufacturing account and ascertain the cost of production.

Stock (01.01.2020)	
Raw material	4,801
WIP	7,602
Finished Goods	14,400
Purchase of raw material	57,500
Sales	1,32,500
Return inwards	601
Factory wages	15,601
Factory electricity	1,201
Factory salaries	5,600
Factory rent, rates	600
Factory Lighting	802
Factory Repairs	3,200
Factory Depreciation	4,600
Stock(31.12.2020)	
Raw material	5,601
WIP	12,000
Finished Goods	6,001

16. From the following balances, taken from the Trial Balance of Shri Suresh, prepare a Trading and Profit and Loss Account for the year ending 31st December 2019.

Particulars	Dr. Rs.	Cr. Rs.
Stock on 1.1.2018	2,000	
Purchases and sales	20,000	30,000
Returns	2,000	1,000
Carriage	1,000	
Cartage	1,000	
Rent	1,000	
Interest received		2,000
Salaries	2,000	
General Expenses	1,000	
Discount		500
Insurance	500	

The closing stock on 31st December, 2018 is Rs 5,000.

Contd...

17. Enumerate the cause of Depreciation.
18. An asset is purchased for Rs. 25000. Depreciation is to be provided annually according to the straight line method. The useful life of the asset is 10 years and the residual value is Rs.5000/- You are required to find out the rate of depreciation and prepare asset account for the first three years.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

19. The following balance are extracted for the books of Mrs. Selvi prepare the Trial Balance as on 31.03.2019. ..

	Rs		Rs.
Capital a/c	20,000	Machinery	6,000
Cash in hand	5,000	Sundry Debtors	8,000
Bad Debts	350	Bills payable	6,000
Bill Receivable	8,600	Furniture	1,000
Building	20,000	Repairs	400
Sundry creditors	6,000	Insurance Premium	300
Stock	3,000	Wages	1,700
Commission paid	700	Sales	90,000
Rent and Taxes	300	Sales Returns	400
Purchase	60,000	Carriage	200
Motor car	5,200	salaries	600
Loan to subha	1,000	Discount earned	100
Discount Allowed	50	Bank overdraft	4,300
Drawings	5 000	Reserve fund	900
Purchase Returns	750	Telephone Charges	250

20. From the following particulars, prepare a Bank Reconciliation statement showing the balance as per cash book as on 31st December, 2019.

(i) Out of cheques of Rs. 9,000 paid on 29th December, Rs. 4,000 appear to have been credited in the pass book on 2nd January, 2020.

(ii) I had issued cheques December, 2019 amounting in all to Rs. 16,000 out of which I find that cheques for Rs 7,000 have been cashed in the same month; a cheque of Rs 5,000 cashed on January 3, 2020 and the rest have not been presented at all.

(iii) My bankers have given me a wrong credit in my joint account with my wife, in respect of a cheque of Rs 2,000 paid into my personal account.

(iv) Rs 1,000 for interest on overdraft charged in the pass book on 31st December has been entered in my cash book on 4th January, 2020.

(v) My pass book shows a credit of Rs 1,200 to my account being interest on my securities collected by bankers.

(vi) The bank balance as per my pass book showed on overdraft of Rs 19,000.

Contd...

21. From the following Trial Balance as on 31st December 2020, Prepare Trading
and Profit & Loss A/c and Balance Sheet taking into account the adjustments.

Debit Balances	Rs.	Credit Balances	Rs.
Land & Building	30,000	Capital	62,000
Plant & Machinery	12,000	Sales	1,20,000
Furniture & Fittings	20,000	Return outwards	675
Stock	5,760	Sundry Creditors	6,300
Purchases	40,675	Bills Payable	6,000
Carriage on Purchase	2,040	Bank Loan	3,000
Sundry debtors	14,500	Rent received	1,500
Goodwill	7,500	Interest	500
Cash in hand	540		
Cash at Bank	2,630		
Return inwards	680		
Fuel & Power	4,730		
Wages	8,480		
Carriage on Sales	3,275		
Salaries	10,000		
Rent Paid	3,000		
Rate & Tax	2,600		
Trading expenses	2,000		
Office expenses	4,000		
Advertisement	3,500		
Patents	4,000		
Factory rent	2,000		
Insurance	1,600		
Drawings	2,000		
Income Tax	1,000		
Bills receivable	4,000		
Discount	7465		
	1,99,975		1,99,975

Adjustments

1) Stock on 31.12.2020 was Rs. 6,800.
2) Salary outstanding Rs. 500.
3) Insurance prepaid Rs. 200.
4) Rent received in advance Rs. 500.
5) Interest earned but not received Rs. 250
6) Depreciate Plant & Machinery by 10% and furniture & fittings by 5%.
7) Write off bad debts Rs. 500 and make a provision for doubtful debts 5% and Reserve for discount on Sundry debtors, by 2%

22. From the following balances, you are required to prepare manufacturing, trading and profit and loss account.

Contd..

Opening stock			
Finished goods	49,140	sales	1200000
Work-in-progress	3,000	trade discount	10200
Raw material	25920	carriage outward	6960
Chemicals	1170	salaries	67200
Purchases:		general expenses	54930
Raw material	4,27,860	cash discount	15300
Chemicals	37,110	**Depreciation:**	
Factory on cost	36,000	plant	48000
Factory wages	4,68,000	Office building	1200
Closing stock:		Factory building	1200
Raw materials	20580		
Work in progress	6000		
Chemicals	2280		
Finished goods	37140		

23. An old machinery was purchased for Rs.50,000 on 01.01.2004 and an amount of Rs.12,500 has been spent on its repair and installation. On 01.10.2004 another machinery was purchased for Rs.25,000.
The machinery, which was installed on 01.01.2004, was sold out on 01.07.2006 for Rs.30,000. An amount of Rs.1,250 has been spent on its removal. On the same day it has purchased another machinery for Rs.1,00,000. The company is following calendar year itself as its accounting year. It is charging @ 10% p.a. on its original cost. In 2007, it has decided to charge depreciation @ 15% p.a. under W.D.V. method. The change is not to be made with retrospective effect. Show machinery account from 2004 to 2008.

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No of Pages	2

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U1VMC1**

COURSE TITLE : Micro Economics - I **QN.NO : 5801**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Adam Smith's "An Enquiry into the nature and causes of Wealth of Nations" published in
   a) 1756 b) 1766 c) 1776 d) 1786
2. The term Economics was derived from a
   a) Latin word b) Russian word c) Greek word d) American word
3. Scarcity definition of Economics was given by
   a) Marshall b) Robbins c) Adam Smith d) Robertson
4. The Law of Demand states that when
   a) Income rises, demand rises b) Price rises, demand rises
   c) Price falls, demand rises d) Price and income rise, demand rises
5. Shape of the demand curve is
   a) Slope downwards from left to right b) Slope upwards
   c) Horizontal d) Vertical
6. When Total utility is maximum, Marginal utility is
   a) Positive b) Zero
   c)Constant d) Negative
7. Indifference curve is always
   a) Concave to the origin b) Convex to the origin
   c) vertical d) horizontal
8. Coffee and tea are
   a) expand b) Contract c) Complementary d) Close substitutes
9. The production Function means
   a) Functional relationship between inputs and output
   b) Functional relationship among factors of production
   c) Functional relationship between income and expenditure
   d) Functional relationship between land and labour
10. The Law of Diminishing Returns was propounded by
    a) Adam Smith b) Alfred Marshall c) David Smith d) J.S.Mill

Contd…

PART – B (5 x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Define Scarcity.

(OR)

b) What are the characteristics of human wants?

12. a) Distinguish between Total utility and Marginal utility.

(OR)

b) Briefly explain the law of Equi utility marginal.

13. a) Give an account of Indifference map and Indifference schedule.

(OR)

b) State the properties of an indifference curve.

14. a) What are the degrees of Price elasticity of demand?

(OR)

b) Bring out the Exceptions of law of demand.

15. a) What are the functions of an entrepreneur?

(OR)

b) Bring out the characteristics of land.

PART – C (3 x10=30)

Answer any THREE questions

16. Distinguish between micro economics and macro economics.

17. Critically examine the law of diminishing marginal utility.

18. How does the consumer attain equilibrium under indifference cure analysis?

19. Explain the factors affecting elasticity of demand.

20. Explain producer's equilibrium..

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U2VMC3**

COURSE TITLE : Micro Economics-II **QN.NO : 5805**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. A firm is said to be in equilibrium only when
   a) AC = AR b) MC = MR c) AFC = AVC d) DD = SS
2. Which cost expresses the pains and sacrifices involved in producing a commodity?
   a) Implicit cost b) Explicit cost c) Money cost d) Real cost
3. A perfectly competitive market is one in which
   a) The large number of buyers and sellers b) Homogeneous products
   c) Perfect knowledge d) All the above
4. Perfect competition implies that
   a) AR curve is a horizontal straight line
   b) AR curve slopes downward
   c) AR curve has a kink
   d) The shape of the AR curve cannot be predicted.
5. In monopolist, the number of producers is limited to
   a) Two b) One c) Few d) Three
6. Oligopoly means
   a) few sellers b) two sellers c) single seller
   d) large number of buyers and sellers
7. Marginal Productivity Theory of Distribution was formulated by
   a) J. B. Clark b) F.H. Knight
   c) J. A. Schumpeter d) J. M. Keynes
8. Who propounded the Wage Fund Theory?
   a) A. Marshall b) A. Smith
   c) J. S. Mill d) R. G. D. Allen
9. The Liquidity Preference Theory of Interest was propounded by
   a) Wicksell b) Senior c) D.H.Robertson d) J.M.Keynes
10. Risk Theory of Profit was propounded by
    a) F. H. Knight b) J. B. Clark c) Schumpeter d) Hawley

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) What is Equilibrium? Draw a diagram.

(OR)

b) State the relationship between Average cost and Marginal cost.

12. a) Bring out the characteristics of perfect competition.

(OR)

b) List out the Marshall's Time Period analysis.

13. a) What do you mean by Monopoly? Give it features.

(OR)

b) List out the characteristics of monopolistic competition.

14. a) What is wage? Give different theories of wages.

(OR)

b) Write a note on Quasi – rent.

15. a) What do you mean by Loanable fund theory of interest?

(OR)

b) State the Innovation theory of profit.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain the Nature of AR and MR curves under perfect competition.
17. Examine Ricardian theory of Rent.
18. How the Price and output determined under monopolistic competition?
19. Examine the liquidity preference theory of Interest.
20. Examine the risk Theory of Profit.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U2VSM2**

COURSE TITLE : Economics of Insurance **QN.NO : 5808**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Insurance is based on the principle of
   a) Democracy b) Cooperation c) Welfare d) Equality
2. The principle of indemnity is applicable to
   a) life insurance b) personal accident insurance
   c) property insurance d) medical insurance
3. IRDA means
   a) Insurance Regulatory and Development Authority
   b) Indian Rural Development Agency
   c) Insurance Regulation and Development Agency
   d) International Rural Development Authority
4. Life Insurance Corporation Act was enacted in the year
   a) 1956 b) 1930 c) 1857 d) 1872
5. Which of the following is a Children's policy of LIC?
   a) Jeevam Chaaya b) Jeevan Vishwas
   c) Jeevan Sathi d) Jeevan Shree
6. Types of life insurance policies are broadly divided into
   a) two types b) three types c) four types d) five types
7. Jeevan Sukanya Policy is designed exclusively for
   a) male children b) female children c) sick people d) workers
8. Jeevan Saral is a/an
   a) endowment plan b) annuity plan
   c) term plan d) whole life policy
9. The head quarters of Bajaj Allianz General Insurance Company is at
   a) Chennai b) Pune c) Mumbai d) Kolkatta
10. Fire insurance is usually issued for
    a) 2 years b) 3 years c) 4 years d) 1 year

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Define Insurance. List out various kinds of Insurance.

(OR)

b) Write the methods of providing indemnity.

12. a) Explain the origin of Insurance in India.

(OR)

b) Write the duties of IRDA.

13. a) What are the economic principles of life insurance?

(OR)

b) Bring out the objectives of LIC.

14. a) What does BIMA Account II do for people?

(OR)

b) What are the plans of insurance for children?

15. a) What do you know about Kotak Life Insurance?

(OR)

b) Write a note of Birla Sun Life Insurance.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain the various principles of insurance.
17. Bring out the powers of IRDA.
18. What are the various types of Life Insurance?
19. Explain the insurance plans for Handicapped dependents.
20. What is health insurance? Explain the policies of LIC regarding Health?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U3VMC5**

COURSE TITLE : Money and Banking **QN.NO : 5809**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Token money is a money whose
   a) Face value is higher than intrinsic value
   b) Face value is lower than intrinsic value
   c) Face value is equal to intrinsic value
   d) None of the above
2. Which of the following is the secondary function of money?
   a) Medium of exchange b) Measure of value
   c) Store of value d) Basis of credit system
3. The relationship between the quantity of money and the value of money is
   a) Direct b) Inverse c) Vertical d) Horizontal
4. The quantity theory of money explains the changes in prices
   a) During a short period of time
   b) During a very short period of time
   c) Over a long period of time
   d) Over a very long period of time
5. Inflation is a period of
   a) Rising prices b) Falling prices
   c) Stable prices d) All of the above
6. The co - existence of unemployment and inflation in an economy is termed as
   a) Inflation b) Deflation c) Stagflation d) Stagnation
7. On April 15, 1980, the number of major commercial banks nationalized was
   a) 14 b) 20 c) 6 d) 18
8. The New Economic Policy was announced by the Government of India on
   a) July 1, 1961 b) July I, 1971
   c) July 1, 1981 d) July 1, 1991
9. The Central Bank of our country is
   a) Reserve Bank of India b) Federal Bank of India
   c) Bank of England d) State Bank of India
10. Who is the lender of the last resort in India?
   a) RBI b) SBI
   c) Commercial Bank d) Lead bank

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Explain the different types of money.

(OR)

b) Give a brief note on primary functions of money.

12.a) Explain any two Cambridge Equations of money.

(OR)

b) Explain briefly Keynes theory of demand for money.

13.a) Write a note on stagflation.

(OR)

b) Explain any three types of inflation.

14.a) Give a brief account of E – banking.

(OR)

b) Briefly explain the recent advancements in Banking sector.

15.15. a) Write a note on : (i) Open Market Operations (ii) Bank Rate

(OR)

b) State any four functions of commercial bank.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain the determinants of money supply.

17. Examine Fisher's Quantity theory of money.

18. Explain the effects and measures to control inflation.

19. Discuss the functions for RBI.

20. Explain the objectives of monetary policy.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U3VMC6**

COURSE TITLE : Mathematical Methods - I **QN.NO : 5810**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The linear function f(x) = ax + b is an identified function if

   a) a=0, b=1 b) a=1, b=0 b) a=1, b=1 d) a=0, b=0

2. The Graph of linear function is

   a) Parabola b) Ellipse c) Hyperbola d) Straight line

3. What is the degree of a quadratic equation?

   a) 0 b) 2 c) 3 d) 1

4. The cubic equation has degree

   a) 0 b) 2 c) 3 d) 1

5. A _____ is an ordered collection of objects.

   a) Relation b) Function c) Set d) Proposition

6. Power set of empty set has exactly _____ subset.

   a) one b) Two c) Three d) Four

7. Identify the equation that represents the line with a y-intercept of 600 a slope of 50.

   a) Y = 50x+600 b) Y = 50 + 600 X

   c) X = 50 y d) X= 50y - 600

8. What is the equation of the line that passes through the points (2,4) and (4,0)?

   a) Y = 2x b) y = -2x + 8 c) y = 2x + 8 d) y = 2+8x

9. The coefficient of y in the expansion of $(y^2 + c/y)^5$ is

   a) 10c b) $10c^2$ c) $10c^3$ d) None of these

10. If the third term in the binomial expansion of $(1 + x)^m$ is $(-1/8)x^2$ then the rational value of m is

    a) 2 b) ½ c) 3 d) 4

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. (a) Describe the uses of Mathematical Methods in Economics.

(OR)

(b) Find out theQuadratic Equation, $Y = 2X^2 - 4X + 1$.

12. (a) Solve the quadratic equation $3x^2 + 7x + 2 = 0$ by the standard formula method.

(OR)

(b) Solve the cubic equation: $12x^3 - 30x^2 + 12x = 0$.

13. (a) Explain the types of Set.

(OR)

(b) If A = { 1,2,3}, B = { 1,3,4,5} and C = { 2,4,5,6} Verify

(i) (AUB)UC = AU (BUC)

(ii) (A∩B)∩C = A∩(B∩C)

14. (a) Find the distance between two points (1,4) and (4,8).

(OR)

(b) Obtain the equation of the line joining the points (2,2) and (1,1).

15. (a) Expand $(2x + 5)^5$ using Binomial Theorem.

(OR)

(b) Find the value of $(0.99)^4$ by using Binomial theorem.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Expound the types of Functions.

17. Solve; $X + Y = 7$

$Y + Z = 9$

$Z + X = 8$

18. Draw the Demorgan's Law

(i) A – (BUC) = (A – B) ∩ (A – C)

(ii) A – (B∩C) = (A – B) U (A – C)

19. Find the intercepts on axes of X and Y for the equation $2x – 4y – 3 = 0$.

20. Find the middle term in the expansion of $(3x - \frac{4}{x})^{12}$.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U3VSM3**

COURSE TITLE : Economics of Tourism **QN.NO : 5811**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The word 'tourist' has derived from
   a. Tour b. Tourism c. Grand Tour d. Journey
2. The tour programmes are decided by a single person is called
   a. World Tourism b. Individual Tourism
   c. Domestic tourism d. Group Tourism
3. Tourism is a _____ industry
   a. Service b. Product c. Market d. Travel
4. _____ is the example for Pilgrimage Tourism
   a. Jouralism b. Mecca
   c. Kashi d. All the above
5. Which state of India leading in Medical tourism
   a. Karnataka b. Tamilnadu c. Kerala d. Andhra Pradesh
6. The systematic collection of information about the tourist is called
   a. Advertising b. Market product
   c. Tourist d. Market research
7. Which state referred as "Gods own country"?
   a. Kashmir b. Punjab c. Himachal pradesh d.Kerala
8. TTDC stands for
   a. Tamil nadu Tourism Development Corporation
   b. Tourism of Tamil nadu Development Corporation
   c. Tamil nadu Travels Development Corporation
   d. None of these
9. Tourism is economically significant because it generates
   a. Happiness and Satisfaction b. Income and Employment
   c. Health and Safety d. None of these
10. Which state is called as "Cradle of Buddha?"
    a. Uttar Pradesh b. Madhya Pradesh
    c. Bihar d. West Bengal

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) State the meaning of Tourism.

(OR)

b) Distinguish between Domestic and International Tourism.

12. a) What is meant Tourism Marketing.

(OR)

b) Point out the need of Tourism Advertisement.

13. a) Write a short note on Tourism Transport.

(OR)

b) List down the functions of Tourist Guides

14. a) Is there need of tourism development corporation for each state in India.

(OR)

b) Point out the role of State Tourism Development Corporation.

15. a)Highlight the availability of hotels in Madurai.

(OR)

b)Suggest measures to improve Tourism in Madurai District.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Discuss the Role of Tourism in Indian Economy.

17. Describe Tourism Marketing Research.

18.Elaborate classifications of Tourism Transport.

19.Write in detail of Tamil Nadu Tourism Policy.

20.Explain the kinds of Spiritual Tourism places in Madurai District.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U4VMC7**

COURSE TITLE : International Economics **QN.NO : 5814**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. International trade is but a special case of inter local (or) Inter regional trade whose statement is this?
   a) Ricardo b) Heckscher c) Taussig d) Ohlin
2. The classical theory of International trade is mainly concerned with _____
   a) The gain from trade b) The structure of trade
   c) The structure of Foreign Trade d) All of the above
3. The principal of comparative advanced would be most closely related to a study of _____
   a) The factors of production b) Foreign Investment
   c) International Trade d) Specialization of Labour
4. The Theory of comparative advantage was propounded by _____
   a) Adamsmith b) J.S.Mill
   c) Kindleberger d) David Ricardo
5. The Foreign exchange market performs _____
   a) Transfer Function b) Credit Function
   c) Hedging function d) All the above
6. Protection encourages _____
   a) Laissez-faire b) competition c) self reliance d) Division of labour
7. The rupee was made convertible on the current Account of the balance of payment in _____
   a) July 1991 b) April 1992 c) August 1994 d) April 1995
8. A fall in the external value of currency _____
   a) appreciation b) Depreciation c) devaluation d) sterilization
9. International Finance Corporation is the ancillary institution of _____
   a) UNO b) IDO c) IMP d) IBRD
10. WTO was established on _____
    a) 1st January,1977 b) 1st January,1983
    c) 1st January,1995 d) 1st January,1991

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) What are the differences between Internal Trade and International Trade?

(OR)

b) List out the Features of International Trade.

12. a) Critically explain the Classical theory of International Trade.

(OR)

b) The Opportunity Cost Theory of International Trade – Explain.

13. a) Explain the case for Free Trade.

(OR)

b) What are the objectives of Arguments for Protection?

14. a) Distinguish between Balance of Trade and the Balance of Payment.

(OR)

b) Explain the causes for disequilibrium in the Balance of Payments.

15. a) Explain the role and Importance of IMF?.

(OR)

b) Bring out the functions of World Bank.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain the main objectives of International Trade.
17. Discuss the modern theory of International Trade.
18. Describe the Arguments against protection.
19. Critically explain the measures to correct disequilibrium in Balance of payments.
20. Explain the Globalisation and its impact on Indian Economy.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U4VMC8**

COURSE TITLE : Mathematical Methods-II **QN.NO : 5815**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. _____ the English Mathematician invented the theory of Matrices

   a) Robinson b) Clinto c) Cornwallis d) Cayley

2. The number of the rows and columns of a matrix is called_____

   a) Order of matrix b) Size of matrix

   c) Dimension of Matrix d) All the above

3. Derivative of a constant function is_____

   a) Zero b) One c) infinite d) Negative

4. If Y=X10, dy/dx = _____

   a) $10x^{-9}$ b) $10x^{9}$ c) $10x^{11}$ d) $10x^{-11}$

5. If U = x+y, $\partial U/\partial x$=_____ and $\partial U/\partial y$=_____

   a) 1 and 1 b) 0 and 1 c) 1 and 0 d) 0 and 0

6. If U = $x^3 + y^2$, $\partial^2 U/\partial y^2$=_____

   a) 0 b) 2 c) 6x d) 2y

7. In calculus, the reverse or inverse process of differentiation is called _____.

   a) Integral calculus b) derivation c) Matrices d) None of the above

8. Find ⌡dx _____.

   a) x+c b) x-c c) dx+c d) dc+x

9. Integration is the reverse of _____

   a) Matrix b) Differentiation c) Curve d) None of the above

10. Linear Programming Problem deals about the_____

    a) Minimization of cost b) Maximization of Profit

    c) a & b d) None of the above

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) If $A = \begin{pmatrix} 1 & 2 & -3 \\ 4 & -5 & 6 \\ 7 & 8 & -9 \end{pmatrix}$, $B = \begin{pmatrix} 4 & -3 & 2 \\ 1 & 6 & -4 \\ -7 & 1 & 3 \end{pmatrix}$ and $C = \begin{pmatrix} 6 & 2 & 1 \\ 4 & 0 & 7 \\ 2 & 1 & 6 \end{pmatrix}$

(OR)

b) If $A = \begin{pmatrix} 1 & 2 \\ 3 & 4 \end{pmatrix}$ and $B = \begin{pmatrix} 5 & 6 \\ 7 & 8 \end{pmatrix}$, Verify $(A + B)^T = A^T + B^T$.

12.a) Solve the following:

i) If $y = 11x^{-3} + 4x^{-9} + 3x + 7$, find dy/dx.

ii) If $Y = x^3 - x^8$, Find dy/dx.

(OR)

b) Find the higher order derivative of Y, If $Y = 3x^6 + 2x^4 + x^2$

13.a) Find the partial derivatives of $Z = 4x^2 + 4xy + y^2$

(OR)

b) Find out $\partial Q/\partial L$ and $\partial Q/\partial K$ for Production function.

14. a) Evaluate $\int_2^3 (x^2 + 5x + 7)\, dx$.

(OR)

b) Compute the total fixed cost for the Marginal cost function $C = 2 + 6x - 4x^2$, If total fixed cost is 50.

15.a) Write a short note on Linear Programming Problem.

(OR)

b) Solve the following LPP problem

Maximize $2X_1 + 5X_2$

Subject to $X_1 \leq 4$

$X_2 \leq 3$

$X_1 + 2X_2 \leq 8$

Contd…

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Find the inverse of matrix

$$A = \begin{bmatrix} 1 & 2 & 3 \\ -5 & -7 & -4 \\ 2 & 1 & 3 \end{bmatrix}$$

17. If $Y = (2x^3 + 9)(x^2 + 3x)$, Find dy/dx.

18. Find first and second order partial derivatives of the following function

$Z=2x^3+5x^2y+xy^2+y$ and also verify that $\frac{\partial^2 z}{\partial x \partial y} = \frac{\partial^2 z}{\partial y \partial x}$

19. If the Marginal Revenue function MR=100 – 4Q, Find the total Revenue function.

20. Solve the LPP Problem by Graphical method.

Minimize $C = 0.6X_1 + 1X_2$

$10X_1 + 4X_2 \geq 20$

$5X_1 + 5X_2 \geq 20$

$2X_1 + 6X_2 \geq 12$

$X_1, X_2 \geq 0$

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U4VSM4**

COURSE TITLE : Soft Skills **QN.NO : 5816**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Soft skills training include
   a) Understanding self and others b) presenting and public speaking
   c) Influencing and persuading d) all the above
2. Which skills are absolutely essential requirement for technical, engineering and IT professionals?
   a) Team Building b) Communication skills
   c) Time Management d) Stress Management
3. Which refers to personality traits, social graces, facility with language, personal habits, friendliness and optimism that mark people to varying degrees?
   a) Hard skills b) Soft skills c) Psychology d) Personality
4. Which is very essential in the corporate world?
   a) Effective time management b) Unwillingness to learn
   c) Ability to give advice d) Ability to give motivation
5. Which is the single most useful and important listening skill?
   a) Competitive listening b) Passive listening
   c) Active listening d) Informative listening
6. Which was a primary leisure activity, when there were no televisions or computers?
   a) Listening b) Reading c) Writing d) Speaking
7. Communication may be made through
   a) Oral b) Written c) Oral or written d) Question
8. The exchange of facts, ideas, opinions or emotion by two or more persons is called
   a) Communication b) Marketing c) Learning d) Teaching
9. A good communicator knows
   a) Yourself b) your audience
   c) be focused positive d) all the above
10. A process of examining or considering something in detail in a group is called
    a) Group discussion b) Public speaking
    c) Listening d) Reading

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) List out the importance of soft skills.

(OR)

b) Indicate the ways to improve soft skills.

12. a) Bring out the factors hampering Listening.

(OR)

b) Enumerate the benefits of reading

13. a) Differentiate between verbal and Non-verbal Communication.

(OR)

b) Record verbal communication methods.

14. a) What are the skills required in a Group Discussion?

(OR)

b) What are the questions to be commonly asked in Interviews?

15. a) What are the correct methods to prepare Interviews?

(OR)

b) Write a short note on Curriculum Vitae.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain the attributes regarded as Soft Skills.

17. Discuss the various kinds of Reading.

18. Enumerate the different barriers to Communication.

19. Critically examine the various types of Group Discussion.

20. How to prepare a Bio Data? Write down the sample.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U4VAC4**

COURSE TITLE : Agricultural Economics **QN.NO : 5817**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Who defined agricultural economics as "a study of relationship arising from wealth getting and wealth using activity of man in agriculture?
   a) Prof. Gray b) Prof. Hibbard
   c) A.W. Ashby d) Prof. Jouzier
2. As economic development takes place in a county, the relative share of agricultural sector?
   a) Declines b) Increases c) Remain Constant d) Can'tsay
3. The average yield hectare of land is called as
   a) Agricultural Production b) Agricultural Productivity
   c) Agricultural Planning d) Agricultural Budget
4. Indian Agricultural production is severally affected by
   a) Monsoons b) Social factors
   c) Technological factors d) Economic factors
5. _____ is a permanent solution towards the problems of sub-division and fragmentation of holding in india.
   a) Co-operative farming b) Economical holding
   c) Consolidation of holding d) Small farming
6. Farmer's suicides are very high in
   a) Andhra Pradesh b) Tamilnadu c) Punjab d) Hariyana
7. At present more than _____ percent of our total Agriculture income is derived from cattle.
   a) 60 b) 80 c) 50 d) 90
8. Which is the largest dairy industry in India?
   a) Dudh sagar dairy b) Mother dairy c) Amul dairy d) Dynamic dairy
9. _____ is associated with a sharp increase in milk production.
   a) Green revolution b) Blue revolution
   c) White revolution d) Black revolution
10. Indian green revolution is otherwise called as
    a) Rice revolution b) Wheat revolution
    c) Oil revolution d) Milk revolution

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Bring out the scope of Agricultural Economics.

(OR)

b) Elucidate the interdependence of Agriculture and Industry.

12.a) Describe the trends in agricultural crops production since 1991.

(OR)

b) Explain the suggestions for improving agricultural productivity in India.

13.a) Briefly explain the causes for subdivision and fragmentation of Holdings.

(OR)

b) Write an essay about farmer's suicide in India.

14.a) Elucidate the present position of cattle in national economy?

(OR)

b) Spell out the causes of low production in poultry.

15.a) Describe the factors responsible for Green Revolution.

(OR)

b) What are the importances of Blue revolution?

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Examine the role of agriculture in Economic development of India.
17. Assess the causes for low agricultural Productivity in India.
18. Analyse the problems faced by agricultural sector in India and suggest measures to overcome it.
19. Discuss the problems of Dairy Industry in India.
20. Explain the economic benefits of Green Revolution.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME:: NME - Economics **COURSE CODE: 18U4VNM2**

COURSE TITLE : Elements of Public Finance **QN.NO : 5818**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The term 'public finance is
   a) The finance of local bodies b) The finance of individuals
   c) The finance of public authorities d) The finance of central government alone
2. The main difference between public finance and private finance is
   a) Coerciveness of administrative power b) Coerciveness of fiscal power
   c) Coerciveness of extra ordinary power d) All of the above
3. The controlling authority of the government expenditure is
   a) Reserve Bank of India b) Planning Commission
   c) Finance Ministry d) Finance Commission
4. The effect of public expenditure on the willingness to work depends upon
   a) The nature of public expenditure b) The extent of public revenue
   c) The extent of public borrowing d) The nature of public debt
5. The most important revenue for Indian Government is
   a) Tax revenue b) Non tax revenues
   c) Both (a) and (b) d) None of the above
6. Indirect taxes are also called as
   a) Personal taxation b) Property taxes
   c) Commodity taxation d) None of the above
7. Public debt means
   a) The debt of public authorities b) The debt of state governments alone
   c) The debt of private individuals d) None of the above
8. The best method of debt redemption is
   a) Repudiation b) Repayment c) Capital levy d) Conversion
9. The recommendations of finance commissions are presented to
   a) The President b) The Parliament c) The Governor d) None of the above

Contd…

10. If expenditure exceeds revenue it is called

a) Balance budget b) Rational budget

c) Unbalanced budget d) Performance budget

PART – B

(5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Distinguish between public finance and private finance.

(OR)

b) Mention the main functions of state government.

12. a) What are the items comes under public expenditure?

(OR)

b) Bring out the principles of public expenditure.

13. a) Write a short note on Goods and Services Tax.

(OR)

b) What are the sources of public revenue?

14. a) Briefly explain the redemption of public debt.

(OR)

b) List out the types of public debt.

15. a) Point out the objectives of fiscal policy.

(OR)

b) Specify the different types of deficit budget.

PART – C

(3 x10 = 30)

Answer any THREE questions.

16. Explain the main functions of the State.
17. Enumerate the reasons for the growth of public expenditure.
18. Differences between Direct and Indirect taxes.
19. Enumerate the causes for increasing public debt.
20. Explain the types of budget.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics | **COURSE CODE : 17U6SME2(D)**

COURSE TITLE : Indian Economy | **QN.NO : 5819**

TIME : 3 Hours | **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Economic Development, as a Concept is more relevant for.
   (a) Developed Countries (b) Underdeveloped Countries
   (c) Asian Countries. (d) None of the above.

2. Which among the following is a characteristic of underdevelopm
   (a) Vicious Circle of Poverty (b) Rising mass Consumption
   (c) Growth of industries (d) High rate of Urbanization.

3. Agriculture is
   (a) Primary Activity (b) Secondary activity (c) Tertiary activity
   (d) None of the above.

4. IADP means
   (a) Internal Agricultural District Program
   (b) Intensive Agricultural District Program
   (c) Intermediate Agricultural District Program
   (d) Intensive Area District Program

5. Cotton textile industry is called
   (a) Small Scale Industry (b) Large Scale industry
   (c) Cottage industry (d) None of the above.

6. The Concept of mixed economy relates to
   (a) The Co-existence of rural sector and Urban Sector
   (b) The Co-existence of Small-Scale and large scale Sector.

(c) The Co-existence of public Sector and private Sector.
(d) The Co-existence of Service Sector and manufacturing Sector.

7. Service Sector is based on
(a) Telecommunication (b) Agriculture (c) industry (d) None of the abov

8. The Reserve Bank of India was established on April 1,
(a) 1938 (b) 1942 (c) 1935 (d) 1940.

9. Economic liberalization in India started with
(a) Substantial changes in industrial licensing policy (b) The Convertibility of Indian rupee (c) All of the above (d) None of the above

10. In India GST came effective from
(a) June 30th 2017, (b) July 1st 2017 (c) July 28th 2017
(d) April 25 2017.

PART – B **(5 x 7 = 35)**

Answer all questions by choosing either (a) or (b).

Answer ALL the Questions (Either or Pattern) Each answer not exceeding 3 pages.

11. a) Distinguish between Economic Growth & Economic Development

(Or)

b) What are the features of Indian Economy?

12. a) What is Agricultural Productivity? and list out the remedial measures to raise Agricultural Productivity in India

(Or)

b) What are the Suggestions for improving the Conditions of Agricultural labourers?

13. a) Write a short note on new industrial policy 1991.

(Or)

b) What are the Schemes to Boost MSME Sector?

14. a) List out the performance of some major services in India.

(or)

b) Write a short note on Telecommunication.

15. a) Briefly explain the liberalisation, Privatisation and Globalization.

(or)

b) What is Demonetization ? and its benefits.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

Answer 3 out of 5 questions (open choice) each answer not exceeding 4 pages.

16. Describe the Economic and Non Economic factors in Economic Development.

17. What are the defects of Agricultural Marketing in India ?

18. Point out the Role of Industries in Economic Development of India.

19. What are the importance of service sector in India?

20. State and Explain the WTO.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U5VMC9**

COURSE TITLE : Macro Economics - I **QN.NO : 5822**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1) Macroeconomics approach is
   (a) Aggregative (b) laissez-faire
   (c) Individualistic (d) Partial
2) Keynes' General Theory had been developed essentially in terms of _____
   (a) Comparative statics (b) macro-statics
   (c) Macro-dynamics
   (d) Stationary theories of general equilibrium
3) The disposable income is otherwise called as
   (a) investment function (b) profit function
   (c) consumption function (d) cost function
4) NNP at factor cost equal to
   (a) GNP depreciation
   (b) NNP at market price + Depreciation
   (c) NNP at market price – Indirect taxes + subsidies
   (d) NNP at market price + Indirect taxes
5) The formula of the consumption function is
   (a) C= f (D) (b) C= f (Y)
   (c) C= f (S) (d) C= f (P)
6) The fundamental psychological law of consumption is associated with
   (a) Evans (b) Hansen
   (c) Robert Solow (d) Keynes
7) What is the truth of Keyens' theory of employment?
   (a) Long-term analysis
   (b) Stability of aggregate supply function in the short-run
   (c) Stability of investment function
   (d) Full employment equilibrium
8) Full employment is not consistent against
   (a) Frictional unemployment (b) Cyclical unemployment
   (c) Technological unemployment (d) Voluntary unemployment

Contd…

9) Cost of living increases when business cycle is _____

(a) expanding (b) contracting

(c) at peak (d) at lowest point

10) Which one of the following is not the characteristic of business cycle?

(a) They are recurrent (b) They are not at regular intervals

(c) They have uniform causes (d) They are frequent

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11) (a) List out the major importance of macroeconomics.

(OR)

(a) Explain the concepts of economic statics and dynamics.

12) (a) Mention about the difficulties of calculating the national income.

(OR)

(b) Enumerate the meaning of GNP, NI, IP and DPI and their relationship.

13) (a) Explain the factors that determine consumption function.

(OR)

(b) State and clarify the term "marginal propensity to consume" (MPC).

14) (a) List out the various types of unemployment.

(OR)

(b) Bring out the criticism of Say's law of markets.

15) (a) What are the features of a trade cycle?

(OR)

(b) Give a short note on the Sunspot theory and Psychological theory

PART – C (3 x 10 = 30)

Answer any THREE questions.

16) Explain the differences between microeconomics and macroeconomics.

17) Discuss the various methods of calculating national income.

18) Describe Keynes Psychological law of consumption.

19) Elucidate Keynes theory of employment.

20) Explain the different phases of a trade cycle.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U5VMC10**

COURSE TITLE : Economics of Development and Planning **QN.NO : 5823**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Economic growth measures
   a) Increasing rate of capital formation b) more output
   c) Innovation of technological change d) All of these
2. Economic development of a country depends more on
   a) Natural Resources b) Capital Formation
   c) Availability of market d) Entrepreneurs
3. Unbalanced Growth means
   a) Investment in strategic sectors of the economy
   b) Equal increase in resource allocated
   c) Different parts of the economy grow in a harmonious manner
   d) Different fields grow at a natural rate
4. The theory of unlimited supply of labour is associated with
   a) Ricardo b) Rostow c) Adamsmith d) Lewis
5. Capital plays an important role in the process of
   a) Economic growth b) Economic development
   c) Human Resource Development d) All of these
6. Human capital means
   a) Progress in education and public health b) Reducing death rate
   c) Organizing schools d) None of these
7. Development is impossible without
   a) Incentive to profit b) Foreign aid c) Savings d) Inflation
8. The important factor that hinders industrialization in under developed countries is
   a) Political policy b) Public administration
   c) Economic Environment d) International force
9. The second five year plan gave importance to
   a) Agriculture b) Industry c) Banking d) Telecommunication
10. When was NITI Aayog established?
    a) 1 January 2015 b) 25 January 2016 c) 14 May 2014 d) 1 July 2015

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11.a) Differentiate Economic Growth and Development.

(OR)

b) Explain the obstacles Economic Development.

12.a) Enumerate the Adam Smith's theory of Economic Development.

(OR)

b) Examine the Balanced growth theory.

13.a) Explain the stages of Capital Formation.

(OR)

b) Write a note on Human capital formation.

14.a) Explain the role of Technology in Economic development.

(OR)

b) Bring out the problems of technology faced by developing countries.

15.a) Classify the different types of planning.

(OR)

b) Enumerate the objectives of NITI Ayog.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Describe the factors influencing Economic Development.

17. Explain the Lewis theory of unlimited supply of labour.

18. Discuss the reasons for the low capital formation.

19. Expound the role of Industry in Economic development.

20. Explain the functions of Niti Ayog.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U5VMC11**

COURSE TITLE : Labour Economics **QN.NO : 5824**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Labor is one of the four_____.
   a) elements of the labour market b) factors of production
   c) fundamental character of economics d) functions of organization
2. The labor force is used to help determine the_____.
   a) unemployment rate b) profit of the nation
   c) labour market conditions d) Industrial development
3. Trade union is also called as
   a) workers union b) industrial union
   c) labour union d) wage earners union
4. Trade union created for the purpose of securing_____.
   a) improvements in pay b) improve the working conditions
   c) improve the social security benefits d) all of these
5. Industrial Disputes relating to_____.
   a) wages b) bonus
   c) profit sharing and hours of work d) all of these
6. Expansion of WPM.
   a) Workers Participation in Management b) Work Participation Measures
   c) Workers Promotion Measures d) Workmen Productivity Measures
7. The total amount of money received by the labourer in the process of production is called the_____.
   a) Real wages b) Money wages c) Piece wages d) Fair wages
8. Residual claimant theory was given by
   a) Francis Cherunilam b) Adam smith
   c) Francis A. Walker d) Lassale
9. The Employees' State Insurance Actwas passed in the year_____.
   a) 1948 b) 1956 c) 1980 d) 1952
10. International Labour Organization (ILO) headquarters located in_____.
    a) Geneva, Romandy b) Geneva, Switzerland
    c) United States, New York d) United States,Washington

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Briefly explain the special characteristics of labour.

(OR)

b) Distinguish between Organised and UnorganisedLabour.

12. a) Analyse the Gandhian Ideas of Trade Unionism.

(OR)

b) Describe the Functions of Trade Unions.

13. a) What are causes of Industrial Disputes? Explain it.

(OR)

b) Explain the types of incentives.

14. a) Write a note on 'Marginal Productivity Theory of Wages'.

(OR)

b) Discuss the various types of wages.

15. a) Summarize the Objective of Social Security.

(OR)

b) Briefly explain the Objectives and Functions ofEmployees' State Insurance(ESI).

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Analyse the Nature and Scope of Labour Economics.

17.Discuss the Classifications and Pattern of Trade Unions.

18.Examine the Preventive Measures of Industrial Disputes.

19.Describe the various Methods of Wage Payment.

20. Explain the Objectives and Functions of Employees' Provident Fund (EPF).

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U5VME1**

COURSE TITLE : Environmental Economics **QN.NO : 5825**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Environmental economics is an area of economics that studies the_____.
   a) environmental growth of the economy b) benefits of the environment
   c) financial impact of environmental policies d) environment and human
2. The basic components of the environment are_____.
   a) atmosphere b) lithosphere
   c) hydrosphere and biosphere d) all of these
3. The branch of biology dealing with the relationships of organisms with their environment and with each other is called as _____.
   a) ecology b) environment
   c) biological studies d) environmental economics
4. The solid component of the earth is called
   a) Lithosphere b) Hydrosphere c) soil d) Troposphere
5. Which of the following are the Fossil energy sources?
   a) oil b) coal c) natural gas d) all of these
6. Non-conventional sources of energy is also known as a
   a) non-renewable source of energy b) renewable source of energy
   c) commercial Energy Sources d) traditional sources of energy
7. Which year was declared Marine National Park of India?
   a) 1972 b) 1980 c) 1982 d) 1987
8. Air pollution causes_____.
   a) Skin problems b) Soil erosion
   c) Respiratory problems d) Global warming
9. What are the ways conserve natural resources?
   a) Use less water b) Turn off the light
   c) Use renewable energy d) All of these
10. _____ will be levied to encourage recycling of the resources.
    a) Fine b) Pollution taxes c) Policies d) Training

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Briefly explain the Role of Environmental Economics.

(OR)

b)Explain the Transformation Curve.

12. a) Analyse the Environmental Segments.

(OR)

b) Distinguish between the Ecology and Ecosystems.

13. a) What are the renewable sources of energy? Explain it.

(OR)

b) Differences between Conventional and Non-Conventional Energy Resources.

14. a) Describe the causes and effects of water pollution.

(OR)

b) Write a detailed note on Bhopal Gas Tragedy.

15. a) Summarize the Conservation of Resources .

(OR)

b) Briefly explain the Human Impact on the Environmental Resources.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Analyse the scope and significance of environmental economics.

17. Discuss the structure and dynamics of the Ecosystem.

18. Examine the Energy Scenario in India.

19. Describe the causes and remedies of air pollution.

20. Explain the various methods of conservation.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U5VME2**

COURSE TITLE : Fundamentals of Computer **QN.NO : 5826**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1) Which one of the following is not a part of computer?
   (a)CPU (b) Monitor
   (c)DVD (d) Keyboard
2) ALU stands for
   (a) Arithmetic Logic Unit (b) Array Logic Unit
   (c) Application Logic Unit (d) Automatic Logic Unit
3) Windows is a
   (a)Software (b) Package
   (c)Hardware (d) Operating System
4) CD-ROM stands for
   (a) Compactable Read Only Memory (b) Compact Data Read Only Memory
   (c) Comport Data Read Only Memory (d) Compact Disk Read Only Memory
5) Portrait and Landscape are
   (a) Page Orientation (b) Paper size
   (c) Page Layout (d) All of above
6) Which of the following is not a type of page margin in MS-Word?
   (a)Left (b)Right
   (c)Centre (d)Top
7) Each Excel file is called as a workbook because
   (a)It can contain text and data (b) it can contain many sheets
   (c)it can be modified (d)Have to work hard to create it
8) Power point is mostly used by
   (a) Sales representatives (b) Teachers
   (c) Research fellows (d) all the above
9) The device, which allows home computers to connect to the internet is called a
   (a)modem (b)gateway
   (c)peripheral (d)monit
10) A program that is used to view websites is called a
   (a) Browser (b) Web viewer
   (c) Spreadsheet (d) Word processor

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11) (a) Explain the various types of computers on the basis of size and capability.

(OR)

(b) Explain the importance of computers.

12) (a) What do you mean by single user and multi-user Operating System?

(OR)

(b) Explain any five internal commands in DOS.

13) (a) List out the various file management tools in MS word.

(OR)

(b) What is the use of Find and Replace commands in MS word?

14) (a) Point out the various types of charts available in MS Excel.

(OR)

(b) Slides are inserted and deleted in Powerpoint. How?

15) (a) What are the advantages of Internet?

(OR)

(b) Write a short note on WWW.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16) Explain the generation of computers.

17) Write any three short notes on:

(a) Desktop (b) Control panel

(c) Paint brush (d) Windows explorer

18) Explain the method of applying Add Header & Footer and Page Number in MS Word.

19) What is the role played by multimedia in power point presentation? Bring out the steps involved in adding animation.

20) Describe the various types of networking.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U5VSM5**

COURSE TITLE : Retail Marketing **QN.NO : 5827**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The word retail is derived from the ____ word
   a) Latin b) French c) English d) Greek
2. Retailing is a marketing function which ____
   a) Sells products to others business b) Sells products to company that resells
   c) Sells products to final consumers d) All of the above
3. Retailing creates _____
   a) Time utility b) Ownership utility c) Customer d) All of the above
4. Who is the father of modern marketing?
   a) Lewis b) Philip Kotler
   c) Lester Wunderma d) Nurkse
5. A retailer's _____ is the key to its ability to attract customers
   a) Location b) Promotion system
   c) Pricing system d) Store personnel
6. Bid Rent theory was developed by
   a) Von Thunen b) Kotler c) Marsh d) Lewis
7. ____ is the process of dividing a market into different group based on regions, states or neighbor hood
   a) Gender segmentation b) Geographic segmentation
   c) Psychological segmentation d) Psychographic segmentation
8. _____ is forming segments of consumers who have similar needs any buying behavior even though they are located in different countries
   a) External segmentation b) Internal segmentation
   c) Intermarket segmentation d) Enriched segmentation
9. The major reason people give for not shopping on the internet is ____-
   a) Lack of "Touch" b) Too difficult
   c) Security concerns d) Unfamiliar merchants
10. Which of the following is the major cause for consumers prefer online purchase?
    a) Free shipping b) Discounts
    c) Convenience d) more product options

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) List out the features of retailing.

(OR)

b) Write down the formats of retailing.

12. a) Explain the functions of retailers.

(OR)

b) What are the classifications of retailers?

13. a) Bring out the types of retail location.

(OR)

b) Write a short note on Bid Rent theory.

14. a) What are the disadvantages of market segmentation?

(OR)

b) Specify the benefits of market segmentation.

15. a) Bring out the advantages of information technology.

(OR)

b) Write the meaning of Electronic retailing.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Describe the functions of retailing.
17. Enumerate the characteristics of retailers.
18. Describe the criteria is selecting location for retail business.
19. Enumerate the criteria for effective market segmentation.
20. Elucidate the challenges of electronic retailing.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U6VMC12**

COURSE TITLE : Macro Economics-II **QN.NO : 5828**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Investment depends mainly on:
   a) Future expected profits b) Past levels of income
   c) Present national income d) Profits
2. An outward shift in the Marginal Efficiency of Capital should:
   a) Decrease consumption b) Increase aggregate demand
   c) Reduce aggregate supply d) Slow economic growth
3. I n an open economy, the value of the multiplier depends on:
   a) The marginal propensity to save
   b) The marginal propensity to import
   c) The level of taxes d) All of the above
4. Keynesian multiplier establishes a relationship between:
   a) Investment and Income b) Income and Consumption
   c) Saving and Investment d) None of the above
5. Inflation is the state in which _____
   a) The value of money decreases b) The value of money increases
   c) The value of the money increases first and then decreases
   d) The value of money decreases first and increases later
6. Which of the following concept is just opposite to deflation?
   a) Stagflation b) Inflation
   c) Recession d) Disinflation
7. The Ricardian theory of rent is based on the law of ____
   a) Variable Proportion b) Diminishing Marginal Returns
   c) Returns to scale d) Equi marginal returns
8. Ricardian theory of rent and Modern theory of rent are
   a) Similar b) Different
   c) Slightly different d) Indifferent
9. Who is the chairperson of the Monetary Policy committee of India?
   a) Finance Minister b) Prime Minister
   c) RBI Governor d) Chief Economic Advisor
10. Fiscal Policy of India is formulated by
   a) The Finance Ministry b) The Reserve Bank of India
   c) The securities and exchange board of India
   d) The Planning Commission

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Define Investment and its types

(OR)

b) Expound the determinants of Investment.

12. a) Criticize Multiplier concept.

(OR)

b) Explain the types of Multiplier

13. a) Describe the types of Inflation

(OR)

b) Enumerate the effects of Deflation.

14. a) Explain the Ricardian theory of income distribution.

(OR)

b) Discuss the Marxian model of income distribution.

15. a) State the instruments of Monetary Policy.

(OR)

b) Describe the limitations of Fiscal Policy.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Describe the Factors Determining Marginal Efficiency of Capital.

17. Discuss the leakages of the multiplier.

18. Explain the measures to control Inflation.

19. Examine the Kaldor's model of distribution.

20. Expound the objectives of monetary policy.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U6VMC13**

COURSE TITLE : Indian Economics **QN.NO : 5829**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Indian Economy is :
   a) Socialist Economy b) Gandhian Economy
   c) Mixed Economy d) Free Economy
2. Mixed Economy means an economy where:
   a) Both agriculture and industry are equally promoted by the state
   b) There is co-existence of public sector along with private sector
   c) There is importance of small scale industries along with heavy industries
   d) Economy is controlled by military as well as civilian rulers
3. Who is the chairman of the planning commission in India?
   a) President b) Vice president
   c) Prime Minister d) Finance Minister
4. The second five year plan laid more stress on :
   a) Industrialization b) Removing poverty
   c) Self-reliance d) Agriculture
5. In which sector the public sector is most dominant.
   a) Transport b) Steel production
   c) Financial Institution d) Commercial banking
6. Indian Iron and steel company was established in:
   a) 1919 b) 1976 c) 1909 d) 1090
7. . FDI stands for :
   a) Future Direct Investment b) Foreign Direct investment
   c) Further Direct Investment d) Fund for Direct Investment
8. Import substitution means
   a) Constant rate of imports b) Increase in imports
   c) Producing imported good domestically d) Import ban
9. In which year NITI Aayog came into being?
   a) 2014 b) 2015 c) 2016 d) 2017
10. Parallel economy emerges due to
    a) Tax compliance b) Tax estimation
    c) Tax Evasion d) Tax avoidance

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Explain the Features of mixed Economy.

(OR)

b) Evaluate the types of unemployment.

12. a) What are the indicators of regional disparities?

(OR)

b) Write a short note on five years plans and industrial backwardness.

13. a) Analyse the demerits of public sector undertakings.

(OR)

b) Has India adopted a disinvestment policy?

14. a) Enumerate the forms of foreign capital.

(OR)

b) Describe the significance foreign capital

15. a) What are the causes of parallel economy?

(OR)

b) Analyse the causes of corruption in India.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Discuss the objectives and composition of NITI Aayog.

17. Analyse advantages and disadvantages of Foreign capital

18. Examine the role of public sector in Indian economy.

19. What are the causes of economic backwardness in India?

20. What are the basic characteristics of India as a developing economy?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U6VMC14**

COURSE TITLE : Public Finance **QN.NO : 5830**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which one is a source of revenue for the Local government bodies?
   a) Property tax b) Value added tax
   c) Excise duty d) Corporation tax
2. The principle of Maximum Social Advantage have been suggested by
   a) Adam Smith b) Dalton c) Musgrave d) Pigou
3. Public Authorities Include:
   a) Central Government b) State Government
   c) Local Government d) All of these
4. How the government can meet its expenditure:
   a) by taxing people b) by borrowing from banks and other governments
   c) by printing new money d) by all the three methods
5. The government can collect funds from:
   a) Taxes b) Fees c) Prices of public goods d) All the three
6. The most important source of income of a government is:
   a) Foreign loans b) Taxes
   c) Sale of government property d) Sprinting of new money
7. Which one is not a principle of taxation:
   a) Principle of morality b) Principle of certainty
   c) Principle of equality d) Principle of diversity
8. Net taxes are:
   a) Domestic taxes minus foreign taxes
   b) Total taxes minus govt. transfer payments
   c) Total taxes minus govt. purchases d) Business taxes minus personal taxes
9. A budget where there is excess of expenditure over revenue is called:
   a) Zero-based b) Deficit c) Balanced d) Surplus
10. The financial year in India starts from:
    a) 1st January b) 31st March c) 1st April d) 1st July

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Briefly explain Comparison of Public Finance and Private Finance.

(OR)

b) Enumerate thePrinciple of Maximum Social Advantage.

12. a) Summarize the Canons of Public Expenditure.

(OR)

b) Write a detailed explanation of Sources of Public Revenue.

13. a) Explain the Canons of Taxation.

(OR)

b) What are the Factors Determining Taxable Capacity? Explain it.

14. a) What is Public Debt? And State the Objectives of Public Debt.

(OR)

b) Briefly explain the Budgetary procedure in India.

15. a) Describe the Importance of Federal Finance.

(OR)

b) Summarize the Functions and Problems of Local Finance.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Describe the Scope and Importance of Public Finance.

17. Examine the various Causes for the Growth of Public Expenditure.

18. Explain the Merits and Demerits of Direct Tax and Indirect Tax.

19. Analyse the Methods of Debt Redemption.

20. Discuss the Objectives and Limitations ofFiscal Policy.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U6VME3**

COURSE TITLE : Economic Thinkers **QN.NO : 5831**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The history of land tenure system was exist in _____
   a) Russia b) America c) England d) China
2. Mercantilism is an economic theory that advocates government regulation of_____ to generate wealth and strengthen national power.
   a) Internal trade b) international trade
   c) Gold and Silver trade d) All of these
3. Whereas A.Marshall advocated _____ analysis, Leon Walras advocated _____analysis.
   a) partial equilibrium, general equilibrium
   b) general equilibrium, partial equilibrium
   c) disequilibrium, continuous equilibrium
   d) unreserved rational equilibrium, bounded rational equilibrium
4. _____ are known as pessimists in the history of economic thought.
   a) Malthus & Ricardo b) Malthus & Bentham
   c) Ricardo & Bentham d) All of the above
5. The intellectual father of modern scientific socialism was
   a) Rodan b) Schumpeter c) Rostow d) Karl Marx
6. Karl Marx thought that technological progress was likely to be _____.
   a) resource saving b) resource using
   c) labour saving d) capital saving
7. Great depression during in
   a) 1920s b) 1930s c) 1940s d) 1950s
8. The term Innovation is associated with _____.
   a) J.M Keynes b) Schumpeter
   c) Samuelson d) J.Robinson
9. _____ may be rightly described as the unquestioned leader in the area of national income of India.
   a) V.K.R.V. Rao b) Jawaharlal Nehru
   c) C.Rajagobalachari d) Dada Bhai Naoroji
10. Amartya Sen got Nobel Prize in the year of
    a) 2001 b) 1998 c) 2000 d) 1999

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) List out the significance of Economic Thought .

(OR)

b) State briefly the criticisms leveled against Mercantilist ideas.

12. a) State the Ricardian theory of Rent.

(OR)

b) Mention about the major criticism of Malthusian Theory of Population.

13. a) Bring out the main characteristics of Marxism.

(OR)

b) Distinguish between Communism and Socialism.

14. a) Outline the theory of innovation in brief.

(OR)

b) Point out the major ideas of J.R.Hicks.

15. a) Shortly explain the Gandhian Economic thought in India.

(OR)

b) What are the main contributions of Amartya Sen towards Indian Economic Development?

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Describe the main ideas of Physiocrats.

17. Discuss the Adam Smith's contributions to Economic Thought.

18. Critical evaluate the Marxian theory of Surplus Value.

19. Narrate the J.M. Keynesian theory of employment.

20. Evaluate the relevant concept of economic thought of Tiruvalluvar.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U6VME4**

COURSE TITLE : Entrepreneurship Development **QN.NO : 5832**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The term "Entrepreneur" has been derived from the word "entreprendre" which means:
   a) To take risk b) To undertake c) To choose d) To decide
2. An individual who initiates, creates and manages a new business can be called ____.
   a) A leader b) A manager c) An entrepreneur d) A professional
3. Which type of entrepreneurs utilizes a chance to introduce a new technique or new product?
   a) Initiative entrepreneur b) Instigated entrepreneur
   c) Innovative entrepreneur d) Fabian entrepreneur
4. Why the majority of women entrepreneurs are unaware of technological developments?
   a) Low-risk bearing ability b) Low mobility
   c) Lack of education d) Low need for achievement
5. Which of the following is a remedy to solve the problems of women entrepreneurs?
   a) Social attitude b) Stiff Competition c) Finance cells d) Supervision
6. Why are small businesses important to a country's economy?
   a) They give an outlet for entrepreneurs
   b) They can be innovators of new products
   c) They can provide specialist support to larger companies d) All the above
7. EDP (Entrepreneurship Development (Programmes) is required to help_____.
   a) First generations entrepreneurs b) Existing entrepreneurs
   c) Future generation entrepreneurs d) None of the above
8. Which type of industrial estates is called conventional industrial estates?
   a) General type of industrial estate b) Workshop bay
   c) Ancillary industrial estate d) Special type industrial estate
9. Small Industries Development Bank of India (SIDBI) was formed in the year_____.
   a) 1st April 1948 b) 2nd April 1990 c) 2nd March 1991 d) 7th June 1980
10. When was the Tamil Nadu Small Industries Development Corporation Limited established?
    a) 1956 b) 1966 c) 1980 d) 1970

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Briefly explain Characteristics of Entrepreneur.

(OR)

b) Describe the types of Entrepreneur.

12. a) Summarize the Functions of Women Entrepreneurs.

(OR)

b) Write a detailed explanation of the problems of Rural Entrepreneurship.

13. a) Explain the Entrepreneurial Motivation Process.

(OR)

b) What are the Objectives of Entrepreneurship Development Programmes? Explain it.

14. a) Enumerate the Types of Small Scale Industries.

(OR)

b) Briefly explain the Formulation of Project Report.

15. a) Write a note on SIDBI.

(OR)

b) Summarize the Functions and Problems of TIIC.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Describe the Role of Entrepreneurship in Economic Development.
17. Examine the various Problems of Women Entrepreneurship in India.
18. Explain the Factors Influencing Entrepreneurial Mobility.
19. Analyse the Problems of Small Scale Industries.
20. Discuss the Objectives and Functions of EXIM Bank.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 18U6VSM6**

COURSE TITLE : Human Resource Management **QN.NO : 5833**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Human factor is defined as _____
   a) Micro and macro issues of socioeconomic factor
   b) Interrelated Physiological and Socio-ethical aspects of human being.
   c) The entire concept of human behavior d) Money mind aspect
2. HRM is the systematic approach to achieve organizational objective through optimal use of _____
   a) latest technologies b) advanced machines
   c) talented employees d) funds and space.
3. Line function are concerned with those activities which are connected with the discharge of
   a) direct responsibility for accomplishing the subsidiary objectives of the organization
   b) direct responsibility for accomplishing the main objectives of the organization
   c) direct responsibility for taking and implementing all decisions
   d) indirect responsibility for all decisions
4. Which of the following is the main responsibility of HR department?
   a) Attracting candidates for job b) Ensure Staff development
   c) Keep employees motivated d) All of the above
5. Shifting from manual to computerized system result due to
   a) Work force diversity b) Technological advancement
   c) Stake holders involvement d) Globalisation
6. Which of the following is true about Job boards?
   a) They are run only for technical positions
   b) Centralised places where employers advertise vacant positions available with them
   c) Non-technical positions d) None of the above
7. Techniques of collecting Job Analysis Data does not include
   a) Training b) Personal observe
   c) Maintenance of log records d) Sending out questionnaires
8. Which of the following is not offered in a job analysis?
   a) worker attributes b) working conditions
   c) performance appraisals d) job specifications

Contd…

9. In an organization while initiating career planning, the career path model would essentially form the basis for
   a) transfer b) placement c) Rotation d) All of the above
10. Interviews are conversations with _____
   a) enjoyable b) friendliness
   c) purpose d) informality

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) List out the features of Human resource management.

(OR)

b) Define HRM. What are the main objectives of HRM?

12. a) What are the merits and demerits of Line and staff organization structure?

(OR)

b) Briefly explain the organizational design of HR.

13. a) Point out the functional components of Human Resource Information System (HRIS) and explain need its.

(OR)

b) What are the advantages of using computers in HRIS?

14. a) What are the information about a job provided by job analysis?

(OR)

b) List out the different uses of job analysis.

15. a) State the role of Human resource development in organizational effectiveness.

(OR)

b) What are the different types of test?

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Elucidate the factors influencing Human Resource Management?

17. Draw a flow chart of the organization of HRM department and explain the role of Line and Staff function

18. Define job analysis. What are the techniques of job analysis?

19. Suggest measures for conducting an effective interview.

20. Explain the steps of recruitment process.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME-Tamil **COURSE CODE : 4 T(A) (Upto16)**

COURSE TITLE : சிறப்புத் தமிழ் - II **QN.NO : 6016**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(5 x 15 = 75)**

கட்டுரை வடிவில் விடை தருக.

1. அ) சிறு கதைக்குறிய பொது இலக்கணத்தை தெளிவாக ஆராய்க.

(அல்லது)

ஆ) கு.பா. இராஜகோபாலனின் 'விடியுமா?' சிறுகதையினைத் திறனாய்க.

2. அ) நாடக இலக்கியத்தின் தோற்றமும் வளர்ச்சியும் குறித்து ஒரு கட்டுரை எழுதுக.

(அல்லது)

ஆ) சே. இராமனுஜம் எழுதிய 'உருவமும் உள்ளமும்' என்ற நாடகக் கதையைத் திறனாய்க.

3. அ) புதினத்தின் தோற்ற வரலாற்றை விவரிக்க.

(அல்லது)

ஆ) திரைப்படங்களால் ஏற்படும் சமுதாயச் சீர்கேடுகளை ஜெயகாந்தனின் 'சினிமாவுக்குப் போன சித்தாளு ' என்ற கதை நின்று விளக்குக.

4. அ) அரசு நிறுவனத்திற்கு வேலை வேண்டி விண்ணப்பம் வரைக.

(அல்லது)

ஆ) காவல் நிலைய உயர் அதிகாரிக்கு புகார்க் கடிதம் ஒன்றை எழுதுக.

5. அ) இயற்கை வளம் பாதுகாத்தல் பற்றி ஒரு கட்டுரை எழுதுக.

(அல்லது)

ஆ) நீவிர் படித்த ஒரு கவிதை நூலுக்கு மதிப்புரை எழுதுக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME-Tamil **COURSE CODE : 17U3TNMA1**

COURSE TITLE : சிறப்புத் தமிழ் - I **QN.NO : 6018**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(5 x 15 = 75)**

கட்டுரை வடிவில் விடை தருக.

1. அ) மரபுக்கவிதையின் தோற்றமும் வளர்ச்சியும் குறித்துக் கட்டுரை வரைக.

(அல்லது)

ஆ) பாரதிதாசனின் கவிதையை மதிப்பிடுக.

2. அ) இரட்டைக்காப்பியங்கள் பற்றி விளக்கியுரைக்க.

(அல்லது)

ஆ) மங்கலவாழ்த்துப்பாடல் தரும் கருத்துக்களை விவரிக்க.

3. அ) நாயன்மார்களின் பக்தித் திறத்தை ஆய்க.

(அல்லது)

ஆ) ஆழ்வார்கள் திருமாலை எங்ஙனம் பாடிப் பரவுகின்றனர்?

4. அ) அக, புறப் பாடல்களின் தனித்தன்மைகளை புலப்படுத்துக.

(அல்லது)

ஆ) நட்பு அதிகாரத்தில் வள்ளுவர் கூறும் கருத்துக்களைத் தொகுத்துரைக்க.

5. அ) 'கல்வி' என்ற தலைப்பில் கவிதை ஒன்று புனைக.

(அல்லது)

ஆ) 'சமுதாயம்' எனும் தலைப்பில் புதுக்கவிதை ஒன்று படைக்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : UG-NME **COURSE CODE : 17U4TNMB2**

COURSE TITLE : அடிப்படைத் தமிழ் - II **QN.NO : 6019**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(5 x 15 = 75)**

அனைத்து வினாக்களுக்கும் விடை தருக.

1. அ) திணை, பால் என்ற இரண்டினைச் சான்றுடன் விளக்குக.

(அல்லது)

ஆ) மூவிடம் குறித்துக் கட்டுரைக்க.

2. அ) இலக்கண அடிப்படையில் சொற்களைச் சான்றுடன் விவரி.

(அல்லது)

ஆ) இலக்கிய அடிப்படையில் சொற்களை வகைப்படுத்துக.

3. அ) தமிழ் மற்றும் ஆங்கில மாதப் பெயர்களை வரிசைப்படுத்துக.

(அல்லது)

ஆ) கிழமைப் பெயர்கள், பழங்களின் பெயர்களை எழுது?

4. அ) சொற்களில் உள்ள பிழைகளை எங்ஙனம் கண்டறிவாய்?

(அல்லது)

ஆ) பிழையின்றிப் பேசவும், எழுதவும் மாணவர்கள் பின்பற்ற வேண்டிய நெறிகள் யாவை?

5. அ) நீவீர் பெரிதும் இரசித்த கவிதையின் சிறப்பினை விளக்குக.

(அல்லது)

ஆ) உரைநடையினால் ஏற்படும் பயன்கள் யாவை?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : UG-NME **COURSE CODE : 17U4TNMA2**

COURSE TITLE : சிறப்புத் தமிழ்-II **QN.NO : 6020**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(5 x 15 = 75)**

அனைத்து வினாக்களுக்கும் விடை தருக.

1. அ) உரைநடையின் தோற்றம் பற்றி எழுதுக.

(அல்லது)

ஆ) தமிழ் இலக்கியத்தின் சிறப்பினை நும் பாடப் பகுதியின் வழி விளக்குக.

2. அ) நாடகத்தின் தோற்றமும் வளர்ச்சியும் பற்றி விவரி.

(அல்லது)

ஆ) அ. சிவக்கண்ணன் நாடகத்தில் காணலாகும் சமுதாயக் கருத்துக்களை ஆய்க.

3. அ) துணிந்தவன் புதினத்தின் தலைப்புப் பொருத்தத்தை எழுதுக.

(அல்லது)

ஆ) புதினத்தின் தோற்றத்தை விவரி.

4. அ) தனியார் நிறுவனத்தில் வேலை வேண்டி விண்ணப்பக் கடிதம் எழுதுக.

(அல்லது)

ஆ) குடிநீர் வசதி வேண்டி மாநகராட்சி ஆணையருக்குப் பொதுமக்கள் சார்பாகப் புகார் கடிதம் எழுதுக.

5. அ) நீவீர் இரசித்த கவிதையின் நயம் பாராட்டுக.

(அல்லது)

ஆ) மழை நீரின் முக்கியத்துவம் பற்றி கட்டுரை வரைக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Com., **COURSE CODE : 1PGK2 (Upto 16)**

COURSE TITLE : Financial Markets & Institutions **QN.NO : 6406**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer all questions.

1. What is financial globalization?
2. Define: 'Discount Market'.
3. What are Gilt-Edged Securities?
4. What is meant by listing of securities?
5. Define: 'Stock Exchange'.
6. Write any two services of merchant banks.
7. What is Net Asset Value?
8. Give a concept of venture capital.
9. Point out any two functions of factor.
10. What is meant by cost benefit analysis of factoring?

PART - B (4 × 6 = 24)

Answer any FOUR questions.

11. Write short notes on 'Equilibrium in Financial Markets'.
12. What are the merits of a treasury bills market?
13. Describe the method of trading in a stock exchange.
14. Indicate the parties involved in a mutual fund.
15. State the functions of venture capital.
16. How does factoring differ from bills discounting?

PART - C (3 × 12 = 36)

Answer any THREE questions.

17. Discuss the role of the financial system in the economic development of a country.
18. What steps have been taken in recent years to make the Indian Money Market a developed one? Explain.
19. Enumerate the guidelines for merchant bankers issued by SEBI.
20. Make suggestions for the success of venture capital in India.
21. Explain the different types of factoring.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Com., **COURSE CODE : 1PGK4 (Upto 2016)**

COURSE TITLE : Advanced Cost Accounting **QN.NO : 6410**

TIME : 3 Hours **MAX.MARKS :75**

PART – A

Answer ALL questions. **(10 x 1.5 = 15)**

1. What is Cost Accounting?
2. What is Prime Cost?
3. What is "Economic Order Quantity"?
4. What is Labour turnover?
5. Define "Overhead".
6. What is Job costing?
7. What is Escalation clause?
8. What are the objects of transport coasting?
9. What do you mean by abnormal gain?
10. What is cost control?

PART – B

Answer any FOUR questions. **(4 x 6 = 24)**

11. A publishing house purchases 40,000 units of a particular item per year at a unit cost of Rs.20. The order cost per order is Rs.50 and the inventory carrying cost is 25%. Find the optimal order quantity and the minimum total cost including the purchase cost.
12. During a week a worker produced 300units working for 48 hours. The hourly rate is Rs.4. the estimated time to produce a unit is 10 minutes. Under incentive scheme, 20% additional time is allowed. Calculate his Gross earnings under Halsey and Rowan plans.
13. From the following details relating to the production department of a factory, you are required to calculate overhead absorption rate under different possible methods.

Material consumed	Rs.1,20,000
Direct wages	Rs. 50,000
Machine Hours	Rs. 25,000
LabourHrs worked	Rs. 12,500
Factory overheadrelating to the department	Rs. 80,000

14. Prepare a reconciliation statement from the following data :

	Rs.
Net loss as per cost accounts	1,72,400
Net loss as per the financial accounts	2,16,045
Works overhead under recovered in cos accounts	3,120
Depreciation overcharged in cos accounts	1,300
Administration overhead recovered in excess	1,700
Interest on investments	8,750
Goodwill written off in financial accounts	5,700
Income Tax paid	40,300
Stores adjustments (credit in financial accounts)	475
Depreciation of stock charged in financial accounts	6,750

15. Batch No.M-200 incurred the following cost :

Direct materials Rs. 15,000

Labour Dept. X= 900 labourHrs @ Rs. 6 per Hr

Dept. Y=1500 labourHrs @ Rs. 7 per Hr

Factory over heads are absorbed on labour hour basis and the rates are Rs. 8 per Hr for Dept. X and Rs. 5 per Hr for Dept. Y. The firm uses a cost plus system for setting price and expects a 25% gross profit (sales value minus factory cost). Administrative overheads are absorbed at 10% selling price. Assuming that 1500 units where produced in Batch M-200, calculate the selling price per unit.

16. What is activity based costing? Give its merits.

PART – C

(3 x 12= 36)

Answer any THREE questions.

17. A manufacturing concern requires a statement showing the result of its production operation for September, 2011. Cost record give the following information.

	1st sept,2011	30th sept,2011
Raw Materials	Rs.1,00,000	Rs. 1,25,500
Finished Goods	Rs. 71,000	Rs. 42,000
Work-in-progress	Rs.31,000	Rs.34,000

Transaction during the month of Sept., 2011	Rs.
Purchase of Raw Materials	88,000
Direct Wages	70,000
Works Expenses	39,000
Administration Expenses	13,000
Sale of Factory Scrap	2,000
Selling and distribution Expenses	15,000
Sales	2,84,000

18. Ramanan Construction limited took a contract in 2011 for road construction. The contract price was Rs. 5,00,000 and its estimated cost of completion would be Rs. 4,60,000. At the end of 2011, the company has received Rs. 1,80,000 representing 90 per cent of work certified. Work not yet certified had cost Rs.5,000.

Expenditure incurred on the contract during 2011 were as follows:

Materials	Rs. 25,000
Labour	Rs. 1,50,000
Plant	Rs. 10,000

Material coasting Rs. 2,500 were damaged and has to be disposed of for Rs. 500. Plant is considered as having depreciation by 25 per cent.

Prepare contract Account for 2011 in the book of Ramanan Construction Limited. Also show all possible figure that can be reasonably credited to Profit and Loss Account in respect of the contract.

19. In a factory the product passes through two process, A and B. A loss of 5 per cent is allowed in process A and 2 per cent in process B, nothing being realized by disposal of wastage. During April, 2016, 10,000 units of material costing Rs. 6 per unit were introduced in process A the other costs are as follows:

Particulars	process A	Process B
	Rs.	Rs.
Material	--	6,140
Labour	10,000	6,000
Overheads	6,000	4,600

The output was 9,300 units from process A, 9,200 units were produced by process B, which were transferred to the ware house.

8,000 units of the finished product was sold @ Rs.15 per unit; the selling and distribution expenses were Rs. 2 per unit.

Prepare process accounts A and B, profit and loss account and statement of profit. Assuming there were no opening stocks of any type.

20. A company has three production dept. and two service depart.", overhead distribution summary is as follows

Production dept.

A	Rs. 13,600
B	Rs. 14,700
C	Rs. 12,800

Service Dept.

X	Rs.9,000
Y	Rs. 3,000

The expense of service departments are charged on a percentage basis as given below:

	A	B	C	X	Y
Dept. X	40%	30%	20%	--	10%
Dept. Y	30%	30%	20%	20%	--

Apportion the cost of service departments by using the repeated distribution method.

21. The particulars of receipts and issues of a certain material during January 2015 are given below.

Date	Receipts	Units	Rate Per unit	Issues Date	Issue Units
Jan.6	Purchased	450	25	Jan.3	600
Jan.12	Purchased	600	24.50	Jan 8	500
Jan.15	Return fromworkshop (issued on jan 3)	50	-	Jan 13	250
Jan.22	Purchased	350	26	Jan.27	500
Jan.28	Purchased	500	27	Jan.31	300

Further information opening balance on 1.1.2015 was 1000 units @ Rs. 24 per unit. A shortage of 15 units was noticed and recorded on 9.1.2015 Prepare store ledger account for the month of January 2015 under the LIFO method

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Com., **COURSE.CODE : 2PGK1 (Upto 2016**

COURSE TITLE : Corporate Accounting **QN.NO : 6416**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1.5 = 15)**

Answer all questions.

1. Give the meaning of Equity shares.
2. Enumerate any three methods for redemption of debentures
3. What do you mean by underwriting?
4. Define – Goodwill.
5. What is meant by amalgamation?
6. Mention the methods of winding up of companies.
7. State the conditions u/s 4 of the Companies Act 1956, which must be satisfied to become a holding company.
8. What is the capital Reserve?
9. Describe the meaning Non – Performing Asset.
10. What to include under costs of inventories?

PART – B **(4 X 6 = 24)**

Answer any Four questions.

11. RAJ limited issued 40,000 equity shares of Rs. 10 each at par. The entire issue was underwritten as follows:

    P – 24,000 shares (Firm underwriting 3,200 shares)
    Q – 10,000 shares (Firm underwriting 4,000 shares)
    R- 6,000 shares (Firm underwriting 1,200 shares)

    The total applications including firm underwriting were for 28,400 shares. The marked applications were as under:

    P - 7,200 shares; Q – 9,000 shares; and R – 3,200 shares

    The underwriting contract provides that credit for unmarked applications be given to the underwriters in proportion to the shares underwritten. Determine the liability of each underwriter and the amount of commission payable to them assuming it is the maximum allowed by law and shares underwritten are treated as unmarked applications.

Contd…

12. Balance sheet of Southampton Company as on 31.12.2013

Liabilities	Rs.	Assets	Rs.
2000 Equity shares of Rs. 10 each	2,00,000	Goodwill	10,000
6% pref. shares of Rs. 100 each	50,000	Machinery	1,00,000
Reserve fund	50,000	Stock	30,000
Profit & Loss a/c	20,000	Debtors	60,000
Debentures	12,000	Cash	1,00,000
Creditors	8,000	Preliminary expenses	40,000
	3,40,000		**3,40,000**

Depreciate machinery by Rs. 25,000. Average profit of last five years Rs. 5,000. Take goodwill on the basis of 3 years purchases. Calculate the value of equity shares.

13.The Balance Sheet of Honda ltd. as on 31.12.2018 was as follows:

Liabilities	Rs.	Assets	Rs.
Share Capital:		Goodwill	10,000
12000 Shares of		Machinery	71,350
Rs. 10 each	1,20,000	Preliminary Expenses	1,500
Less: Calls in Arrears	1,11,000	Stock	25,275
(Rs.3per share)	9,000	Bank	1,500
9,000		Profit & Loss a/c	20,800

Creditors	15,425		
Provision for taxes	4,000		
	1,30,425		**1,30,425**

Machinery was found overvalued by Rs. 10,000. It was decided to write down the value of this asset to its true value and to eliminate other fictitious assets by the adoption of the following course

a) Forfeit the share in which calls are in arrears.

b) Reduce the paidup capital by Rs.3 per share.

c) Re – issue the forfeited shares at Rs. 5 per share.

d) Utilize the provision for taxation if necessary.

Journalise and prepare the balance sheet after carrying out the scheme.

14. From the following Balance Sheet of A ltd. and B Ltd., Prepare a Consolidated Balance Sheet.

Liabilities	A. Ltd.	B. Ltd.	Assets	A. Ltd.	B. Ltd.
Shares of Rs. 10 each	5,00,000	2,00,000	Assets	5,60,000	2,60,000
Reserve fund	1,00,000	-	60% Shares in B. Ltd.		
Creditors	80,000	60,000	(at cost)	1,20,000	
	6,80,000	**2,60,000**		**6,80,000**	**2,60,000**

Contd…

15. Given below is an extract from the trial balance of a Bank as on December 31, 2018

	Debit (Rs.)	Credit (Rs.)
Bills discounted	12,64,000	
Rebate on bills discounted (1.1.2018)		8,340
Discount received for the year		85,912

An analysis of the bills discounted as shown below shows the following;

Amount	Due date 2009	Discounted rate
1,40,000	March 6	5% p.a.
4,36,000	March 12	4.5% p.a.
2,82,000	March 26	6% p.a.
4,06,000	April 4	4% p.a.

Show with working, how the relevant items will appear in the Bank's Profit and loss a/c for the period of December 31, 2018.

16. Explain the important aspects with respect to which the accounting policies can differ from one enterprise to another.

PART – C (3 X 12 = 36)

Answer any THREE questions

17. On 1st Jan. 2001, Ahamed ltd issues 2000, 6% debentures of Rs.100 each repayable at the end of 4 years at a premium of 5%. It has been decided to constitute a sinking fund for the purpose, the investment being expect to realize 4% net. Sinking fund table shows that 0.235490 annually amounted to Re. 1 at 4% in 4 years. Investments were made in multiples of 100 only.
    On 31st dec., 2004 the balance at bank was Rs. 59,000 and the investment realized Rs.1,56,800. The debentures were paid off. Give journal entries in the books of Ahamed ltd.
18. Praveen Ltd. was registered with an authorised capital of Rs. 6,00,000 in equity shares of Rs. 10 each. The following is its trial balance on 31st March 2020.

Contd…

Trial Balance

	Rs.	**Rs.**
Goodwill	25,000	-
Cash	750	--
Bank	39,900	-
Purchases	1,85,000	-
preliminary Expenses	5,000	-
Share capital	-	4,00,000
12% Debentures	-	3,00,000
P&L a/c (Cr.)	-	26,250
Calls – in – arrears	7,500	-
Premises	3,00,000	-
Plant & Machinery	3,30,000	-
Interim dividend	39,250	-
Sales	-	4,15,000
Stock (01.04.17)	75,000	-
Furniture & Fixtures	7,200	-
Sundry debtors	87,000	-
Wages	84,865	-
General expenses	6,835	-
Freight and carriage	13,115	-
Salaries	14,500	-
Director's fees	5,725	-
Bad debts	2,110	-
Debenture interest paid	18,000	-
Bills payable	-	37,000
Sundry creditors	-	40,000
General Reserve	-	25,000
Provision for bad debts	-	3,500
	12,46,750	**12,46,750**

Prepare Profit & Loss a/c, Profit & Loss appropriation a/c and Balance sheet in proper form after making the following adjustments:

i) Depreciate plant and machinery by 15%
ii) Write off Rs. 500 from preliminary expenses.
iii) Provide for 6 months interest on debentures.
iv) Leave bad and doubtful debts provision at 5% on sundry debtors.
v) Provide for income tax at50%.
vi) Stock on 31.03.2020 was Rs. 95,000

Contd…

19. The following is given Balance Sheet of Abishek ltd. on 31.3.2019

Liabilities	Rs.	Assets	Rs.
2,000, 14% Pref. shares of Rs. 100 each	2,00,000	land and buildings	1,00,000
1,000 Equity shares of Rs.100 each, Rs.75 paid	75,000	Plant & Machinery	2,50,000
3,000 equity shares of Rs.100 Each, Rs. 60 paid	1,80,000	Patents	40,000
14% debenture having a floating charge on all assets	1,00,000	Stock at cost	55,000
Interest outstanding	14,000	Debtors	1,10,000
Creditors	1,45,000	Cash at Bank	75,500
		P & L a/c	83,500
	7,14,000		**7,14,000**

The company went into liquidation on the above date. The preference dividend were in arrears for two years. The arrears are payable automatically on liquidation. Creditors include a loan for Rs. 50,000 on the mortgage on Land and Buildings. The assets were realised as follows:

Land and Buildings Rs. 1,20,000, Plant & Machinery Rs. 2,00,000, Patents Rs. 30,000, Stock Rs.60,000, Debtors Rs. 80,000. The Expenses of liquidation amounted Rs. 10,900. The liquidator is entitled to a commission of 3% on all assets realised except cash and a commission of 2% on amounts distributed among unsecured creditors. Preferential creditors amount to Rs. 5,000. Assume the payment was made on 30.9.2007. Prepare liquidators final statement of a/c.

20. The Balance Sheets of R ltd. and its subsidiary D ltd. as on 31st December 2018 are given below.

Liabilities	R Ltd.	D Ltd.	Assets	R Ltd.	D Ltd.
Share Capital (Rs. 100 each)	10,00,000	4,00,000	Land & Building (at cost)	3,10,000	1,60,000
10% Preference shares	1,00,000	1,00,000	Machinery less 10% depreciation.	2,70,000	1,35,000
General Reserve	40,000	50,000		4,50,000	-
P&L a/c as on 01.01.08	2,00,000	30,000	3,000 shares in D ltd.	2,20,000	1,50,000
Profit for 2008	1,50,000	80,000	Stock	1,55,000	90,000
D. Creditors		70,000	Debtors	85,000	1,95,000
			Bank		
	14,90,000	**7,30,000**		**14,90,000**	**7,30,000**

R Ltd. acquired 3,000 equity shares in D Ltd., on 1st July 2018. As on the date of acquisition R Ltd. found that the value of land and buildings and machinery of D ltd. should be 1,50,000 and Rs. 1,92,000 respectively. Prepare the consolidated Balance Sheet of R Ltd. and its subsidiary D Ltd. as on 31st December 2018 taking into consideration the fact that assets are to be taken at their proper values.

Contd…

21. On 31st March 2018 the following balances stood in the books of Mumbai Bank Ltd. after preparation of its profit and loss a/c.

	Rs.		**Rs.**
Share capital (Issued & Subscribed)	4,00,000	Reserve fund (u/s 17)	6,20,000
Fixed deposits	42,60,000	Savings bank deposits	19,00,000
Current accounts	23,20,000	Money at call and short notice	1,80,000
Investments	25,00,000	P&L a/c (Cr) 1 April 2007	1,35,000
Dividend for 2007	40,000	Premises	2,95,000
Cash in hand	38,000	Cash with RBI	10,00,000
Cash with other banks	6,00,000	Bills discounted and purchased	3,80,000
Loans, Cash credit and overdraft	51,00,000	Bills payable	7,000
Unclaimed dividend	6,000	Rebate on bills discounted	5,000
Short loans (borrowings from other banks)	4,75,000	Furniture	1,16,400
Other assets	33,600	Net profit for 2008	1,55,000

Prepare Balance sheet of the bank as on 31st March 2018.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Com., **COURSE CODE : 2PGK4 (Upto 2016)**

COURSE TITLE : Advanced Management Accounting **QN.NO : 6422**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer ALL questions.

1. what is meant by Management Accounting
2. what do you mean by Ratio Analysis
3. State any five Solvency ratio
4. what is fund flow statement
5. what is Break even Analysis
6. Explain CVP analysis
7. From the following, calculate P/V Ratio
   Sales - ₹ 80000 ; Fixed cost - ₹ 15000 ; Break even Point - ₹ 50000
8. State the formula for any two Material Variance.
9. what do you Mean by Budget.
10. what is Zero Base Budget.

PART – B (4 x 6 = 24)

Answer any FOUR questions.

11. Enumerate the functions of Management Accounting
12. From the following balance sheet Prepare fund flow statement

Liabilities	2003 ₹	2004 ₹	Assets	2003 ₹	2004 ₹
Share capital	300000	400000	Machinery	50000	60000
Creditors	100000	70000	Furniture	10000	15000
P/L a/c	15000	30000	Stock	85000	105000
			Debtors	160000	150000
			Cash	110000	170000
	415000	500000		412000	500000

13. Calculate Gross Profit Ratio from the following figures
    Sales - ₹ 1000000
    Sales return - ₹ 100000
    Opening stock - ₹ 200000
    Purchases - ₹ 600000
    Purchase returns - ₹ 150000
    Closing stock - ₹ 650000

14) The following Particulars are obtained from the records of a company manufacturing two products P and R

Particulars	Per unit	
	Product P (₹)	Product R (₹)
Selling Price	200	400
Material Cost (₹20 per kg)	40	100
Direct wages (₹6 per hour)	60	120
Variable Overhead	20	40

Total fixed Overhead is ₹10000. Comment on Profitability of each Product when Production capacity in hours is the limiting factor

15) Calculate Material cost Variance from the following data.

Particulars	Standard	Actual
Quantity	400 kgs	460 kgs
Price	₹2 per kg	₹1.5 per kg
Value	₹800	₹690

16) what do you Mean by budgetary control and explain its Objectives.

PART – C (3 x 12= 36)

Answer any THREE questions.

17) Difference between Management accounting and Financial Accounting.

18) From the following Particulars calculate i) Current ratio ii) Liquidity ratio iii) Proprietory ratio iv) Debt - Equity ratio

Liabilities	₹	Assets	₹
5000 equity Shares of ₹100 each	500000	Land & Building	600000
2000, 8% preference shares of ₹100 each	200000	Plant & Machinery	500000
4000, 9% debentures of ₹100 each	400000	Stock	240000
	300000	Debtors	200000
Reserves	150000	Cash @ bank	55000
Creditors	50000	Prepaid expenses	5000
Bank Overdraft	1600000		1600000

19) The following Particulars of sales and Profit for two periods are available in respect of a Concern

Year	Sales ₹	Profit ₹
2003	1000000	200000
2004	1500000	400000

Calculate
i) P/V Ratio
ii) Break even point
iii) Profit on sale of ₹ 20,00,000
iv) Sales required to make a Profit of ₹ 600000
v) Margin of Safety.

20) From the following calculate labour Variances for the two departments:

Particulars	Department A	Department B
Actual direct wages	₹ 80000	₹ 72000
Standard hours produced	10000	8000
Standard rate per hour	₹ 8	₹ 10
Actual hours worked	12000	7000

21) Draw up a flexible budget for production at 75% and 100% capacity on the basis of the following data for 50% capacity.

Materials - ₹ 100 per unit
labour - ₹ 50 per unit
Variable expenses (direct) - ₹ 10 per unit
Administrative expenses (50% fixed) - ₹ 40000
Selling and distribution expenses (60% fixed) - ₹ 50000
Present production (50% capacity) - 1000 units.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Com., **COURSE CODE : 2PGK5 (Upto 2016)**

COURSE TITLE : Research Methodology **QN.NO : 6426**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer ALL questions.

1. What is Research?
2. Explain the necessity of defining a problem.
3. Define Research Design.
4. Define Interview.
5. Define Questionnaire.
6. Explain the steps in testing of hypothesis.
7. What is meant by sampling error?
8. What is meant by scaling?
9. What is meant by coding?
10. Explain the types of research report.

PART – B (4 x 6 = 24)

Answer any FOUR questions.

11. Explain the features of good research design.
12. Explain the merits and demerits of survey method.
13. Distinguish between schedule and questionnaire.
14. Explain the characteristics of hypothesis.
15. Explain the classification of scales.
16. List out the precautions in writing a research report.

PART – C (3 x 12= 36)

Answer any THREE questions.

17. What are the factors consider for selection of research problem.
18. Briefly explain the methods of data collection.
19. Explain the types of sampling.
20. Explain the scaling techniques.
21. Briefly explain the contents of research report.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Com., **COURSE CODE : 3PGK1 (Upto 2016)**

COURSE TITLE : Advanced Financial Management **QN.NO : 6428**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer ALL questions.

1) What is profit maximization?
2) What do you understand by 'Time Value of Money'?
3) Bring out the meaning of cost of capital.
4) Brief 'Optimal capital structure'.
5) Mention the types of leverages.
6) Give out the meaning of Pay-back period method.
7) How can you decide cut-off rates?
8) List out the types of Working capital.
9) State the techniques used in inventory control.
10) What is meant by stock dividend? Distinguish it from stock split.

PART – B (4 x 6 = 24)

Answer any FOUR questions.

11) The following figures relate to two companies. You are required to (a) calculate the operating, financial and combined leverages of the two companies and (b) comment on their relative risk position.

	X Ltd., Rs.	Y Ltd., Rs.
Sales	4,00,000	8,00,000
Less: Variable cost	1,60,000	2,40,000
Contribution	2,40,000	5,60,000
Less: Fixed cost	1,28,000	2,80,000
Operating profit (EBIT)	1,12,000	2,80,000
Less: Interest	48,000	1,20,000
Profit before tax	64,000	1,60,000

12) A firm has annual credit sales of Rs.15,00,000. It grants two months credit to its customers with no cash discount facility. It intends to offer a discount of "2/10 net 60". It is expected that this will reduce the average collection period to one month and 50% of the customers (in value) will take advantage of this benefit. The selling price is Rs.10 per unit, while the average cost per unit comes to Rs.8.60.

You are required to advise the firm regarding this new scheme presuming that the required rate of return on investment is 25% and one month is of 30 days.

Contd...

CODE : 3PGK1 QN.NO : 6428

TITLE : ADVANCED FINANCIAL MANAGEMENT

13) It is proposed to introduce a new machine to increase the production capacity of department X. Two machines are available. Type 'A' and Type 'B'. The following information is available:

Details	A	B
	Rs.	Rs.
Cost of machine	3,50,000	6,30,000
Estimated life (years)	7	10
Estimated savings in scrap p.a	20,000	32,000
Additional cost of indirect materials p.a.	10,000	16,000
Estimated savings in wages:		
Employees not required	15	20
Wages per employee per annum	10,000	16,000
Additional cost of maintenance p.a.	7,200	12,000
Additional cost of supervision p.a.	24,000	36,000

The rate of taxation can be regarded as 50% of profits. Which machine can be recommended for purchase?

14) From the following capital structure of a company, compute the overall cost of capital using (i) Book value weights, and (ii) Market value weights.

	Book Value	Market Value
	Rs.	Rs.
Equity share capital (Rs.10 per share)	45,000	90,000
Retained earnings	15,000	-
Preference share capital	10,000	10,000
Debentures	30,000	30,000

The after tax cost of different sources of finance is as follow:

Equity share capital	:	14%
Retained earnings	:	13%
Preference share capital	:	10%
Debentures	:	5%

15) Enumerate the factors which influence the dividend policy of a firm.

16) Discuss the meaning and assumptions of Net Income Approach and Net Operating Income Approach to Capital Structure.

PART – C (3 x 12= 36)

Answer any THREE questions.

17) Elucidate the function of financial management.

18) Explain the tools and techniques of inventory management.

CODE : 3PGK1 QN.NO : 6428

TITLE : ADVANCED FINANCIAL MANAGEMENT

19) Calculate IRR form the following data:

Initial investment : Rs. 1,20,000

Life of the asset : 4 years

Estimated net annual cash flows:

Year	Rs.
1	30,000
2	40,000
3	60,000
4	40,000

20) Cost sheet of a company provides the following data:

	Cost per unit (Rs.)
Raw materials	50
Direct Labour	20
Overheads (including depreciation of Rs.10)	40
Total cost	110
Profit	20
Selling price	130

Additional Information:

An average raw material in stock is for one month. An average material in progress is for half-a-month. Credit allowed by suppliers – one month. Credit allowed to debtors – one month. An average time, lag in payment of wages – 10 days, average time lag in payment of overheads – 30 days. 25% of the sales are on cash basis. Cash balance expected to be Rs.1,00,000. Finished goods lie in the warehouse for one month.

You are required to prepare a statement showing the working capital needed to finance a level of activity of 54,000 units of output. Production is carried on evenly throughout the year and wages and overheads accrue similarly.

21) The capital structure of Madan Ltd., consists of equity share capital of Rs.8,00,000 (shares of Rs.100 each) and Rs.8,00,000 of 12% debentures. Sales have increased from 80,000 units to 1,00,000 units; the selling price is Rs.15 per unit, variable cost amounts to Rs.9 per unit and fixed cost amounts to Rs.1,60,000. The income tax rate is assumed to be 50%.

Required:

(a) Calculate the percentage increase in EPS

(b) Determine operating leverage at 80,000 units and 1,00,000 units

(c) Determine financial leverage at 80,000 units and 1,00,000 units.

Comment on the risk position of the company.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Com., **COURSE CODE : 3PGK5 (Upto 2016**

COURSE TITLE : Project Management **QN.NO : 6437**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer ALL questions.

1) Define the term Project-
2) Explain the term Project Management-
3) What do you mean by Project Appraisal.
4) Define the term "Technical Analysis".
5) Explain the term. Project Finance.
6) What do you mean by Capital Budgeting.
7) What is "Risk Analysis".
8) Define the term. Project scheduling
9) Explain the term. Project Evaluation
10) What is "Project Implementation".

PART – B (4 x 6 = 24)

Answer any FOUR questions.

11) What are the characteristics of Projects.
12) Give a detailed overview of the various aspects considered in technical analysis.
13) Discuss the various techniques of Capital Budgeting.
14) Explain the steps for managing Risks
15) What is Critical Path Method. Discuss its benefits.
16) Discuss the Pre-requisites of Project implementation.

P.T.O

PART – C

(3 x 12= 36)

Answer any THREE questions.

17) Discuss the various types of Project

18) Explain the different sources of finance.

19) State the meaning of the Decision Tree Analysis. Discuss the steps involved in the Decision Tree Process.

20) What is PERT? State the Benefits of using PERT and its limitations.

21) Briefly explain the five phases of the Project Management.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Com., **COURSE.CODE : 4PGK1 (Upto 2016)**

COURSE TITLE : Strategic Management **QN.NO : 6440**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1.5 = 15)**

Answer all questions.

1. What is meant by strategy?
2. Define: 'Strategic Management'.
3. State the meaning of 'Strategic Intent'.
4. Define the term 'Business'.
5. Make a note on 'SWOT Analysis'.
6. What is meant by strategy formulation?
7. What is stability strategy?
8. Write a note on 'Merger'.
9. What is strategy implementation?
10. State the meaning of corporate culture.

PART – B **(4 x 6 = 24)**

Answer any Four questions.

11. Describe the steps involved in strategic management process.
12. Explain the characteristics of a good mission statement.
13. How can the internet be used as a source of information for environmental scanning?
14. What are the different types of expansion strategies?
15. State the reasons for corporate restructuring.
16. Why are values and ethics specially important to strategists?
17. How can strategists limit the scope of social responsibility?

Contd…

PART – C (3 x 12 = 36)

Answer any THREE questions

18. State the issues that are of importance of objective-setting.
19. What methods and techniques can be used for organizational appraisal? Explain.
20. Discuss the advantages and disadvantages of cost leadership strategy.
21. What are the strategic issues involved in using a joint venture strategy? Explain.
22. Narrate the key aspects of good corporate governance.
23. Enumerate the task and role of strategic leaders.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Com., **COURSE.CODE : 4PGK2 (Upto 2016)**

COURSE TITLE : Strategic Cost Management **QN.NO : 6442**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1.5 = 15)**

Answer all questions

1. What is cost relevance?
2. Mention any three limitations of break even analysis.
3. What do you mean by CVP?
4. What are the factors involving in managerial decisions?
5. What is mean by costing?
6. What is traditional costing?
7. Write a short note on EVA?
8. What is target costing?
9. What is balance score card?
10. What is the objective of six sigma?

PART – B **(4 X 6 = 24)**

Answer any Four questions

11. The following information are given for two companies.

	X Ltd.	Y Ltd.
Units produced & sold	17,000	17,000
Revenues	Rs. 1,70,000	Rs. 1,70,000
Fixed costs	85,000	34,000
Operating income	51,000	51,000
Variable cost	34,000	85,000

Find out the Break-Even Point of each company both in units as well as in volume.

12. From the following particulars find out the B.E.P. what will be the selling price per unit if B.E.P is to be brought down to 9,000 units.

	Rs.
Variable cost per unit	75
Fixed expenses	2,70,000
Selling price per unit	100

13. The management of a company finds that while the cost of making a component part is Rs. 10, the same is available in the market at Rs. 9 with an assurance of continuous supply. Give suggestion whether to make or buy this part. Give also your views in case the supplier reduces the price from Rs. 9 to Rs. 8.

Contd…

The cost information is a follows:

	Rs.
Material	3.50
Direct Labor	4.00
Other variable expenses	1.00
Fixed expenses	1.50
Total	**10.00**

14. From the following data, which product would you recommend to be manufactured in a factory, time being the key factor?

	Per unit of product A Rs.	**Per unit of product B Rs.**
Direct material	24	14
Direct labor @ Re. 1 per hour	2	3
Variable overhead @ per hour	4	6
Selling price	100	110
Standard time to produce	2 hours	3hours

15. Write down the advantages of activity based costing?
16. Explain the need for implementing the ABC?
17. Discuss about the cost based decision making and their target process?
18. Explain the theories of six sigma

PART – C **(3 X 12 = 36)**

Answer any THREE questions

19. The statement of cost of a cycle is as follows:

Material	Rs. 200
Labour	Rs. 100
Variable expenses	Rs. 25
Fixed expenses	Rs. 75
Profit	Rs. 125
Selling price	Rs. 525

The number of cycles made and sold are 10,000 units.

Find out: (i) Break even point (ii) How many cycles must be produced and sold if the selling price is reduced by Rs. 25 and the same profit is maintained.

20. The following particulars are obtained from costing records of a factory:

	Product A (per unit) Rs.	**Product B (per unit) Rs.**
Selling price	200	500
Material (Rs. 20 per kg)	40	160
Labour (Rs. 10 per hour)	50	100
Variable overhead	20	40

Contd..

Total fixed overheads Rs. 15,000.

Comment on the profitability of each product when:

a) Raw material is in short supply

b) Production capacity is limited

c) Sales quantity is limited

d) Sales value is limited

e) Only 1,000 kgs of raw material is available for both type of products in total and maximum sales quantity of each product is 300 units.

21. Discuss traditional costing system and compare ABC.
22. Describe the kaizen costing of life cycle.
23. Briefly explain the role of six sigma in cost control?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Com., **COURSE CODE : 4PGK3 (Upto 16)**

COURSE TITLE : Human Resource Management **QN.NO : 6446**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1.5 = 15)

Answer all questions.

1. Define Human Resource Management.
2. How do you define man power planning?
3. What do you mean by personality?
4. Define the term recruitment.
5. Distinguish between training and development.
6. Why is employee morale important?
7. What do you mean by performance appraisal?
8. What are the reasons for extending social security measures?
9. What is the purpose of trade union?
10. Mention the different types of conflict.

PART – B (4 x 6 = 24)

Answer any FOUR questions.

11. Write a note on the evolution of HRM in Indian Industry.
12. What are the problems faced in man power planning?
13. Briefly explain the theories of personality.
14. Explain the factors that influence recruitment.
15. Discuss the impact of good morale in organization.
16. Describe the relationship between job satisfaction and productivity.
17. Explain the features of trade union.
18. What are the causes of inter group conflict?

PART – A (3 x 12 = 36)

Answer any THREE questions.

19. Describe the various HRM methods.
20. State the objectives of man power Planning.
21. Explain the various measures taken to make placement effective.
22. Discuss the traditional methods of performance appraisal.
23. Describe the various forms of worker's participation in management.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Com., **COURSE CODE : 4PGK4 (Upto 16)**
COURSE TITLE : Indirect Taxation **QN.NO :6448**
TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1.5 = 15)**

Answer all the questions.

1. What is indirect Tax?
2. List out the Adam Smith's Canons of taxation?
3. Which goods is not tax applicable under CENVAT?
4. Give the meaning of "Excise Duty".
5. What do you mean by Import goods?
6. What is Safeguard Duty?
7. Write the meaning of Service Tax.
8. State the difference between service provider and service receiver.
9. Expand the VAT.
10. How do you distinct the VAT and Sales tax?

PART – B **(4 x 6 = 24)**

Answer any FOUR questions.

11. What are the features of Indirect Tax? Explain briefly.
12. The selling price of a product inclusive of excise duty @ 12.5% is Rs.1, 700 per unit. If 500 units are produced and sold. Packing charges is at Rs.50 per unit. Internal transport cost is Rs.2,900 and trade discount @ 5%. Calculate (i) Assessable Value and
(ii) Total excise duty payable
13. The selling price of a product inclusive of excise duty @ 13% is Rs.2,000 each unit. If 2,500 units are produced and 2,000 units are sold. Trade discount @ 30%. Compute the excise duty payable by Mr.Ravi.
14. List out the types of Excise duties. Briefly explain it.
15. Mr.Bharath is a registered service provider. He transfers his business to Mr.Rackesh on 31st July, 2015. Explain the requirement to be complied with by Mr.Bharath and Mr.Rackesh on such transfer under the provision of service tax.
16. Compute the VAT amount payable by Mr.Arun, who purchased goods from a manufacturer on payment of Rs.2,27,000 (including VAT) and earn 10% profit o purchase price. VAT rate on both purchases and sales is 13.5%.

PART – C **(3 x 12 = 36)**

Answer any THREE questions.

17. The selling price of goods is Rs.5,00,000. The manufacturer is allowing trade discount of Rs.50,000. The excise duty rate is 12.5%. The manufacturer are met some expenses, advertising charges – Rs.50,000, public charges –

Contd…

Rs.25,000, Marketing and selling charges – Rs.20,000, outward handling charges – Rs.5,000, servicing charges – Rs.50,000 and outward freight & Insurance (not incurred for production) – Rs.4,000. Calculate assessable value and also excise duty payable.

18. ABC Ltd. manufactures two products X and Y. The price of a products X and Y are 3,00,000 and 91,000 respectively. The manufacturer is allowed trade discount for X product @ 15%. The excise duty rate is 12% and 13% for X and Y product respectively. The selling expenses is Rs.20,500 and Rs.20,000 for Product of X and Y. Compute the excise duty payable for Product X and Y by ABC Ltd.

19. Mr.Anand is conducting private coaching to the students. The following are the services rendered by him during 2015-2016.

a) 200 urban students received coaching from him by paying Rs. 2,500 each.
b) Coaching to 150 rural students by coaching Rs.1,500 each.
c) Coaching to 50 physically challenged students at free of cost.
d) Coaching to 75 poor students at free of cost.
e) Coaching to 100 part time employee at Rs.3,000 each.
f) The service tax is 14.5%.

Compute the service tax payable by Mr.Anand.

20. A partners firm gives the following particulars relating to the service provided to various claim by them for the year ended o 30-09-2015.

a) Total bills raised for Rs.8, 75,000 out of which bill for Rs.75,000 was raised on approved international organization and payments of bills for Rs.1,00,000 were not received till 30-09-2015.
b) Amount of Rs.50, 000 was received as an advance from XYZ Ltd. on 25-09-2015 to whom the service VAT to be provided in October 2015.
c) Service tax rate is 15%. You are required to work out,
   (i) Taxable value of service.
   (ii) Amount of service tax payable.

21. Calculate the total VAT liabilities under the state VAT law for the month of October 2015, from the following particulars.

a) Input purchased within the state Rs.1, 70,000.
b) Capital goods used in the manufacture of the taxable goods Rs.50,000.
c) Finished goods sold within state Rs.2, 00,000.

Applicable Tax Rate:

(i) VAT Rate o capital goods @ 13.5%
(ii) Input tax rate within the state @ 13.5%
(iii) Output tax rate within the state @ 5%

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Economics **COURSE CODE : 2PGV1 (Upto 17)**

COURSE TITLE : Advanced Micro Economics-II **QN.NO : 6511**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Full cost pricing is otherwise known as _____
   a) Marginal cost pricing b) Average cost pricing
   c) Total cost pricing d) Limit pricing
2. Behavioural model was introduced by
   a) Friedman b) Marshall c) Cyert and March d) Sylos - Labini
3. Neumann Morgenstern utility theorem is used to describe _____ .
   a) Decision preferences b) Outcome preferences
   c) Individual preferences d) Measuring preferences
4. The basic portfolio theory was developed by
   a) Markowitz b) Modigliani c) Friedman d) Morgenstern
5. Ricardo theory of distribution is based on the principle of
   a) Differential rent b) Quasi – rent
   c) Total product d) Average product
6. The distribution of total value takes place only between labour and capital, it is stated by
   a) Ricardo b) Karl marx c) Pigou d) Hicks
7. Externalities some time called as
   a) External effects b) Social effects
   c) Marginal effects d) Third – party effects
8. Welfare Economics began with
   a) Marshall b) A.C. Pigou c) Kaldor d) Pareto
9. Pareto optimality refers to the state of
   a) Maximum social welfare b) Maximum investment
   c) Maximum consumption d) Maximum production

Contd…

10.Hicks compensation criteria is used in the

a) Theory of welfare b) Theory of rent

c) Theory of consumption d) Theory of production

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) State the assumptions of Bain's limit pricing theory.

(OR)

b) Highlights the defects of full cost pricing.

12. a) Write a brief note on Friedman savage hypothesis .

(OR)

b) Briefly explain the Neumann Morgenstern utility index.

13. a) Discuss about the Product Exhaustion theorem.

(OR)

b) Write a brief note on Kaldor theory of distribution

14. a) What are the major sources of market failure.

(OR)

b) List out the measures to correct market failure

15. a) Explain the features of social welfare function

(OR)

b) Write a short note on theory of Second Best.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Explain about the Cyert and March theory.
17. Examine the Markowitz theory of portfolio.
18. Narrate the Ricardian model of distribution.
19. Discuss about the positive and negative externalities in production and consumption.
20. Describe the marginal conditions of Pareto Optimality.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A. Economics **COURSE CODE : 2PGV2 (Upto 17)**

COURSE TITLE : Macro Economics **QN.NO : 6513**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The classical theory of employment is based on _____ competition.
   a) Perfect b) Duopoly
   c) Oligopoly d) Imperfect competition
2. The concept of effective demand was introduced by _____.
   a) J.M.Keynes b) Lewis c) Smith d) Ricardo
3. In the equation c= f (y), y refers to
   a) savings b) consumption c) employment d) Income
4. Life cycle hypothesis was propounded by
   a) Keynes b) Milton Friedman
   c) Samuel on d) Anto and Modigliani
5. The concept of employment multiplier was stated by
   a) Adam smith b) Keynes c) R.F. Khan d) J.B. Say
6. The accelerator assumes:
   a) The marginal propensity to consume is constant
   b) The economy is at full employment
   c) There is a constant relationship between net investment and the rate of change of output
   d) The multiplier is constant
7. In IS-LM analysis, which range reflect liquidity trap?
   a) classical range b) intermediate range
   c) Keynesian range d) None
8. IS-LM model is also known as
   a) Hicks-Hansen model b) Kaldor model
   c) Laffer model d) A.C. Pigou model
9. The concept of Rational Expectation was introduced by
   a) John muth b) John Keynes c) Johnson d) Samuelson
10. Which of the following is likely to be a government objective?
    a) Lower unemployment b) Negative economic growth
    c) Very high inflation d) A recession

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b)

11. a) Briefly explain the classical theory of income and employment.

(OR)

b) Define effective demand. How does it determine level of employment in a country?

12. a) What are the factors influencing the Propensity to consume?

(OR)

b) Mention the significance of consumption function.

13. a) Distinguish between autonomous investment and induced investment. Explain the factors determine the level of investment in the economy.

(OR)

b) Explain the concept of multiplier.

14.a) Static the Properties of IS-LM curve

(OR)

b) Explain how monetary and fiscal mix helps to achieve full-employment.

15. a) Write a note on Fiscalist model.

(OR)

b) Explain the concept of rational expectations. How does it differ from the adaptive expectations?

PART – C **(3x10=30)**

Answer any THREE questions

16.State and explain the main propositions of Say's law of market.

17.Explain the long run consumption function.

18.Describe the working of super-multiplier.

19.Examine the effectiveness of Monetary and fiscal policy in terms of IS-LM function.

20. Critically examine the supply side Economics.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Economics **COURSE CODE : 3PGV1 (Upto 17)**

COURSE TITLE : Development Economics **QN.NO : 6521**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Economic growth of a country depends upon
   a) Natural resources b) Capital formation
   c) Technology d) All of above
2. Human development Index was developed by:
   a) UNDP b) WHO c) Morris d) United Nations Development
3. For attaining balanced growth, which of the following is essential?
   a) centralized planning b) partial planning
   c) decentralized planning d) regional planning
4. According to Marx, capital accumulation is due to
   a) Surplus value b) Less labour
   c) Surplus Investment d) Less Investment
5. The second Five Year Plan has given importance to
   a) Trade & commerce b) agriculture
   c) Banking d) Industry
6. The theory of circular causation was introduced by
   a) Kaldor b) Nelson c) Gunnar Myrdal d) Harrod Model
7. A major characteristic of an under developed economy is
   a) Socialism b) Dualism c) Communism d) Capitalism
8. Social dualism was developed by
   a) Boeke b) Nurkse c) Lewis d) Nelson
9. Shadow prices is also known as
   a) Imaginary prices b) market prices
   c) equilibrium prices d) accounting prices
10. The best criterion for project evaluation under Cost Benefit Analysis is
    a) B/C>1 b) B-C>1 c) B-C>1 d) C/B>1

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Distinguish between economic growth and economic development.

(OR)

b) Explain the components of Human Development Index.

12. a) Write a note on un balanced growth theory.

(OR)

b) Explain Rostow's Stages of economic Growth.

13. a) Explain the Mahalanobis two sector model.

(OR)

b) Briefly explain Harrod's growth model.

14. a) Write a note on theory of circular causation.

(OR)

b) Define technological dualism and explain the characteristics of dualistic society.

15. a) Give your arguments for labour intensive technique.

(OR)

b) Why we need shadow prices?

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain the factors affecting economic growth.
17. Critically examine the Big Push Theory.
18. Discuss the Kaldor's model of economic growth.
19. Critically examine Nelson's Low Level Equilibrium Trap Theory.
20. Explain Cost Benefit Analysis and state its limitations.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A. Economics **COURSE CODE : 3PGV5 (Upto 17)**

COURSE TITLE : Managerial Economics **QN.NO : 6529**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Managerial Economic has _____characteristics
   a) micro b) macro
   c) both micro and macro d) none of the above
2. _____ decision deals with quantity of goods and raw materials to hold
   a) Production b) Inventory c) Cost d) Marketing
3. _____ Level forecasting is concerned with the business conditions over the whole economy.
   a) Micro b) Macro c) Firm d) Industry
4. The _____ series comprise those factors which move up or down before the recession or recovery starts.
   a) Lagging b) Concurrent c) Leading d) none of these
5. Penetration pricing charging _____ price in the initial stage.
   a) High b) Low c) Moderate d) Very low
6. _____ Pricing refers to the pricing decisions of the firm which are taken to suit the fluctuations in the business conditions.
   a) Transfer b) Differential c) Product Line d) Cyclical
7. _____ Profit is the minimum to induce the entrepreneur to remain in the business in the long run.
   a) Accounting b) Economic c) Normal d) Super Normal
8. BEP is also known as _____ point.
   a) No profit b) no loss
   c) no profit no loss d) none of the above
9. Benefit Cost Ratio methods is also called as _____
   a) Sensitivity analysis b) Profitability index
   c) Net present value method d) Terminal value method
10. _____ risk refers to the stock variability due to changes in investors attitude and expectations.
    a) Market b) Interest rate c) Business d) Financial

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Explain the nature managerial economics.

(OR)

b) Write short note on the types of decisions.

12. a) Enumerate the types of forecasting.

(OR)

b) List the criteria of a good forecasting method.

13. a) Bring out the objectives of pricing policy.

(OR)

b) Write a note on skimming pricing.

14. a) "Economic theory advocates profit maximization as the chief policy of the firm' Explain.

(OR)

b)Determine the break-even point in terms of physical units.

15. a) Explain the meaning of systematic and unsystematic risks.

(OR)

b)"Decision Making is the central part of management process" – Discuss.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16.Explain the scope of managerial economics.

17.Discuss the various methods of demand forecasting.

18.Write notes on the following

a) Pricing over the life cycle of the product.

b) Full cost pricing.

19. Explain the managerial uses of break – even analysis?

20.Analyze the managerial technique for investment decision making.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Economics **COURSE CODE : 4PGV2 (Upto 17)**

COURSE TITLE : Health Economics **QN.NO : 6535**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. _____ is a branch of economics concerned with issues related to production and consumption of health and health care.
   a) Welfare Economics b) Public Economics
   c) Health Economics d) Macro Economics
2. Good Health allows people to improve their _____
   a) Education b) Income c) Skills d) All of the above
3. Pulse Polio Immunization programme was launched in India in _____
   a) 1995 b)1985 c) 1996 d) 1986
4. Osteoarthritis (OA) is a type of _____
   a) joint disease b) cancer disease c) anemic d) Jaundice
5. HIV Expand: _____
   a) Human Immunodeficiency Virus b) High Immune deficiency Virus
   c) Human Ill deficiency Virus d) Health Immuno Virus
6. _____is caused by the immune system destroying the cells in the pancreas that make insulin.
   a) Diabetes b) Obesity c) Cardio Vascular d) Anemic
7. _____ occurs when a market economy fails to achieve an economically efficient and equitable allocation of scarce resources
   a) Externalities b) Monopoly c) Market Failure d) Inequalities
8. _____ refers to the work of health professionals who act as a first point of consultation for all patients within the health care system.
   a) Primary Health Care b) Secondary Health care
   c) Naturopathy d) Allopathic
9. IRDA means _____
   a) Insurance Regulatory and Development Authority
   b) Income Regulatory and Development Authority
   c) Investment Regulatory and Development Authority
   d) Indian Resource Development Authority
10. The head quarters of World Health Organization situated in _____
    a) Geneva b) New York c) Washington D.C d) Rome

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Write short note on health economics.

(OR)

b) Explain the criteria of health equity.

12. a) Enunciate the health status of mothers in India.

(OR)

b) Give a brief note on Pulse Polio Immunisation Programme.

13. a) Bring out the causes of diabetics in India.

(OR)

b) How to affect AIDS on economic growth?-Explain.

14. a) Explain the state versus the market in health care.

(OR)

b) Point out the classical welfare economics.

15. a) Briefly explain the Health Insurance in India.

(OR)

b) List out the various Aid for Health Care.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Discuss the cost of health care services in India.

17. Analyse the health problems faced by the women in Global level.

18. Describe the role of National Rural Health Mission in India.

19. Critically examine the cost benefit analysis in health care systems.

20. Enunciate the various sources of health care finance.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A. ECONOMICS **COURSE CODE : 18P1VMC2**

CCOURSE TITLE : Foreign Trade **QN.NO : 6544**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. International trade is the outcome of
   a) Territorial division of labour b) Political relations
   c) Cultural ties d) All the above
2. According to Ohlin, the comparative cost differences are due to
   a) Labour cost differences
   b) Factor endowment differences in different countries
   c) Exchange rate differences d) None of the above
3. Official decrease in the external value of the currency in terms of foreign currency is called
   a) Deflation b) Exchange depreciation
   c) Devaluation d) Exchange control
4. The ratio of price of export index to price of import index is known as
   a) Net Barter Terms of Trade b) Gross Barter Terms of Trade
   c) Income Terms of Trade d) All the above
5. Quotas set through negotiation between the importing country and the exporting country is called
   a) Tariff quota b) Unilateral quota
   c) Mixing quota d) Bilateral quota
6. The art of selling a commodity at a higher price in the local market and a lesser price in the foreign market is called
   a) Exporting b) Importing c) Dumping d) All the above
7. Which is not the method of exchange control?
   a) Blocked accounts b) Non-intervention
   c) Payment agreements d) Gold policy
8. Stable exchange rates are also known as
   a) Spot exchange rate b) Real exchange rate
   c) Flexible exchange rate d) Pegged exchange rate

Contd…

9. Which one of the following is not the objective of GATT?
   a) Under utilization of World resources
   b) Expansion of international trade
   c) Increase in World production
   d) Raising standard of living of the World community
10. European Common Market was came into existence in the year
   a) 1957 b) 1958 c) 1955 d) 1956

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b)

11. a) Explain the Absolute Cost Advantage Theory of International Trade.

(OR)

   b) Write down the Haberler's, theory of opportunity cost.

12. a) Describe the factors affecting terms of trade.

(OR)

   b) What are the causes of disequilibrium in the Balance of payments?
13. a) Analyse the objectives of dumping.

(OR)

   b) Bring out the effects of quota on trade.
14. a) Elucidate the functions of foreign exchange market.

(OR)

   b) Write a note on purchasing power parity theory.
15. a) Explain the impact of globalization on Indian economy.

(OR)

   b) List out the objectives of WTO.

PART – C **(3x10=30)**

Answer any THREE questions

16. Explain the Hecksher-Ohlin Theorem of International Trade.
17. Analyse the merits and demerits of free trade.
18. Describe the different classification of tariffs and quotas.
19. Explain the methods of exchange control.
20. Discuss the objectives and functions of IBRD.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Economics **COURSE CODE : 18P2VMC6**

COURSE TITLE : Advanced Micro Economics-II **QN.NO : 6548**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Full cost pricing was introduced by
   a) Clark b) Hall Hitch
   c) Andrews d) None of these
2. Limit pricing based on scale – barriers to entry was introduced by
   a) Clark b) Sylos-Labini
   c) W.Andrews d) None of these
3. A firm's marginal revenue
   a) is always positive b) can be positive c) always negative
   d) positive at point at which the total revenue is maximum
4. N-M utility index is based on the assumption
   a) the choice of an individual are transitive
   b) probability lies between Oandl.
   c) Uncertainity or risk does not posses utility or disutility of its own
   d) all of these above
5. St. Petersburg Paradox has been developed by
   a) Bernoulli b) Morgestern
   c) Savage d) Markowitz
6. In case company is following sales maximization objective, equilibrium condition will be
   a) MR = MC b) MR > MC c) MR < MC d) None of these
7. At sales maximization level, elasticity of price is equal to
   a) e> 1 b) e = 1 c) e< 1 d) e < 2
8. When there are negative externalities, the price should be adjusted so that it is equal to
   a) social cost b) private cost
   c) the amount of the external d) the number of free riders
9. In a pareto efficient equilibrium
   a) governments collect some tax revenue b) supply equals demand
   c) trying to make some one better off will make someone else better off
   d) trying to make someone better off will make someone else worse off
10. Assymetric Information was given by
    a) Akerlof b) Lipsey c) Andrews d) Pareto

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) What are the reasons which induce firms to follow the full – cost Pricing policy?

(OR)

b) Define Bain's limit pricing state and it assumptions.

12. a) State and examine the assumptions of Markowitz Theory.

(OR)

b) Examine the Friedman Savage Hypothesis.

13. a) Briefly explain about Baumol' contestable markets.

(OR)

b) Explain Banmol's theory of sales revenue maximization without advertisement.

14. a) What are the major causes of market failure?

(OR)

b) Define free rider problem give few examples.

15. a) Give an example of Asymmetric information.

(OR)

b) Briefly explain Arrow's impossibility choice.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Discuss in detail about Sylos-Labini limit pricing.

17. Explain Marris Growth Maximization Model.

18. Explain Baumol's sales maximization model.

19. Analyse the theory of externalities.

20. What does the theory of second best mean in economics?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Economics **COURSE CODE : 18P2VMC7**

COURSE TITLE : Macro Economics-II **QN.NO : 6549**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Kaldor explains the expansion phase in
   a) two stages b) three stages
   c) four stages d) five stages
2. Which of the following is not an essential characteristic of business cycle?
   a) operate periodical b) cumulative in effect
   c) regular d) all pervading in their impact
3. According to the New Classical economists, individuals hold money, or demand money primarily for
   a) transaction purpose b) speculative purpose
   c) precautionary purpose d) portfolio purpose
4. New classical economists assert that markets clear instantaneously because:
   a) there is disequilibrium in the short-run only
   b) there is no disequilibrium in the short run
   c) changes in price level
   d) output is affected by changes in monetary policy
5. Rational expectations theory was proposed by
   a) John F Muth b) Milton Friedman
   c) James Tobin d) Robert Lucas
6. Real business cycle theory attempts to explain the
   a) shocks b) disturbances
   c) propagation mechanism d) all of the above
7. The Laffer curve is the essence of
   a) supply side economics b) rational expectations
   c) classical economics d) demand management economics
8. Which among the following concept did its critics call voodoo economics?
   a) Phillips curve b) supply side economics
   c) liquidity spectrum d) money illusion
9. The theory of surplus value was given by
   a) Schempeter b) Malthus c) Karl Marx d) Dlaton
10. Kalecki's model of distribution based on _____.
    a) Lerner's index of monopoly power b) Paasche index of monopoly power
    c) Fisher's ideal index d) Bowley's index of monopoly power

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) What are the features of a trade cycle?

(OR)

b) Bring out the criticisms of Samuelson's theory of business cycle.

12. a) What are the important implications of new classical policy?

(OR)

b) List out the salient features of new classical macro economics.

13. a) Briefly write an account on real business cycle theory.

(OR)

b) Reveal the criticism of real business cycles.

14. a) What is meant by Laffer curve? What are its policy implications?

(OR)

b) What are the criticisms of supply side economics?

15. a) Write a short note on Pasinetti Model of Income Distribution.

(OR)

b) Summarize the ways of increasing surplus value.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Critically explain the Hicksian theory of trade cycle.
17. Describe about the foundation of New Classical Macro Economics.
18. "The theory of rational expectations hypothesis" - Describe in detail.
19. Discuss elaborately about the central theme of supply side economics.
20. Explain the Ricardian theory of income distribution.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Economics **COURSE CODE : 18P2VMC8**

COURSE TITLE : Statistical Methods **QN.NO : 6550**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. X and Y variables moving on the same direction is said to be
   a) Positive b) Negative c) Simple d) Partial
2. The outcome of correlation lies between
   a) -1 and 0 b) +1 and 0 c) -1 and +1 d) 0 and +1
3. Regression technique was developed by
   a) Galton b) Pearson c) Chou d) Spearman
4. In regression equation Y = a+bX, "a" denotes
   a) Slope b) Deviation c) Error d) Intercept
5. Binomial distribution was developed by
   a) Fisher b) Bowley c) Spearman d) James Bernoulli
6. The standard deviation of Poisson distribution is
   a) m b) $\sqrt{m}$ c) m^2 d) $\frac{1}{M}$
7. Student's t – distribution was introduced by
   a) Yau Lourmein b) Benjamin c) Gosset d) Lapalace
8. In a hypothesis test, calculated value is less than table value, the decision will be
   a) Accept b) Reject
   c) Either accept or reject d) None of these
9. The Chi – square test was used by Karl Pearson in the year
   a)1900 b) 1910 c) 1955 d) 1974
10. The Chi – square test belongs to
    a) Time series b) Parametric
    c) Non – parametric d) Probability

Contd…

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Write the significance of correlation.

(OR)

b) Obtain the correlation co-efficient between age and playing habits of the following students:

Age	15	16	17	18	19	20
Players	80	75	60	40	30	15

12. a) Give the meaning and assumptions of regression.

(OR)

b) Find regression equation of Y on X from the data given below.

$\overline{X} = 16, \overline{Y} = 20, \sum xy = 84, \sum x^2 = 118.$

13. a) Write a short note on probability distribution and its importance.

(OR)

b) The probability that an individual suffers a bad reaction from a particular injection is 0.001. Determine the probability that out 2000 individuals

(i) Exactly two

(ii) At most two will suffer bad reaction of injection ($e^{-m} = 0.13534$)

14. a) List out the procedure of hypothesis testing.

(OR)

b) The mean life – time of a sample of 100 tube lights produced by a company is found to be 1580 hours with deviation of 90 hours. Test the hypothesis that the mean life the tube lights produced by the company is 1600 hours. ($Z_{0.05} = 1.96$)

15. a) When to use Chi – square goodness of fit test?

(OR)

b) Specify the applications of Chi – square test.

Contd…

PART – C (3 x10 = 30)

Answer any THREE questions.

16. Describe the types and methods of correlation.
17. The following data provided the Age and BP of 10 women sample respondents:

Age	56	42	36	47	49	42	60	72	63	55
BP	147	125	118	128	145	140	155	160	149	156

Obtain two regression equations and also estimate BP of a women whose age is 45.

18. Describe the meaning , properties and applications of Binomial distribution.
19. Two types of drugs were used on 5 and 7 patients for reducing their weight. Drug A was imported and Drug B was indigenous. The decreasing in the weight of the patients after using drugs for 6 months was as follows:

Drug A	10	12	13	11	14		
Drug B	8	9	12	14	15	10	9

Is there any significant difference in the efficacy of two drugs?
($t_{0.05} = 1.812$)

20. A sample of 200 persons with a particular disease was selected. Out of these, 100 were given a drug and the others were not given any drug. The results are as follows:

	Number of Persons		**Total**
	Drug Given	**Drug Not Given**	
Cured	65	55	120
Not cured	35	45	80
Total	100	100	200

Test, whether the drug is effective or not? $\left(\chi^2_{0.05} = 3.84\right)$

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Economics **COURSE CODE : 18P2VMC9**

COURSE TITLE : Agricultural Economics **QN.NO : 6551**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. _____ is the Major provider of Employment in Indian Economy.
   a) Agriculture b) Industry c) Service d) None of these
2. Disguised unemployment prevailed in _____ Sector.
   a) Industry b) Service c) Agriculture d) Banking
3. _____ is Commercial Crop.
   a) Wheat b) Rice c) Cereals d) Sugarcane
4. Production from a particular land is _____.
   a) Labour Productivity b) Land Productivity
   c) Capital Productivity d) All the above
5. Apex bank in India is _____
   a) Commercial Bank b) State Bank of India
   c) Indian Bank d) Reserve Bank of India
6. NABARD was established in
   a) 1980 b) 1981 c) 1982 d) 1983
7. Regulated markets are administered by____
   a) Expert committee b) Market committee
   c) Farmers organisation d) All of these
8. Transportation creates _____ Utility
   a) Form b) Possession c) Place d) Time
9. ICAR is _____
   a) International Agricultural Research Institute
   b) Indian Academic Research Institute
   c) Indian Agricultural Renovation Institute
   d) Indian Agricultural Research Institute
10. National Agricultural Policy 2000 aims_____
    a) 4.5% growth Per annum b) 4.2% growth Per annum
    c) 4.0% growth Per annum d) 5% growth Per annum

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) State the scope of Agricultural Economics.

(OR)

b) Highlight the interdependence of Agriculture and Industry.

12. a) List out the major crops in India.

(OR)

b) Write a note on Crop Rotation.

13. a) What is meant by Agricultural Credit?

(OR)

b) Mention the need for Agricultural Finance.

14. a) Mention the Role of Agricultural Marketing.

(OR)

b) Write down the need of Agricultural Price Policy in India.

15. a) Point out objectives of Agricultural Policy

(OR)

b) Highlight the Rainfed Area Development Programme (RADP).

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Discuss the Role of Agriculture in Indian Economy.
17. Describe the factors responsible for Cropping Pattern in India.
18. Explain Sources available for Agricultural Credit in India.
19. Discuss the problems and Remedial measures of Agricultural Marketing in India.
20. Explain Agricultural Policy vision 2020.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Economics **COURSE CODE : 18P2VMC10**

COURSE TITLE : Monetary Economics **QN.NO : 6552**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The functions of commercial banks
   a) Receiving deposits b) Giving loans and advances
   c) Clearing cheques d) All of these
2. The _____ has the authority to issue currency for circulation
   a) SBI b) UTI c) LIC d) RBIs
3. Money is demanded for purpose of
   a) exchange b) distribution c) consumption d) production
4. Fisher's Equations of exchange may be expressed
   a) $P = \frac{M}{KT}$ b) $P = \frac{MV}{T}$ c) $P = \frac{KR}{M}$ d) $MV = PT$
5. Keynes Real Balance Approach equation is
   a) $n = pk$ b) $P\frac{M}{KT}$ c) $P\frac{MV}{T}$ d) $P = \frac{KR}{M}$
6. According to Friedman, the quantity theory is mainly a theory of the _____
   a) supply of money b) demand for money
   c) a and b d) destruction of money
7. There are three agencies creating money in the economy, they are
   a) Commercial Banks and RBI b) Government
   c) a and b d) Central Bank of India and LIC
8. _____ time deposits of commercial banks and co-operative banks have been included
   a) M_1 b) M_2 c) M_3 d) M_4
9. The objectives of Monetary policy
   a) Neutrality of Money b) Price stability
   c) Exchange stability d) All of these
10. The instruments of Monetary policy
    a) Quantitative b) Qualitative c) a and b d) Repo rate

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) State the Gresham's law.

(OR)

b) Describe the functions of commercial banks.

12. a) What are the assumptions of Equation of exchange?

(OR)

b) Do you consider that cash balance approach is superior over transaction approach?

13. a) Examine Patinkin's theory of General equilibrium model.

(OR)

b) Evaluate the James Tobins Risk Aversion theory.

14. a) Explain the classical view of money.

(OR)

b) How can the supply of money be increased in an economy?

15. a) What are the objectives of Monetary policy?

(OR)

b) Write a short note on Monetary policy and Economic development.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Examine the functions of RBI.
17. Critically evaluate the Cambridge equation of money.
18. Analyse the quantity theory of Money.
19. Evaluate the liquidity preference theory.
20. Discuss the instruments of Monetary policy.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Economics **COURSE CODE : 18P3VMC12**

COURSE TITLE : Fiscal Economics **QN.NO : 6555**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. The modern State is
   a) laissez –faire b) aristocratic State c) welfare State d) police State
2. Coase theorem is concern with
   a) externalities b) equity c) equality d) efficiency
3. According to peacock – wiseman hypothesis, the movement from the older level of expenditure and taxation to a new and higher level is the
   a) displacement effect b) inspection effect
   c) concentration effect d) all of the above
4. The principle of maximum social advantage was introduced by
   a) Keynes b) Pigon
   c) Marshall d) Dalton
5. Which of the following is a source of tax revenue?
   a) fines b) Income tax
   c) railwayfrieght d) court fees
6. In the case of GST, which effect has come as a big advantage for the consumers and paves the way for a common national market
   a) cascading effect b) input tax credit c) central sales tax d) none of the above
7. If taxes are levied according to the Ability to pay theory, it leads to
   a) progressive taxes b) regressive taxes
   c) proportional taxes d) equal amount of tax on all persons
8. The incidence of sales tax is on the seller when the demand curve for the product is
   a) perfectly elastic b) perfectly inelastic
   c) rectangular hyperbola d) moderately elastic
9. The excess of Income over expenditure is called
   a) Surplus budget b) Deficit budget
   c) Balanced budget d) unbalanced budget
10. The problems of local finance are :
    a) inequality of sources of income b) inelasticity of source of income
    c) inadequancy of source of income d) all the above

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Give a brief account of private goods.

(OR)

b) Explain negative and positive externalities in consumption with suitable examples.

12. a) Write a note on Wagner's Law..

(OR)

b) "Public Finance must be based on principle of maximum social advantage". Discuss.

13. a) Briefly explain about Adam Smith's classification of public revenue.

(OR)

b) What are the merits of direct taxes?

14. a) Write a note on concentration theory of shiffing.

(OR)

b) Explain the modern theory of incidence.

15. a) Bring out the objectives of budget.

(OR)

b) List out the essential features of a federal system.

PART – C (3x10=30)

Answer any THREE questions.

16. Explain the functions of public finance.
17. Explain the Principle of maximum social advantage.
18. Explain Adam Smith's Canons of taxation. What addition have been made by the modern writers to these canons of taxation.
19. Explain the various types of taxes.
20. Elucidate the objectives and limitations of fiscal policy.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Economics **COURSE CODE : 18P3VMC14**

COURSE TITLE : Managerial Economics **QN.NO : 6559**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. The process of selecting a Particular suitable course of action from among the various alternative courses of action is known as
   a) Forward Planning b) Managerial Economics
   c) Decision making d) Macro economics
2. Which one of the following statement is correct?
   a) Business decisions cannot be taken without a sound knowledge of Macroeconomic Theories.
   b) Knowledge of Economic Theory is misleading in making business decisions.
   c) With the help of Economic Theories, it is always possible to predict the future accurately.
   d) Every Economic Theory is based on facts which are common to all societies.
3. The estimation of demand for a product in the future is called
   a) Law of Demand b) Elasticity of Demand
   c) Demand Forecasting d) Effective Demand
4. Experts Opinion Method of demand forecasting is also known as
   a) Consumer's Survey Method b) Delphi Method
   c) Salesforce Composite Methods d) Sample Survey Method
5. Penetrating price strategy is appropriate, when
   a) price elasticity of demand in the market is highly inelastic
   b) price elasticity of demand in the market is uncertain
   c) price elasticity of demand in the market is highly elastic
   d) income elasticity of demand in the market is negatively elastic.
6. A firm that produces highly substitute goods can adopt which one of the following pricing strategies?
   a) Transfer pricing b) Going rate pricing
   c) Product bundling d) Full cost pricing.
7. A normal profit is
   a) part of economic cost
   b) to be above economic cost in order to encourage output
   c) not a part of the economic cost that a firm incurs
   d) irrelevant to the production division of a firm
8. The Break-even Analysis is also called
   a) Input-Output Analysis b) Cost-Volume-Profit Analysis
   c) Super Multiplier d) Profit Maximization

Contd…

9. The process of planning for investment in capital projects which will yield a series of returns is called
   a) Project evaluation
   b) Capital budgeting
   c) Capital-output ratio
   d) Cost of capital
10. Cost benefit principle is relates to
   a) economic system
   b) accounting system
   c) management system
   d) all of these

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. (a) Bring out the nature of Managerial Economics.

(OR)

(b) Narrate the various types of Decision Marketing.

12. (a) Briefly explain the forecasting demand for new products.

(OR)

(b) State and explain the criteria of a good demand forecasting method.

13. (a) Elucidate the objectives of pricing policy.

(OR)

(b) Diagrammatically explain pricing over the Life cycle of product.

14. (a) Describe the methods of measuring profit.

(OR)

(b) What are the managerial uses of BEA

15. (a) Bring out the importance of Capital Budgeting.

(OR)

(b) What is inventory control budget? Listout its objectives.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Analyse the scope of Managerial Economics

17. Explain the methods of demand forecasting for an established products.

18. Discuss the various methods of Pricing.

19. Evaluate the determination of BEA.

20. Assess the methods of inventory control management.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Economics **COURSE CODE : 18P3VME1**

COURSE TITLE : Economics of Human Resource Development **QN.NO : 6561**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The book "Developing Human Resources" was published by
   a) Leonard Nadler b) Watkins
   c) Keynes d) Leonard Poes
2. Which one of the following is not the factors determining human resource development?
   a) Leadership style b) Non-commitments of the employee
   c) Labour unions d) Government Laws
3. The Right to Education Act (RTE) came into force in the year
   a) 2010 b) 2011 c) 2009 d) 2012
4. Sarva Shiksha Abhiyan aimed at
   a) Universal secondary education b) Universal higher education
   c) Universal primary and secondary education d) Universal primary education
5. NRHM was introduced in the
   a) 10th Plan b) 12th Plan c) 9th Plan d) 11th Plan
6. The most ancient yet living traditional medicine of India is
   a) Homoeopathy b) Sidha c) Ayurveda d) Unani
7. ---------refers to deficiencies, excesses, or imbalances in a person's intake of energy and/or nutrients
   a) Malnutrition b) Poverty c) ill health d) None of the above
8. National Housing and Habitat Policy was introduced in the year
   a) 2005 b) 2003 c) 2007 d) 2006
9. The final HDI value is between
   a) 0 and 1 b) -1 and +1 c) Greater than 1 d) Less than 1
10. The process of acquiring and increasing the number of persons who have education and experience is called
    a) Human resource management b) Human capital management
    c) Human resource development d) Human capital formation

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Explain the objectives of human resource development.

(OR)

b) Discuss the challenges of human resource development.

12. a) Describe the structure and growth of education.

(OR)

b)Write a note on Sarva Shiksha Abhiyan.

13. a) What are the causes of ill health?

(OR)

b) Write a note on National Health Mission.

14. a) Analyse the causes and effects of malnutrition.

(OR)

b) Discuss the objectives of National Housing Policy.

15. a) Explain the importance of human capital formation.

(OR)

b) Evaluate the Human Development Index.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16.Analyse the different functions of human resource development.

17.Describe the problems in Indian Higher Education.

18.Discuss the advantages and disadvantages of traditional health care.

19.Evaluate the nutritional problems in India.

20.Write an essay on the problems of human capital formation.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Economics **COURSE CODE : 18P3VNM1**

COURSE TITLE : Indian Economic Development **QN.NO : 6563**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Net National Product is sum of
   a) GDP – Net fact or income from abroad
   b) GDP + Net fact or income from abroad
   c) GNP Depreciation d) GDP – Subsidies
2. Which of the following is not a characteristic of Indian economy?
   a) Predominance of agriculture b) Low level of technical skill
   c) High population growth d) Low inequality in the distribution of wealth
3. "Too much of money changing too few goods" is called.
   a) Stagflation b) Inflation c) Recession d) recovery
4. Which of the following measure is adopted to reduce inflation?
   a) Decrease in government spending b) Reduction in Repo rate
   c) Increase in government expenditure d) Reduction in bank rate
5. In which type of unemployment do the marginal productivity of the workers is zero?
   a) Frictionall unemployment b) Voluntary unemployment
   c) Technical unemployment d) Disguised Unemployment
6. In which year JRY was introduced?
   a) 1989 b) 1991 c) 2009 d) 2005
7. Which of the following is the source of Non Tax revenue?
   a) Income Tax b) Fees
   c) Sales tax d)Custom duty
8. In times of war, Govt follows the practice of repaying its debt is called
   a) Terminal Annuity b) Sinking Fund
   c) Refunding d) Debt Conversion
9. In which five year plan NITI Aayog was established?
   a) 10th b) 12th c) 13th d) 13th
10. The New Economic Policy was introduced in
    a) 1991 b) 1981 c) 2001 d) 2015

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b)

11. a) Bring out the economic factors affecting Indian Economy.

(OR)

b) Explain the methods of National income.

12. a) Define – Inflation. Discuss its types.

(OR)

b) Explain the effect of inflation on distribution.

13. a) Does MGNREGP eradicate the rural poverty? Give your Comment.

(OR)

b) Write a detail note on cause's types of poverty in India.

14. a) Explain the effects of Public debt.

(OR)

b) Bring out the objectives of Budget.

15. a) Describe the objective of Indian planning.

(OR)

b) How does WTO agreement helps to promote Indian Trade?

PART – C **(3x10=30)**

Answer any THREE questions

16. Explain the characteristics of Indian economy.
17. Analyze the causes of inflation and suggest measures to overcome it.
18. Examine the various types of unemployment prevailing in India.
19. Discuss the method s of debt redemption.
20. Explain the functions of WTO.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Economics **COURSE CODE : 18P4VMC15**

COURSE TITLE : Indian Economy **QN.NO : 6565**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The total geographical area of our country is _____ Million hectares
   a) 329 b) 400 c) 546 d) 657
2. National mineral policy was formulated in the year
   a) 1991 b) 1993 c) 2000 d) 2008
3. At present, the rate of agricultural productivity in India represents
   a) Increase trend b) Decreasing trend
   c) Remains constants d) None of these
4. Which of the following agricultural goods are mainly imported by India?
   a) Rice b) Wheat c) Oil d) Pulses
5. Under the revised Industrial policy of 1956, the industries were reclassified into
   a) 3 categories b) 10 categories c) 20 categories d) 35 categories
6. ICICI provides assistance in the form of
   a) Financial b) Promotion c) Project d) All of these
7. Expand TRIMS
   a) Trade Related Investment Measures b) Trade Related Individual Measures
   c) Terms Rate Investment Measures d) Terms Related Investment measures
8. First GATT meet was held at
   a) Geneva b) Torquay c) Tokyo d) America
9. New economic Policy comprises:
   a) Liberalization b) Privatization
   c) Globalization d) All of these
10. Recently demonetization was announced on
    a) March 8th 2008 b) April 8th 2010
    c) June 8th 2012 d) November 8th 2016

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Narrate the evolution of Indian Economy.

(**OR)**

b) Does economic development degrade environment? – Give reason.

12. a) Write a note on Public Distribution System.

(**OR)**

b) List out the causes for low agricultural productivity in India.

13. a) Enumerate the problems faced by small scale industries.

(**OR)**

b) What are the objectives of Industrial policy 1956?

14. a) Give an account on the importance of foreign trade.

(**OR)**

b) Mention the functions of State Financial Corporations.

15. a) Write down the meaning of globalisation.

(**OR)**

b) Point out the demerits of privatisation.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Describe the characteristics of Indian economy.
17. Analyse the pros and cons of green revolution.
18. Explain the role of Multinational Corporations in India.
19. Critically evaluate India's export policy.
20. Examine the impact of globalisation on Indian economy.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Economics **COURSE CODE : 18P4VMC16**

COURSE TITLE : Economics of Health **QN.NO : 6567**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The application of economic theory in the field of health is
   a) Health b) Health Economics c) Economics d) Modern economics
2. Which is the determinant of the good health?
   a) Heredity b) Physical environment
   c) Socio and cultural factor d) All of these
3. Age limit of female marriage is _____
   a) 18 years b) 21 years c) 23 years d) 27 years
4. Integrated Child Development Programme was launched in_____
   a)1975 b)1976 c) 1977 d) 1978
5. Liver cancer is caused by _____
   a) Air pollution b) Smoking c) Insecticides d) Fat
6. Obesity related to _____diabetes
   a) Type 1 b) Type 2 c) Type 1 and 2 d) None of these
7. Health Care service is_____
   a) Medical laboratory b) Hospital
   c) surgical centre d) All of these
8. _____is a technique where unit cost is compared with measurable effect
   a) Cost Minimization Analysis b) Cost Effectiveness Analysis
   c) Cost Utility Analysis d) Cost Benefit Analysis
9. Health promotive services not includes
   a) Growth monitoring b) Health screening
   c) Mental counseling d)Treatment of ARI
10. _____is a major contributor for Healthcare expenditure
    a) Private b) NGOs c) Government d) Households

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11.a) What is meant by Health Economics?

(OR)

b) Point out the determinants of Health.

12.a) Write a note on age at Women Marriage in India.

(OR)

b) State the Pulse Polio Immunization Programme.

13.a) Write a short note on Economics of diabetes.

(OR)

b) Mention the Economic burden of obesity in India.

14.a) Highlight the need for cost-benefit analysis with reference to health care services.

(OR)

b) How to measure the health outcomes.

15.a) Briefly explain the Micro Health Insurance in India.

(OR)

b) Indicate the Healthcare policy in India.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Explain the determinants of Health.

17. Discuss the health problems faced by adolescent girls.

18. Elucidate the effects of HIV/AIDS on Economic growth.

19. Describe the role of Government Intervention in Health Care Services in India.

20. Sources of Healthcare Finance and expenditure in India - Discuss.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Economics **COURSE CODE : 18P4VMC17**

COURSE TITLE : Research Methodology **QN.NO : 6569**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Research is
   a) Searching again and again b) Finding solution to any problem
   c) Working in a scientific way to search for truth of any problem
   d) None of the above
2. Which of the following is the first step in starting the research process?
   a) Searching sources of information to locate problem.
   b) Survey of related literature
   c) Identification of problem d) Searching for solutions to the problem
3. Sample is regarded as a subset of?
   a) Data b) Set c) Distribution d) Population
4. Which of the following is not a type of non-probability sampling?
   a) Stratified random sampling b) Convenience sampling
   c) Snowball sampling d) Quota sampling
5. Data originally collected in the process of investigation are known as
   a) Foreign data b) Primary data
   c) Third data d) Secondary data
6. _____ are those which are already in existence and which might be collected for some purpose other than the answering of the question in hand.
   a) Direct data b) Basic data c) Primary data d) Secondary data
7. 7. A statement made about a population for testing purpose is called?
   a) Statistic b) Hypothesis
   c) Level of Significance d) Test-Statistic
8. 8. If the null hypothesis is false then which of the following is accepted?
   a) Null Hypothesis b) Positive Hypothesis
   c) Negative Hypothesis d) Alternative Hypothesis.
9. Before starting to write a report it is advisable to develop_____
   a) A theme b) An outline c) A Model d) A Chapter
10. The first chapter of the report should be entitled_____
    a) Introduction b) Results c) Methodology d) Conclusion

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) What do you mean by Research? Explain its types.

(OR)

b) Enumerate the problems encountered by researchers in India.

12. a) Describe the different types of Research design.

(OR)

b) Explain the different steps involved in sampling design.

13. a) Discuss the some other methods of Data collection.

(OR)

b) Expound the selection of appropriate method for data collection.

14. a) Discuss the basic concepts concerning testing of hypothesis.

(OR)

b) Elucidate the procedure for hypothesis testing.

15. a) Expound the different steps in writing a report.

(OR)

b) Describe the layout of the research report.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Describe fully the techniques of defining a research problem.
17. Examine the different methods of sampling.
18. Enumerate the different methods of collecting data.
19. Analyze the important scaling techniques useds in research.
20. Explain the mechanics of writing a research report.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Economics **COURSE CODE : 18P4VME2**

COURSE TITLE : Entrepreneurship Development **QN.NO : 6571**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The word "Entrepreneur is derived from_____
   a) French b) Greek c) Latin d) Spanish
2. _____ Identified innovation as a characteristic of entrepreneur for the first time in 1934.
   a) William Diamond b) A.H.Cole
   c) W.B.Gartner d) J.A.Schuumpeter
3. Which of the following factor does not affect a person for being an entrepreneur?
   a) Education b) Gender
   c) Personal values d) Family background
4. hich of the following is the back bone of financial plan?
   a) Budgeting b) Capital
   c) Nature of business d) Cost of production
5. EDP refers to_____
   a) Entrepreneurs Departmental programme
   b) Entrepreneurs Development programme
   c) Executive Development programme
   d) Entrepreneurial Development programme
6. Which of the following is not a phase of project management?
   a) Project planning b) Project scheduling
   c) Project controlling d) Project being
7. The full form of PERT is _____
   a) Program Evaluation and Rate Technology
   b) Program Evaluation and Robot Technique
   c) Program Evaluation and Robot Technology
   d) Program Evaluation and Review Technique
8. The full form of CPM is _____
   a) Critical Path Method b) Control Path Method
   c) Critical Plan Management d) Control Path Management
9. SFC stands for_____
   a) State Financial Committee b) State Funding Corporation
   c) State Finance Corporation d) State Funding Committee

Contd…

10. SIDBI stands for _____.
    a) Small Institutions Development Bank of India
    b) Small Industries Development Bank of India
    c) Small Industries Derivatives Bank of India
    d) Small Industries Development Bureau of India.

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Enumerate the essential qualities of a successful entrepreneur.

(OR)

b) Write a short note on Transportation problem faced by Entrepreneur.

12. a) Explain the types rural industries.

(OR)

b) Bring out the essential qualities of women entrepreneur .

13. a) Distinguish between PERT and CPM.

(OR)

b) Enumerate the various limitations of CPM.

14. a)Bring out the different contents of project report.

(OR)

b) Give an account of market analysis.

15. a)List out the functions of Entrepreneurs Development Institute of India.

(OR)

b) Illustrate the different activities performed by Center for Entrepreneurship Development of Tamilnadu.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Explain the various functions of an entrepreneur.
17. Discuss the role of women Entrepreneur in Economic Development
18. Critically examine the SWOT analysis, mention its uses
19. Enumerate the major objectives and functions of District Industries Centre to promote economic development.
20. Describe the different factors involved in the project report

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Economics **COURSE CODE : 18P4VME3**

COURSE TITLE : Demography **QN.NO : 6572**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The study of qualitative and quantitative aspects of human population is called.
   a) Demography b) Sociology c) Psychology d) Ecology
2. The term demography is derived from
   a) Latin b) Greek c) German d) English
3. Mortality rate is typically expressed in units of deaths
   a) per 100 individual per year b) per 100 families per year
   c) per 1000 individuals per year d) per 10,000 individuals per year
4. The vital event that makes the end of a person's life is
   a) birth b) migration c) marriage d) death
5. Protein Consumption theory of population was given by
   a) Michel Tomes b) Dumont c) Malthus d) Joe castro
6. Spencer, an _____ sociologist.
   a) Greek b) English c) latin d) italain
7. Optimum theory of population was given by _____
   a) Cannan b) Karal Marx c) Malthus d) Marshall
8. The theory of Social Capillarity was given by _____
   a) Dumount b) Leibestein c) Thomas d) Spencer's
9. National population policy was sets the target of achieving a stable population by _____
   a) 2035 b) 2015 c) 2025 d) 2019
10. The gradual increase in the proportion of people living in urban areas is called _____
    a) Urbanization b) Industrialization
    c) Globalization d) Modernization

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Analyse the scope of demography.

(OR)

b) Explain the importance of demography study.

12. a) What are the factors affecting fertility?

(OR)

b) Enumerate the uses of Vital Statistics.

13. a) Examine the Diet theory of Thomas Double day.

(OR)

b) Evaluate the Spencer's Biological Theory.

14. a) Analyse the optimum theory of population.

(OR)

b) Explain Dumont's Social capillarity Theory.

15. a) What are the factors affecting internal Migration?

(OR)

b) Explain the types of Migration. .

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Discuss recent National policy and its objectives.
17. Describe the Leibenstein's Motivational theory of Population.
18. Evaluate Joe Castro's Protein Consumption Theory.
19. What are the factors affecting Mortality ?
20. Discuss the relationship between demography and other subjects.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., தமிழ் **COURSE CODE : 1PGT3 (Upto 17)**

COURSE TITLE : இலக்கணக்கோட்பாடுகள் (எழுத்து) **QN.NO : 6705**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1) எழுத்தெனச் சிறப்பித்துச் சொல்லப்படுவது எது?
2) மெல்லெழுத்தென்ப எனவையெனவை?
3) இதழியைந்து பிறப்பன எனவை?
4) இதழ் இலைகள் யாளவை?
5) மகப்பெயர்க் கிளவிக்கு எச்சாரியை வரும்
6) உயிர்த்தொடர்க் குற்றியலுகரத்திற்குச் சான்று தருக?
7) தேக்கு இச்சொல் புணர்ச்சியில் எச்சாரியை பெற்று வரும்?
8) மூன்றோடு ஆயிரம் புணரும் போது எவ்வாறு மாறுபாடு அடையும்?
9) இளகாரமாக அமைவது எது?
10) மென் தொடர் குற்றியலுகரத்திற்கு உதாரணம் தருக?

பகுதி – II **(5 x 7 = 35)**

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11) அ) மாத்திரையின் அளவுகளை எழுதுக? (அல்லது)
ஆ) உயிர்மெய் எழுத்துக்களின் இயல்புகளை விளக்கு?

12) அ) எழுத்துக்களின் பிறப்பிலக்கணம் எழுது? (அல்லது)
ஆ) உயிர் எழுத்துக்களின் பிறப்பினை விளக்குக?

13) அ) புணர்தலின் இயல்புகளை விவரி? (அல்லது)
ஆ) உருபுப் புணர்ச்சி என்றால் என்ன? சான்றுடன் விளக்கு?

14) அ) அகர ஈற்றுப் பெயர்கள் குறித்து எழுதுக? (அல்லது)
ஆ) விரவுப் பெயர்கள் குறித்து எழுதுக?

(பி.ப.பா...)

CODE : M.A. TAMIL QN.NO : 6705

TITLE : இலக்கணக் கோட்பாடுகள் (எழுத்து)

15) அ) குற்றியலுகரத்தின் இயல்பினை வரைக்கு? (அல்லது)

ஆ) தினைப்பெயர் தோன்றுமிடத்தை ஆய்க).

(3 x 10 = 30)

பகுதி – III

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16) மொழி முதல், இறுதி எழுத்துக்களைச் சான்றுடன் வரவர்?

17) உயர், மெய் எழுத்துக்களின் பிறப்பினை எழுது?

18) மெய்ம் மயக்கம் என்றால் என்ன? அது எத்தனை வகைப்படும்?

19) எண்ணுப் புணர்ச்சி குறித்து நீவீர் அறிந்த செய்தியை எழுதுக?

20) எழுத்து என்றால் என்ன? அதன் வகைகளை எழுதுக?

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THE MADURA COLLEGE (Autonomous), MADURAI–625 011

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SEMESTER EXAMINATIONS–APRIL 2021

PROGRAMME: M.A., Tamil **COURSE CODE : 2PGT5 (Upto 2017)**

COURSE TITLE : இலக்கணக் கோட்பாடுகள் (சொல்) **QN.NO : 6719**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1.இரட்டைக் கிளவி என்பது யாது?

2.எப்பொருளாயினும் கொள்ளும் வேற்றுமை எது?

3.ஆகுபெயர் என்பது யாது?

4.விளியேற்காத மெய்யீறுகள் நான்கினைக் குறிப்பிடுக.

5.குடிப்பெயர் நான்கினைக் குறிப்பிடுக.

6.உயர்திணை படர்க்கை ஒருமை வினைமுற்றுக்கள் யாவை?

7.தில் - இடைச்சொல் உணர்த்தும் பொருள்கள் யாவை?

8.எவ்விரண்டு உரிச்சொற்கள் சுழற்சி எனப்படுவன?

9.இயற்சொல் என்பது யாது?

10.இரத்தலுக்கான சொற்கள் யாவை?

பகுதி – II **(5 x 7 = 35)**

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11.அ)வழுக்கள் எத்தனை வகைப்படும்? அவை யாவை?

(அல்லது)

ஆ)தொழில்நிலை ஒட்டு என்றால் என்ன? சான்று காட்டுக.

12.அ)முதல்,சினைப் பொருள்களில் மயங்கும் வேற்றுமைகளை எழுதுக.

(அல்லது)

ஆ)மெய்யீற்று முறைப்பெயர் கிளவி எவ்வாறு விளியேற்கும்?

(P.T.O)

13.அ)மகடூஉ மருங்கின பால் திரி கிளவி-விளக்குக.

(அல்லது)

ஆ)செய்யுளில் செய்யும் என்னும் வாய்ப்பாடு அடையும் மாற்றங்களை எழுது.

14.அ)இசைநிறை அசைநிலையாய் வரும் இடைச்சொற்களை விளக்கு.

(அல்லது)

ஆ)உரிச்சொல்லின் பொது இலக்கணத்தைக் கூறி விளக்குக.

15.அ)வினைத்தொகை, பண்புத்தொகை-விளக்குக.

(அல்லது)

ஆ)குறிப்பால் பொருளுணர்த்தும் எச்சங்களை எழுதுக.

பகுதி – III **(3 x 10 = 30)**

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16.வேற்றுமையியலில் தொல்காப்பியர் கூறும் கருத்துக்களைத் தொகுத்துரைக்க.

17.உருபு மயக்கம் பற்றிக் கட்டுரை வரைக.

18.உயர்திணைக்குரிய பெயர்கள் பற்றி விவரிக்க.

19.இடையியலில் காணலாகும் செய்திகளைத் தொகுத்தெழுதுக.

20.எச்சங்களின் வகைகளைச் சான்றுகளுடன் விளக்குக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Tamil **COURSE CODE : 3PGT3 (Upto 2017)**

COURSE TITLE : இலக்கணக் கோட்பாடுகள் (பொருள்) **QN.NO : 6727**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. பிரிவின் வகைகள் யாவை?
2. மைவரை உலகம் மேவிய நிலம் யாருடையது?
3. வாகை எத்திணைக்குப் புறனாக அமைகிறது?
4. கடவுள் வாழ்த்தொடு கண்ணிய வருபவை எவை?
5. பெருமையும் உரனும் யாருடைய இயல்பு?
6. தாயெனப்படுவாள் யார்?
7. கரணம் தோன்றக் காரணமானவை எவை?
8. கிழவி நிலையே எவ்விடத்து உரையார்?
9. இறைச்சிப்பொருள் எப்பொருளின் புறத்தாகித் தோன்றும்?
10. உறுகண் ஓம்பல் யாருடைய இயல்பு?

பகுதி – II **(5 x 7 = 35)**

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. (அ) "புல்லித் தோன்றும் கைக்கிளைக் குறிப்பே" – விளக்குக.

(அல்லது)

(ஆ) உள்ளுறை உவமம், ஏனை உவமம் பற்றி விளக்கி எழுதுக.

பி.ப.பா...

12. வெட்சித் துறைகளை எடுத்தியம்புக.
(அ) (அல்லது)

(ஆ) 'தாவில் நல்லிசை .....' - எனத் தொடங்கும் நூற்பாவை விளக்குக.

13. விளக்கம் தருக: (i) மெய்யுறு புணர்ச்சி (ii) இயற்கைப் புணர்ச்சி
(அ) (அல்லது)

(ஆ) 'தோழி' பற்றி குறிப்பு வரைக.

14. கூந்தர்க்குரிய திறம் குறித்து எடுத்துரைக்க.
(அ) (அல்லது)

(ஆ) வினைமுற்றி மீண்ட தலைவற்குரியதொரு பரவை சான்றுடன் விளக்குக.

15. "காட்டலாகாப் பொருள் என்ப" - விளக்குக.
(அ) (அல்லது)

(ஆ) "போக்கும் வரவும் ...." என முடியும் நூற்பாவை விளக்குக.

பகுதி – III **(3 x 10 = 30)**

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. பரிவின்கண் தலைமகற்குக் கூற்று நிகழும் இடங்களை விளக்கி வரைக.

பி.ப.பா...

17. வாகைத் துறைகளை விளக்கியுரைக்க.

18. களவொழுக்கத்தின் கண் தோழிக்குரிய கிளவிகளைத் தொகுத்துரைக்க.

19. "கிழவோள் செப்பல் கிழவ தென்ப" – விளக்கியுரைக்க.

20. உள்ளுறை குறித்துக் கட்டுரைக்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Tamil — **COURSE CODE : 4PGT2 (Upto 2017)**

COURSE TITLE : இலக்கணக் கோட்பாடுகள் (பொருள்) — **QN.NO : 6737**

TIME : 3 Hours — **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. புகுமுகம் புரிதல் என்றால் என்ன?
2. நிம்பிரி என்றால் என்ன?
3. வஞ்சிச் சீர் எத்தனை வகைப்படும்?
4. சிந்தடி என்றால் என்ன?
5. எற்றெதுத்து ஒன்றி வருவது எது?
6. ஆசிரியப்பாவின் அடிவரையறை யாது?
7. உரைநடை வகைகள் எத்தனை?
8. தொடர்நிலைச் செய்யுள் இல்லாது தனித்து வருவது எது?
9. நிந்தரம் என்பதன் பொருள் என்ன?
10. வினையின் நீங்கி விளங்கிய அறிவின் முனைவன் கண்டது எது?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) எண்வகை மெய்ப்பாடுதனை எடுத்தியம்புக.

(அல்லது)

ஆ) உவமையைக் கையாள்வதில் அகமாந்தர்களுக்குரிய வரம்புகளைத் தெளிவுப்படுத்துக.

12. அ) சீர் வகைகளை விளக்குக.

(அல்லது)

ஆ) யாப்பு குறித்து இயம்புக.

13. அ) தொல்காப்பியர் சுட்டும் தொடைதனை விளக்குக.

(அல்லது).

ஆ) அங்கதச் செய்யுளின் இலக்கணத்தைப் புலப்படுத்துக.

(திருப்புக)

CODE : 4PGT2 (2014 ONL) QN.NO : 6737

TITLE : இலக்கணக் கோட்பாடுகள் (பொருள்) - II

14. அ) 'அடிவரை யில்லன ஆறென மொழிப' - விளக்குக.

(அல்லது)

ஆ) அகப்பாட்டுள் கைகோள் பெறுமிடத்தினைச் சுட்டுக.

15. அ) ஓரறிவு முதல் ஆறறிவு வரையிலான உயிரினங்களுக்குச் சான்று தந்து விளக்குக.

(அல்லது)

ஆ) மரபியல் உணர்த்தும் தாவரச் செய்திகளை விளம்புக.

பகுதி – III **(3 x 10 = 30)**

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. உவமையியல் உணர்த்தும் இலக்கணச் செய்திகளைத் தொகுத்தெழுதுக.

17. செய்யுள் உறுப்புகள் குறித்துக் கட்டுரை வரைக.

18. கலிப்பாவின் அமைப்பினை விவரிக்க.

19. செய்யுளாக்கத்தில் வண்ணம் பெறும் இடத்தினை மதிப்பிடுக.

20. இளமைப்பெயர் இலக்கண மரபுகளை விரித்தெழுதுக.

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THE MADURA COLLEGE (Autonomous), MADURAI – 625 011
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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Tamil | **COURSE CODE : 4PGT4 (Upto 2017)**

COURSE TITLE : ஒப்பிலக்கியம் | **QN.NO : 6741**

TIME : 3 Hours | **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. 'ஆண்டு தேய ஏருமைப்பாடு' கண்டவர் யார்?
2. பரிமேலழகரின் உரைத்திறன் எந்த நூலில் வெளிப்படுகிறது?
3. அனைத்துலக ஒப்பியல் இலக்கியக் கழகம் நிறுவப்பட்ட ஆண்டு எது?
4. 'புனையா ஓவிய கடுப்பு' பாடல்வரி இடம் பெற்ற நூல் யது?
5. பெய்ப்பாடு எத்தனை உணர்ச்சிகளால் தோன்றும் என்று தொல்காப்பியர் குறிப்பிடுகிறார்?
6. உள்ளுறை உவமம் எதனை இடமாகக் கொண்டு தோன்றும்?
7. திரேக்க இலக்கியத்தில் ஏற்றுக்கொள்ளப் பிரதிநிதியாகக் காணப்படுபவர்?
8. மார்க்கஸ் அரேலியசு எந்த உயிர் இரக்கப்பண்பினைப் பெரிதும் போற்றுகிறார்?
9. தமிழ் மரபு நட்சத்திரத்தினை எவ்வாறு பாரதி பாடிய கவிதையின் பெயர் என்ன?
10. திருவள்ளுவர் சிலையை தெற்கில் முதலில் அமைத்த ஆண்டான் நல்லது?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. (அ). இலக்கியத்தின் தனித்தன்மை மற்றும் பொதுத்தன்மைகளை ஆய்க.
(அல்லது)
(ஆ). இலக்கிய வரலாறு எழுதிய மேகனின் முதன்மைக் கருத்தினை எடுத்துரைக்க.

12. (அ). மரபுரைக் கோட்பாட்டினைத் தருக. (அல்லது)
(ஆ). அமெரிக்கக் கோட்பாடு குறித்து எழுதுக.

13. (அ). தொல்காப்பியர் தரும் பெய்ப்பாட்டியல் கருத்துக்களைத் தொகுத்துரைக்க.
(அல்லது)
(ஆ). பரதநாட்டியம் கூறும் முத்திரை இரகசியத்தை விளக்குக.

14. (அ). கம்பனும், மில்டனும் ஒப்பிட்டு விவரிக்க. (அல்லது)
(ஆ). திருவள்ளுவரும், மார்க்கஸ் அரேலியசும் ஒப்பிட்டு ஆராய்க.

15. (அ). பாரதிக்கும், தாகூருக்கும் உள்ள பொற்றமை வேற்றுமைகளைப் புலப்படுத்துக. (அல்லது)
(ஆ). பாரதிதாசனும், மரபுரை ஆசானும் குறித்து ஒப்பிட்டு ஆய்க.

(P.T.O...)

CODE : 4PGTA (2014 on) QN.NO : 6741

TITLE : ஒப்பிலக்கியம்

பகுதி – III **(3 x 10 = 30)**

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. தமிழில் ஒப்பிலக்கிய வளர்ச்சி நிலை குறித்து விளக்குக.

17. இலக்கியமும் உளவியலும் குறித்துக் கட்டுரைக்க.

18. தொல்காப்பியர் கூறும் உள்ளுறை, இறைச்சி பற்றிய அடிப்படைத் தன்மைகளை விளக்கியுரைக்க.

19. தமிழ், கிரேக்க இரட்டையர்பாடல்களை ஒப்பிட்டுக் கருத்துரைக்க.

20. 'பாரதியும் தாகூரும் வேங்கட சுப்பாராவும் ஒப்பிடத்தக்கவர்கள்' என்னும் கூற்றை ஆராய்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Tamil **COURSE CODE : 4PGT5 (Upto 2017)**

COURSE TITLE : விளம்பரக்கலை **QN.NO : 6743**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. மக்களுடைய நுகரும் சக்தியைத் தூண்டுவது எது?
2. அமெரிக்க விளம்பரத்தின் தந்தை எனக் கருதப்படுபவர் யார்?
3. உடனடியாகப் பொருளை வாங்குமாறு தூண்டும் விளம்பரம் எது?
4. வாணிக இயலின் நடைமுறை என்ன?
5. விளம்பரத்தின் இயல்புகளைக் கூறுக.
6. Image Advertising என்றால் என்ன?
7. 'மௌன விளம்பரம்' – குறிப்பு வரைக.
8. விளம்பர மேசடி சட்டதிதைக் கூறுக.
9. விளம்பரச் சாதனங்கள் எவ்வாறு தேர்ந்தெடுக்கப்படுகிறது?
10. மறைமுக விளம்பர வாபம் எது?

பகுதி – II **(5 x 7 = 35)**

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. 'விளம்பரம்' – சொற்பொருள் விளக்கம் தருக.

    இந்திய விளம்பர வரலாற்றின் தொடக்க கோலம் குறித்து எழுதுக. (அல்லது)

12. விளம்பரத்தின் நோக்கங்களில் ஏதேனும் பத்தினைக் குறிப்பிடுக.

    விளம்பரச் சாதனத்தின் சாதகபாதகங்களைக் கூறுக. (அல்லது)

13. விளம்பரத் துறை வேலைவாய்ப்புகளை ஆராய்ந்துரைக்க.

    விளம்பர நெறிமுறை விதிகளைச் சுட்டுக. (அல்லது)

14. விளம்பர விலையை மதிப்பிடுதலின் பயன்களை ஆராய்ந்து கூறுக.

    'தூண்டில் விளம்பரம்' – விளக்கம் தருக. (அல்லது)

15. விளம்பர பட்ஜெட்டின் தேவையை விளக்குக.

    விளம்பரமும் மக்கள் தொடர்பும் – குறிப்பு வரைக (அல்லது)

பி.டி.ப...

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. வினாம்பரத்தின் பரவாற்றலைத் தொகுத்தெழுதுக.

17. வினாம்பரப் பிரசாரங்களை விரித்தெழுதுக.

18. வினாம்பர நகலின் சிறப்பியல்புகளைப் புலப்படுத்துக.

19. வினாம்பரம் தொடர்பான சட்டங்களை விவரி.

20. வினாம்பரத்தின் கானலாகும் சாயநாழல் வாய்ப்புகளை மதிப்பிடுக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : M.A., Tamil **COURSE CODE : 18P2TMC6**

COURSE TITLE : சமய இலக்கியம் **QN.NO : 6749**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – 1 (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. மாணிக்கவாசகருக்கு இறைவன் குருவாக வந்து அருள் புரிந்த ஊர், இடம் எது?
2. ''நசையானேன் திருத்தில்லை நடைபயிலும் நம்பானே'' – என்று உரைப்பது யாரை?
3. குலசேகர ஆழ்வார் திருமாலின் எந்த அம்சமாக அவதரித்தார்?
4. ''பச்சைமா மலைபோல் மேனி பவளவாய் கமலச் செங்கண்'' – யார் யாரைப் பாடியது?
5. இறைவன் எதைப் போன்று சமயங்களின் தலைமையிடமாகத் திகழ்கிறார்?
6. வள்ளலார் கூறும் மெய்ம்மை நெறியாது?
7. ஏசு நாதரைப் பாட்டுடைத் தலைவனாகக் கொண்ட நூல் எது?
8. 'பிரசங்கத்தரு' - இதன் பொருள் என்ன?
9. குணங்குடி மஸ்தான் சாகிபு எதைப் போன்று கலந்திருந்ததாக கூறுகிறார்?
10. மோட்சத்தைக் கொடுக்கின்ற உண்மை ஞானம் எது?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் விடையளிக்க.

11. அ) திருஞான சம்பந்தர் இறைவன் மீது கொண்ட அன்பினை விளக்குக.

(அல்லது)

ஆ) சிவபெருமானின் பெருமைகளாக வேணாட்டடிகள் கூறுவன யாவை?

12. அ) குலசேகர ஆழ்வார் இறைவனிடம் வேண்டுவன யாவை?

(அல்லது)

ஆ) திருமாலின் தோற்றப் பொலிவினை தொண்டரடிப் பொடியாழ்வார் எங்ஙனம் விளக்குகிறார்?

13. அ) முருகனின் பெருமைகளை அருணகிரிநாதர் கூறும் விதம் யாது?

(அல்லது)

ஆ) தாயுமானவர் இறைவனைப் போற்றும் முறையினை விவரி?

14. அ) பெத்தலகேம் குறவஞ்சியின் சிறப்புகள் யாவை?

(அல்லது)

ஆ) 'வேதியர் ஒழுக்கம்' – பொருள் தந்து விவரிக்க.

15. அ) ஐம் பொறிகளை அடக்கும் விதத்தினை விளக்குக.

(அல்லது)

ஆ) பராபரத்திடம் மஸ்தான் சாகிபு வேண்டுவன யாவை?

பகுதி – III (3x10=30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. மாணிக்கவாசகரின் பக்தித்திறனைப் புலப்படுத்துக.
17. ஆழ்வார்களின் பக்தித்திறத்தைக் கட்டுரை வடிவில் தருக.
18. மரணமில்லாப் பெருவாழ்வு குறித்து இராமலிங்க வள்ளலார் கூறுவன யாவை?
19. இயேசு கிறிஸ்துவின் பெருமைகளை திரு.வி.க வழி எடுத்துரைக்க.
20. 'பராபரக்கண்ணி' - கூறும் செய்திகளைக் கட்டுரைக்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Tamil **COURSE CODE : 18P2TMC7**

COURSE TITLE: இலக்கணக் கோட்பாடுகள் (சொல்) **QN.NO : 6750**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – 1 **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. மகடூஉ அறிசொல்லுக்கு ஒற்றாக அமைவது எது?
2. செப்பின் இருவகைகள் யாவை?
3. வேற்றுமை மயங்கியல் - விளக்குக.
4. விளியேற்கும் உயிரீறுகளைச் சுட்டுக.
5. நிலப் பெயருக்குச் சான்று தருக.
6. மயங்குமொழிப் பொருளாய் விளங்கத் தோன்றுவது எது?
7. பொறியால் உணரப்படும் குணம் எது?
8. மழவும் குழவும் எப்பெயர்கள்?
9. திரிசொல்லின் வகைகளைக் கூறுக.
10. இரத்தற்கண் வரும் கிளவிகள் யாவை?

பகுதி – II **(5 x 7 = 35)**

அனைத்து வினாக்களுக்கும் விடையளிக்க.

11. அ) இயல்பு வழக்கு தகுதி வழக்கு பற்றி எடுத்துரைக்க.

(அல்லது)

ஆ) ஐந்தாம் வேற்றுமையினை விளக்கி வரைக.

12. அ) ஆகுபெயர் முடிவும் இயல்பும் குறித்து விவரி.

(அல்லது)

ஆ) உயர்திணை பெயர்கள் விளியேற்கும் முறையைப் புலப்படுத்துக.

13. அ) விரவுப்பெயர் – விளக்குக.

(அல்லது)

ஆ) குறிப்பு வினைமுற்று குறித்து விவரிக்க.

14. அ) இடைச்சொல்லின் இயல்பினை எடுத்துரைக்க.

(அல்லது)

ஆ) உரிச்சொற் பொருள் மரபை ஒத்தது என்பதைத் தெளிவுபடுத்துக.

15. அ) சொற்கள் அடையும் விகாரம் குறித்து கட்டுரைக்க.

(அல்லது)

ஆ) நிரனிறைப் பொருள்கோளைச் சான்று காட்டி நிறுவுக.

பகுதி – III **(3x10=30)**

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. கிளவியாக்கம் தரும் செய்திகளைத் தொகுத்துரைக்க.
17. வேற்றுமையுருபுகள் மயங்கும் பொருள்களை ஆராய்க.
18. 'விரவு வினை' பற்றி திறனாய்க.
19. எண்ணிடைச் சொற்கள் பற்றி விவரிக்க.
20. 'மொழி புணர் இயல்பு நான்கு' – நிறுவுக.

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THE MADURA COLLEGE (Autonomous), MADURAI – 625 011

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : M.A., Tamil **COURSE CODE : 18P2TMC8**

COURSE TITLE : ஆட்சித் துறைத் தமிழும் பொது நிர்வாகமும் **QN.NO : 6751**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – 1 **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. இந்திய அரசமைப்புச் சட்டம் பேரவையில் எந்த ஆண்டு இயற்றப்பட்டது?
2. மொழிவாரி மாநிலங்கள் அமைய மாநிலக்குழுவின் தலைவராக நியமிக்கப்பட்டவர் யார்?
3. இந்திய அரசுப்பணியாளர் தேர்வாணையம் எத்தனை பிரிவுகளைக் கொண்டது?
4. மாநில அரசுக்குக் கிடைக்கும் நிதிகள் எவ்வாறு அழைக்கப்படுகின்றது?
5. அனுப்புகை என்றால் என்ன?
6. குறிப்பு முதன் முதல் எழுதுபவர் யார்?
7. ஆணை சுற்றறிக்கை முதலிய வரைவுகள் யாரால் எழுதப்படுகின்றன?
8. சுற்றறிக்கை – ஆங்கிலத்தில் மொழிபெயர்க்க.
9. பொதுச் சட்டத்தை விரிவாகவும் முறையாகவும் செயல்படுத்துவதுதான் பொது நிர்வாகம் என்று கூறியவர் யார்?
10. தமிழ்நாடு அரசு ஊழியர்கள் ஓய்வு பெறும் வயது என்ன?

பகுதி – II **(5 x 7 = 35)**

அனைத்து வினாக்களுக்கும் விடையளிக்க.

11. அ) இந்திய அரசமைப்பு முகவுரை பற்றி எழுதுக.

(அல்லது)

ஆ) தமிழ் ஆட்சிமொழியாகத் தமிழகத்தில் இருந்த காலகட்டம் பற்றி விவரி.

12. அ) அரசுப்பணியாளர் தேர்வாணையத்தில் மூன்று பிரிவுகள் யாவை? அவற்றின் பணிகளை சுட்டுக.

(அல்லது)

ஆ) நாட்டின் நிதி நிலை பற்றி விளக்குக.

13. அ) விடுப்புகளின் பலவகை யாவை?

(அல்லது)

ஆ) குறிப்பு எவ்வாறு எழுத வேண்டும்? விளக்குக.

14. அ) வரைவு என்பது யாது? விளக்குக.

(அல்லது)

ஆ) அரசுப் பணியின் முக்கியத்துவம் யாது?

15. அ) அரசுப் பயிற்சியின் வகைகள் யாவை? விளக்குக.

(அல்லது)

ஆ) மாவட்ட ஆட்சித் தலைவரின் பணி பற்றி எழுதுக.

பகுதி – III **(3x10=30)**

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. தமிழ் ஆட்சிமொழி ஆவதற்கான செயல்பாடுகள் பற்றி எழுதுக.
17. மாநில அரசாட்சி பற்றி எழுதுக.
18. தற்செயல் விடுப்பு விண்ணப்பம் ஒன்றினை எழுதுக.
19. வரைவின் வடிவங்கள் பற்றி எழுதுக.
20. உள்ளாட்சி அமைப்புகளின் விசைகள் பற்றி எழுதுக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : M.A., Tamil **COURSE CODE : 18P2TMC9**
COURSE TITLE : அரங்கக்கலை **QN.NO : 6752**
TIME : 3 Hours **MAX.MARKS :75**

பகுதி – 1 (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. தொல்காப்பியர் இசை நாடகப் பகுதிகளை எவ்வாறு அழைத்தார்?
2. "யானும் ஓர் ஆடுகள மகளே" என்னும் அடி எத்தொகை நூலில் உள்ளது?
3. வரிப்பாட்டு எத்தனை வகைப்படும்?
4. ஒரு கோல் என்பது எத்தனை அடி?
5. நாடகப் பேராசிரியர் என்று அழைக்கப்படுபவர் யார்?
6. பெண்கள் நாடக சபையை நிறுவியவர் யார் யார்?
7. நடராஜன் யாருடைய காதலன்?
8. ஹாம்லெட் நாடகம் எத்தனை அங்கங்களைக் கொண்டது?
9. நாடகத்தின் சிறப்புக் கருவிகள் என்று கான்ஸ்தந்தீன் ஸ்தனிஸ்லாவ்ஸ்கி எவற்றைக் குறிப்பிடுகிறார்?
10. முதல் தமிழ் நவீன நாடகம் எது?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் விடையளிக்க.

11. அ) சங்க இலக்கியங்களில் காணலாகும் கூத்தர்கள் பற்றி எழுதுக.

(அல்லது)

ஆ) இசையின் தொன்மை குறித்து எழுதுக.

12. அ) அரங்கும், திரையும் குறித்து விவரி

(அல்லது)

ஆ) "காப்பிய மரபும், கணிகையரும்" – விவரிக்க

13. அ) "வி.கோ.சூரிய நாராயண சாஸ்திரியார்" – குறிப்புரைக்க

(அல்லது)

ஆ) கந்தசாமி முதலியாரின் நாடகப்பணி குறித்து விவரிக்க.

14. அ) "மனோன்மணீயம்" நாடகத்தில் காணலாகும் 'நாடகத்துள் நாடகம்' பற்றி எழுதுக.

(அல்லது)

ஆ) ஹாம்லெட் நாடக அமைப்பினை எழுதுக.

15. அ) நவீன நாடகக்கலை முன்னோடிகள் பற்றி உரைக்க.

(அல்லது)

ஆ) "தமிழில் நவீன நாடகம்" – குறிப்பெழுதுக.

பகுதி – III (3x10=30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. பரதநாட்டியத்தின் வரலாற்றினை விவரித்துரைக்க.
17. சிலப்பதிகாரம் கூறும் கூத்துக்கள் மற்றும் பதினொரு ஆடல் பற்றி எழுதுக.
18. பம்மல் சம்பந்த முதலியார் நாடகத்திற்கு ஆற்றிய பணிகளை விவரிக்க.
19. "மனம் ஒரு குரங்கு ஒரு சமூக நாடகம்" என்பதை மெய்ப்பிக்க.
20. நவீன நாடகத்தின் தோற்றமும், அதன் வளர்ச்சி நிலைகளையும் பற்றி ஆய்ந்துரைக்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : M.A., Tamil **COURSE CODE : 18P2TMC10**

COURSE TITLE : படைப்பாக்கமும் ஆளுமைத் திறனும் **QN.NO : 6753**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – 1 (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. படைப்பு என்பது மறைமுகமான செயல். இது யாருடைய கூற்று?
2. 'சாப விமோசனம்' என்ற கதையின் ஆசிரியர் யார்?
3. புதுக்கவிதைகள் தொடக்கக் காலத்தில் எவ்வாறு வழங்கப்பட்டன?
4. வானொலி நாடகத்திற்கு உயிர் எனக் கருதப்பட்டது எது?
5. ஆளுமைப் பண்பாக்கத்தில் பெரும் பங்கு வகிப்பது எது?
6. ஒருவரது ஆளுமையில் முக்கியப் பங்கு வகிப்பது எது?
7. ஒருவரது எல்லை மீறிய எழுச்சி எப்போது தோன்றுகிறது?
8. 'கல்வி கரையில கற்பவர் நாள் சில' எனக் கூறும் நீதி நூல் எது?
9. நவஜீவன் பத்திரிகையின் ஆசிரியர் யார்?
10. நாட்டுப்புறவியல் ஆய்வுக் கட்டுரையில் முதன்மைச் சான்றாதாரம் எது?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் விடையளிக்க.

11. அ) படைப்பிலக்கியம் என்றால் என்ன? விளக்குக.

(அல்லது)

ஆ) படைப்பாளியை உருவாக்கிய பின்புலங்கள் பற்றி எழுதுக.

12. அ) 'நாடகம்' படைப்பு உத்தியைக் குறிப்பிடுக.

(அல்லது)

ஆ) ஆய்வுக்கட்டுரை எழுதுவதற்கான அடிப்படைகள் யாவை?

13. அ) ஆளுமைப் பண்பின் வளர்ச்சி நிலையில் இரண்டினைக் குறிப்பிடுக.

(அல்லது)

ஆ) கோசாவின் வகைகள் எத்தனை? அவையாவை?

14. அ) மனப்பாங்கு என்றால் என்ன? விளக்குக.

(அல்லது)

ஆ) எத்தகைய நற்பண்புகள் ஆளுமையை மெருகேற்றுகிறது?

15. அ) அம்பேத்காரின் ஆளுமையைக் கட்டமைக்க.

(அல்லது)

ஆ) பத்துவரிகளில் 'திசைஎட்டும்' என்ற தலைப்பில் புதுக்கவிதை படைக்க.

பகுதி – III (3x10=30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. படைபாக்கம் குறித்துத் தக்க சான்றுடன் விடை தருக.
17. சிறுகதை எப்படிப் படைக்கப்படுகிறது என்பதை விவரி.
18. ஆளுமைப் பண்பை நிர்ணயிக்கும் காரணிகள் பற்றி விளக்குக.
19. ஆளுமைப் பண்பைத் தரப்படுத்தும் உளவியல் அறவழிகள் பற்றி எழுதுக.
20. 'அறமே ஆக்கம்' என்ற தலைப்பில் ஓரங்க நாடகம் எழுதுக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., Tamil **COURSE CODE : 18P3TMC11**

COURSE TITLE : காப்பிய இலக்கியம் **QN.NO : 6754**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. பாம்பைக் கச்சையாக உடுத்திய பெண் தெய்வம் எது?
2. மாதரி யாருக்குப் பால் சோறு படைத்தாள்?
3. ஜவகைச் சீலம் என்பது என்ன?
4. சுதமதிக்குப் புத்த தருமத்தை அருளியது யார்?
5. 'ஐவில்' அகலம் என்பதில், ஒரு வில்லின் அளவு என்ன?
6. சுரமஞ்சரியைக் காண சீவகன் மேற்கொண்ட வடிவம் என்ன?
7. 'ஆயிரம் அம்பிக்கு நாயகன்' என்று போற்றப் படுபவர் யார்?
8. 'சித்திரக் கூடத்தின் செல்நெறி பகர்' என்றது யார்?
9. திருநாளைப் போவார் ஊர் எது?
10. மங்கையர்க் கரசியார் எந்நெறியினைப் போற்றி வளர்த்தார்?

பகுதி – II **(5 x 7 = 35)**

எவையேனும் ஐந்து வினாக்களுக்கு விடையளிக்க.

11. அ) மதுரை செல்ல மறையவன் கூறிய பாதையினை விவரி?
(அல்லது)
ஆ) 'வையை' வளமிகு பெருநதி – விளக்குக?

12. அ) எட்டிகுமரன் அடைந்த துன்பத்தின் காரணங்கள் யாவை?
(அல்லது)
ஆ) இந்திர விழாவை வள்ளுவன் அறிவித்த விதம் யாது?

திருப்புக —

CODE : 18P3TMC11 QN.NO : 6754

TITLE : அய்யய இலக்கியம்

13. அ) தத்தையின் திருமணத்தை அறிவித்த பாதத்தினை விவரி?

(அல்லது)

ஆ) தத்தையை சீவகன் எவ்வாறு யாழ்ப் போரில் வெல்கிறான்? விளக்குக.

14. அ) நாவாய் வேட்டுவன் யார்? தோற்றத்தினை விளக்குக.

(அல்லது)

ஆ) குகன், இராமன் சந்திப்பு குறித்து விவரிக்க?

15. அ) இளையான்குடி மாறநாயனாருக்கு சிவன் காட்சி தந்த விதம் யாது?

(அல்லது)

ஆ) நின்றசீர் நெடுமாறனின் பக்தியினைப் புலப்படுத்துக?

பகுதி – III **(3 x 10 = 30)**

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. கொற்றவையின் தோற்றப் பொலிவினை விவரிக்க?

17. மலர்வனம் புக்க காதை தரும் செய்திகளைத் தொகுத்துரைக்க?

18. சுரமஞ்சரி – சீவகன் திருமண நிகழ்வினைக் கட்டுரை வடிவில் தருக.

19. குகப்படலத்தில் கம்பர் உறும் மனித நேயப் பண்வினை விவரி?

20. பூசலாரின் சிவ பக்தியினைக் கட்டுரைக்க?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., தமிழ் **COURSE CODE : 18P3TMC12**

COURSE TITLE : இலக்கணக் கோட்பாடுகள் (பொருள் - I) **QN.NO : 6755**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1) அன்பின் ஐந்திணைகளைச் சுட்டுக?
2) முந்நீர் வழக்கம் யாருடன் இல்லை?
3) நிறைகோடல் எத்திணையைச் சார்ந்தது?
4) முன்தேர்க் குறவை எத்திணையைச் சார்ந்தது?
5) நிச்சமும் பெண்பாற்குரியவை எவை?
6) தோழி யாருடைய மகளாகச் சுட்டப்படுகிறாள்?
7) கொடுப்போர் இன்றி எது உண்டு?
8) எத்திறத்தானும் கீழத்திக்கு இல்லை - எக்கிளவி?
9) உறுகண் ஆம்பல் யாருடைய இயல்பு?
10) களவில் தலைமகன் ஊர்ந்து செல்பவை எவையெவை?

பகுதி – II **(5 x 7 = 35)**

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11) அ) முதற்பொருள் என்றால் என்ன? அதன் வகைகளை எழுதுக? (அல்லது)
ஆ) பரிவொழுக்க முறைகளைச் சுட்டுக?
12) அ) வெட்சித்திணையின் இலக்கணம் உரி, அதன் துறைகளை வரி? (அல்லது)
ஆ) தும்பைத் திணையின் இயல்புகளை விளக்கு?
13) அ) இயற்கைப் புணர்ச்சியின் தன்மைகளை ஆய்க?
ஆ) குறியிடத்துக் கூட்டம் என்பதன் பொருளை எழுதுக?
14) அ) கற்பு மணம் குறித்த செய்திகளை வரி? (அல்லது)
ஆ) வாயிலோர் உற்று நிகழ்விடங்களைச் சுட்டுக?
15) அ) வரைவின் முறைகளை எழுதுக? (அல்லது)
ஆ) புலனெறி வழக்குகள் குறித்து விளக்குக?

(P.T.O)

CODE : 18P3TMC12 QN.NO : 6755

TITLE : இலக்கணக் கோட்பாடுகள் (பொருள் -1)

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16) கருப்பொருள் என்றால் என்ன? அதன் வகைகளை எழுது!

17) பாடாண் திணையின் பிறப்புகளை யாவர்?

18) களவின் கண் நிகழும் தலைவன் உற்றுக்களை வாளக்குக?

19) கற்பியலில் தோழி உயிரின் முக்கியத்துவத்தை ஆய்க?

20) கூற்று என்றால் என்ன? அதில் ஒருபாற் கூற்றினை யாவர்?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., தமிழ் **COURSE CODE : 18P3TMC13**

COURSE TITLE : சிற்றிலக்கியங்கள் **QN.NO : 6756**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

பின்வரும் வினாக்களுக்கு ஓரிரு வரிகளில் விடை தருக.

1. குமரகுருபரர் இயற்றிய குறவஞ்சி இலக்கியம் எது?

2. குறி சொல்வதற்குக் கூலியாகக் குறத்தி கேட்பவை என்ன?

3. கலம்பகத்தின் உறுப்புகள் எத்தனை?

4. முத்தமிழும் விளங்குகின்ற மாநகரம் எது?

5. 'போதகம்' என்பதற்குப் பொருள் தருக.

6. 'சதுரர்கள்' என்பதற்குப் பொருள் தருக.

7. மூன்று நதிகள் கூடுமிடத்தை எவ்வாறு அழைப்பர்?

8. மழைக்குறி குறித்துப் பாடப்படும் சிற்றிலக்கியம் எது?

9. 'நிரை' என்பது எதைக் குறிக்கிறது?

10. 'கிள்ளை' என்பதன் பொருள் யாது? (பி.ப.பா...)

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. (அ) பாண்டியர்களின் பெருமைகளை மூவர் உலா எங்ஙனம் கூறுகிறது.

(அல்லது)

(ஆ) அழகர் கிள்ளை விடு தூது கூறும் திருமாலிருஞ்சோலையின் சிறப்புக்களை எழுதுக.

12. (அ) பிள்ளைத்தமிழ் கூறும் வருகைப் பாடற் கருத்தை எழுதுக.

(அல்லது)

(ஆ) மழைக்குறி பற்றி முக்கூடற்பள்ளு கூறுவனவற்றை எழுதுக.

13. (அ) கூழ் அடுதல் பற்றி கலிங்கத்துப்பரணி கூறுவனவற்றை எழுதுக.

(அல்லது)

(ஆ) போர்க்கள நிகழ்வுகளைக் கலிங்கத்துப்பரணி வாயிலாக எழுதுக.

14. (அ) அடியார்களை ஆட்கொள்ளும் திறத்தை மதுரைக் கலம்பகம் மூலம் கூறுக.

(அல்லது)

(ஆ) சிவபெருமானின் தோற்றத்தை மதுரைக் கலம்பகம் எங்ஙனம் கூறுகிறது?

15. (அ) குறவஞ்சி இலக்கியம் கூறும் மலைவளத்தை எழுதுக.

(அல்லது)

(ஆ) குமரகுருபரர் வெளிப்படுத்தும் மீனாட்சியம்மையின் அழகு பற்றி எழுதுக.

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. அழகர் கிள்ளை விடு தூது வெளிப்படுத்தும் செய்திகளை விளக்குக.

17. முக்கூடற்பள்ளு கூறும் நாட்டுவளத்தை விவரி.

18. கலிங்கத்துப்பரணி குறிப்பிடும் போர் பாடியது பாடற்கருத்தை விளக்குக.

19. சிவபெருமானின் சிறப்புக்களாக மதுரைக் கலம்பகம் கூறுவனவற்றை விளக்குக.

20. மீனாட்சியம்மையின் சிறப்புக்களை குமரகுருபரர் எங்ஙனம் வெளிப்படுத்துகிறார்?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., தமிழ் **COURSE CODE : 18P3TMC14**

COURSE TITLE : மொழிபெயர்ப்பியல் **QN.NO : 6757**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1) 'மொழிபெயர்ப்பைச் சீமை ஓட்டைப் பிரித்து கீற்றுவைக்கும் வேலை போன்றது' என்றவர் யார்?

2) வடமொழிச் சொற்கள் தமிழில் பயிலும்முறை குறித்த தொல்காப்பிய நூற்பா யாது?

3) கவிதை மொழிபெயர்ப்பாளனின் கடமை யாது?

4) Popular Translation - என்றழைக்கப்படுவது எது?

5) எதை உருபன் என்று அழைக்கிறோம்?

6) ஒப்பொலியாக்கத்திற்கு சான்று தருக.

7) 'Equivalents' - பொருள் யாது?

8) மொழிபெயர்ப்பின் நோக்கம் எப்பொழுது நிறைவேறும்?

9) மொழிபெயர்ப்பாளன் பெயர்ப்பில் தடுமாறும் இடங்கள் எவை?

10) தமிழில் தருக: Sorrows never come in single.

பகுதி – II **(5 x 7 = 35)**

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11. அ) மொழிபெயர்ப்பு குறித்து விளக்குக.

(அல்லது)

ஆ) மொழிபெயர்ப்பாளருக்கான தகுதிகள் குறித்து விளக்குக.

12. அ) அறிவியல் மொழிபெயர்ப்பு எவ்வாறு அமைய வேண்டும்.

(அல்லது)

பி.ப.பா...

CODE : 18B3TMC14 QN.NO : 6757

TITLE : மொழிபெயர்ப்பியல்

ஆ) கவிதை மொழிபெயர்ப்பு குறித்து விளக்குக.

13. அ) கலைச்சொல்லாக்கம் குறித்து விளக்குக. (அல்லது)

ஆ) இணைவமைதி குறித்து எழுதுக.

14. அ) மொழிபெயர்ப்பு நிகரன்கள் குறித்தும் வகைகள் குறித்தும் விளக்குக. (அல்லது)

ஆ) உவம, உருவக வழக்குகள் குறித்து விளக்குக.

15. அ) மொழிபெயர்ப்பாளர்கள் எதிர்க்கொள்ளும் சிக்கல்கள் குறித்து எழுதுக. (அல்லது)

ஆ) தமிழாக்கம் செய்க:

1) After a Dinner sit a while

2) Bind the twig. Bend the Tree.

3) Blood is thicker than water.

4) Kill two birds with one stone.

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. மொழிபெயர்ப்பின் நோக்கம் குறித்து கட்டுரைக்க.

17. பத்திரிக்கை மொழிபெயர்ப்பு குறித்து விரித்துரைக்க.

18. இலக்கணத்தைத் தகவுற அமைக்கும் முறை குறித்துத் தொகுத்துரைக்க.

19. மொழிபெயர்ப்பின் மூன்றுபடிநிலைகள் குறித்து கட்டுரைக்க.

பி.ப.பா

20. [illegible] [illegible].

POLLUTION

Pollution is when some harmful substances are added in the environment which later its natural composition. Polluted water or garbage in the waterbodies is a type of Pollution. It adds germs and viruses. There are five kinds of pollution: Water Pollution, air Pollution, noise Pollution, Soil Pollution and thermal Pollution. But two more also added that are nuclear and visual Pollution.

As Pollution grows, ways to combat it have grown. Solar energy and wind energy give people clean ways to power their homes. When people use these alternative forms of energy, they put less carbon-di-oxide into the environment.

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THE MADURA COLLEGE (Autonomous), MADURAI – 625 011

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., தமிழ் **COURSE CODE : 18P3TMC15**

COURSE TITLE : நாட்டுப்புறவியல் **QN.NO : 6758**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1) நாட்டுப்புற கியலின் தந்தை என அழைக்கப்படுபவர் யார்?

2) 'கதாக்கள்' என அழைக்கப்பெறுவன யாவை?

3) நட்சத்திரக் கணவன் கதை என்ற நூலின் ஆசிரியர் யார்?

4) நாட்டுப்புறவியலில் நாடகம் கோட்பாட்டை உருவாக்கியவர் யார்?

5) மனவருளி என்ற நூலின் ஆசிரியர் யார்?

6) நாட்டுப்புற மக்கள் எத்தனை இரண்டு கண்களாகப் பார்க்கின்றனர்?

7) நிலம்பாட்டத்தின் அடையாளமாகக் கருதப்படுபவை எவை?

8) கல்லிலே கலை வடிப்பதற்கான பயிற்சிக்கூடம் எங்குள்ளது?

9) பண்டைய தமிழரின் நம்பிக்கைகளைப் பற்றி அறிய உதவும் நூல் எது?

10) மயானக் கொள்ளை என்னும் விழா எந்தக் கடவுளுக்கு எடுக்கும் விழா?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11) அ) நாட்டுப்புறவியல் என்றால் என்ன? அதன் தன்மைகளை எழுதுக. (அல்லது)

ஆ) மக்கள் வாழ்வில் பழமொழிகளின் பயன் பாட்டை விளக்குக?

12) அ) வரலாற்று நிலையில் கோட்பாடு குறித்து எழுதுக? (அல்லது)

ஆ) செயல்பாட்டியல் கோட்பாடு பற்றி விவரி?

P.T.O.

CODE : 18P3TMC15 QN.NO : 6758

TITLE : நாட்டுப்புறவியல்

13) அ) நாட்டுப்புறப் பாடல் வகைகளை விவரி? (அல்லது)

ஆ) தொழில் பாடல்களின் சிறப்பினை ஆராய்க.

14) அ) இயலாட்டத்தின் அமைப்பு முறையினைக் கட்டுரைக்க? (அல்லது)

ஆ) கைவினைக் கலைகளின் தற்கால நிலையை ஆய்க?

15) அ) நாட்டுப்புற நம்பிக்கைகள் குறித்து எழுதுக? (அல்லது)

ஆ) நாட்டுப்புற விளையாட்டுகளை வரிசைப்படுத்துக?

(3 x 10 = 30)

பகுதி – III

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16) நாட்டுப்புறக் கதைப் பாடல்களின் சிறப்பினைக் கட்டுரைக்க?

17) நாட்டுப்புறவியலில் காணலாகும் கொட்பாடுகள் குறித்து எழுதுக?

18) தாலாட்டுப் பாடலின் தன்சிறப்பினை ஆராய்க?

19) மக்களை மகிழ்விப்பவை நாட்டுப்புறக் கலைகள் யாவர்?

20) நாட்டுப்புறத் தெய்வங்கள் குறித்து எழுதுக?

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THE MADURA COLLEGE (Autonomous), MADURAI – 625 011

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - தமிழ்

COURSE TITLE : போட்டித்தேர்வு

TIME : 3 Hours

COURSE CODE : 18P3TNM1

QN.NO : 6759

MAX.MARKS :75

பகுதி – I (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1) திணை என்ற சொல்லோடு வழங்கப்படும் தொகை நூல் எது?

2) 'கள்வன்' இச்சொல் யாரைக் குறிக்கிறது?

3) சொல்கின்ற சொல்லால் அமைவது எது?

4) இரட்டைக்காப்பியம் என வழங்கப்படும் நூல்கள் எவை?

5) உய்யானம் – பொருள் தருக?

6) இருசுடர் – பொருள் தருக?

7) வழிபடும் அடியவர்களுக்கு உயர்ந்த குலத்தைத் தருவது எது?

8) மடமை எனப் பாவேந்தர் குறிப்பிடுவன யாவை?

9) போற்றி போற்றி எனப் பாரதியார் கூறுவன எவருக்கு?

10) தீயிட்டுப் பொசுக்க வேண்டியது எது?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் இருபக்க அளவில் விடையளிக்க.

11) அ) 'அகவன் மகளே என்ற பாடல் எழுந்த சூழலை விளக்குக!
(அல்லது)
ஆ) சுடர்க்கொடி கேளாய் என்ற குறிஞ்சிக்கலி பாடற்சிறப்பை விவரி?

12) அ) நடுவுநிலைமை பற்றி வள்ளுவரின் கருத்தை ஆராய்க?
(அல்லது)
ஆ) சொல்வன்மையின் சிறப்புகளை எழுது?

13) அ) சிலப்பதிகாரத்தின் அமைப்பு முறையை விவரி?
(அல்லது)
ஆ) உவவனம் புகுந்த காதை வழி அறியும் செய்திகளை ஆய்க?

14) அ) சிவபெருமானிடத்து அப்பர் கொண்ட உறவுமுறைகளை எழுது?
(அல்லது)
ஆ) சுந்தரரை இறைவன் ஆட்கொண்ட விதத்தை விவரி?

பி.ப.பா...

CODE : M.A. TAMIL QN.NO : 6759

TITLE : போட்டித்தேர்வு -2-

15) அ) 'செய்யும் தொழிலே தெய்வம்' - பாடற்கருத்தை ஆய்க?

ஆ) பாரதி யாருக்கு (அல்லது) ஓராயிரம் போற்றி சொல்கின்றார்?

பகுதி – III (3 x 10 = 30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16) சங்கப் பாடலில் காணலாகும் இலக்கிய நயத்தை எடுத்துரைக்க?

17) நீதி நூல்களில் திருக்குறள் பெறுமிடத்தை ஆராய்க?

18) இந்திர விழவு ஊர் எடுத்த காதையின் சிறப்பனை எழுது?

19) இறைவனை வழிபடும் முறைகுறித்து மாணிக்கவாசகரின் கருத்தை எழுது?

20) ஒன்றே சமூகம் என்ற பாரதிதாசனின் கருத்தை விளக்கு?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : M.A., Tamil **COURSE CODE : 18P4TMC16**
COURSE TITLE : பண்டைய இலக்கியம் **QN.NO : 6760**
TIME : 3 Hours **MAX.MARKS :75**

பகுதி – 1 (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. 'தேன் கமழ் ஐம்பால்' – பொருள் தருக.
2. 'மருந்தெனினும் மருந்தே' என்று தொடங்கும் சங்கப் பாடலை இயற்றியவர் யார்?
3. 'இருதலைப் புள்ளின் ஓர் உயிரம்மே' என்று காட்சி தருபவர்கள் யாவர்?
4. மருதக்கலியின் ஆசிரியர் யார்?
5. 'கவுள்' – பொருள் தருக.
6. 'இருமுந்நீர் குட்டம்' என்று தொடங்கும் சங்கப்பாடலை இயற்றியவர் யார்?
7. பொருநராற்றுப்படையின் அடி அளவினைக் கூறுக.
8. முல்லை நிலத்துக் கானவர் பாடும் பண்ணின் பெயர் எது?
9. தக்க நேரத்தில் செய்த உதவி எதைக் காட்டிலும் பெரிது?
10. ஆண்பனைக்கு ஒப்பானவர் யார்?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் விடையளிக்க.

11. அ) புன்னை மரத்தினை தமக்கையாகப் போற்றும் தலைவியின் உள்ளத்தை நற்றினை எங்ஙனம் எடுத்துரைக்கின்றது விளக்குக.

(அல்லது)

ஆ) தோழி அறத்தொடு நிற்கும் சிறப்பினை குறுந்தொகை வழி ஆராய்க.

12. அ) 'ஒன்று இரப்பான் போல் எளி வந்தும்' எனத் தொடங்கும் கலித்தொகைப் பாடல் கருத்தினை விளக்கி வரைக.

(அல்லது)

ஆ) பாசறையில் தலைமகன் தன் நெஞ்சிற்கு கூறிய மொழிகளை அகநானூறு அடிகள் வழி ஆராய்க.

13. அ) களங்காய்கண்ணி நார்முடிச் சேரலின் பொறையுடைமைச் சிறப்பினை எழுதுக.

(அல்லது)

ஆ) சேரமான் யானைக்கட்சேய் மாந்தரஞ்சேரல் இரும்பொறையின் வாகைச் சிறப்பினை புறநானூறு வழி விளக்குக.

14. அ) பொருநராற்றுப்படையில் இடம்பெறும் யாழ் வருணனையை விளக்குக.

(அல்லது)

ஆ) கரிகாலனின் கொடைச் சிறப்புகளை ஆராய்க.

15. அ) பொழுது கண்டு இரங்கும் தலைவியின் மனநிலையை வள்ளுவன் வழி ஆராய்க.

(அல்லது)

ஆ) நாலடியார் எடுத்துரைக்கும் பெரியாரைப் பிழையாமை பாடற்கருத்துக்களை ஆராய்க.

பகுதி – III (3x10=30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. நும்பாடப்பகுதியில் குறுந்தொகை தலைவன் கூற்றில் அமைந்த பாடல்களின் தன்மைகளை ஆராய்க.
17. இடைச்சுரப்பத்து புலப்படுத்தும் தலைவன் தலைவியின் அன்பினை விவரிக்க.
18. வையைப் புனலின் வனப்பினை பரிபாடல் வழி விளக்குக.
19. சோழன் கரிகால் பெருவளத்தானின் விருந்தோம்பும் சிறப்பினை பொருநராற்றுப்படை வழி ஆய்க.
20. ஈகையின் சிறப்புகளை நாலடியார் வழி ஆராய்க.

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THE MADURA COLLEGE (Autonomous), MADURAI – 625 011

(AFFILIATED TO MADURAI KAMARAJ UNIVERSITY)

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : M.A., Tamil **COURSE CODE : 18P4TMC17**

COURSE TITLE : இலக்கணக் கோட்பாடுகள் பொருள் - II **QN.NO : 6761**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – 1 (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. புதுமுகம் புரிதல் என்றால் என்ன?
2. வினை உவம உருபுகள் எத்தனை?
3. முற்றியலுகரம் என்றால் என்ன?
4. அளவடியும் சிந்தடியும் எப்பாவிற்குரியது?
5. ஆசிரியப்பாவின் ஓசை எது?
6. கட்டுரை என்றால் என்ன?
7. உரைநடை வகைகள் எத்தனை?
8. தொன்மை என்பது என்ன?
9. குதிரையுள் ஆணினை எவ்வாறு அழைக்கலாம்?
10. நூல் எத்தனை வகை உத்திகளைக் கொண்டது?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் விடையளிக்க.

11. அ) "சிறந்த பத்தும் செப்பிய பொருளே" – விளக்குக.

(அல்லது)

ஆ) உவம உருபுகளைப் பட்டியலிடுக.

12. அ) தொடை வகைகளை நிரல்படுத்துக.

(அல்லது)

ஆ) அடி வகைளை எடுத்தியம்புக.

13. அ) எதுகை, மோனை முரண் ஆகியவற்றைச் சான்றுகளுடன் எடுத்துரைக்க.

(அல்லது)

ஆ) விளக்கி எழுதுக: **அ)** வாயுறை வாழ்த்து **ஆ)** புறநிலை வாழ்த்து

14. அ) நூல் குறித்து விளக்குக.

(அல்லது)

ஆ) குறிப்பு வரைக: **அ)** முன்னம் **ஆ)** பொருள் வகை **இ)** துறை.

15. அ) இளமைப்பெயர்கள், ஆண்பாற்பெயர்கள், பெண்பாற்பெயர்கள் போன்றவற்றை வரிசைப்படுத்துக.

(அல்லது)

ஆ) "ஒத்த காட்சி உத்திவகை விரிப்பின்....." எனத் தொடங்கும் நூற்பாவை விளக்குக.

பகுதி – III (3x10=30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. உவமையியல் கருத்துக்களைத் தொகுத்துரைக்க.
17. அசை, சீர் குறித்துக் கட்டுரைக்க.
18. கலிப்பாவின் உறுப்புக்கள் குறித்து ஆய்க.
19. வண்ணங்களின் வகைகளை விளக்கி வரைக.
20. ஓரறிவு உயிர் முதல் ஆறறிவு உயிர் வரை உள்ள உயிர்களின் வகைகளை விவரிக்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : M.A., Tamil **COURSE CODE : 18P4TMC18**

COURSE TITLE : தொல்லியல் **QN.NO : 6762**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – 1 **(10 x 1 = 10)**

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. இந்தியத் தொல்லியலின் தந்தை என்று அழைக்கப்படுபவர் யார்?
2. மண் அடுக்குமுறை ஆய்வை அறிமுகம் செய்தவர் யார்?
3. தமிழகத்தில் காணப்படும் பண்டையத் தமிழ் எழுத்துக்களை 'தமிழ்பிராமி' என்று அழைத்தவர் யார்?
4. கல்வெட்டின் தொடக்கத்தில் எவை அமையும்?
5. கப்பலைக் கோட்டோவியமாக வரைந்த பானை ஓடு எங்கு கிடைத்துள்ளது?
6. உலகின் முதல் பொருளாதார நூல் என்று வர்ணிக்கப்படுவது எது?
7. புள்ளிமான் கோம்பை நடுகல்லில் குறிப்பிடப்படும் வீரன் யார்?
8. ஓலைகளை வெட்டும் கத்தி எவ்வாறு அழைக்கப்படும்?
9. கீழடி ஆய்வில் எவற்றால் ஆன பகடை கிடைத்தது?
10. 'தாழிக்காடு' என்று அழைக்கப்படும் இடம் எது?

பகுதி – II **(5 x 7 = 35)**

அனைத்து வினாக்களுக்கும் விடையளிக்க.

11. அ) தொல்லியலின் பல்வேறு முறைகள் குறித்தெழுதுக.

(அல்லது)

ஆ) தொல்லியலாளரின் தகுதிகள் யாவை?

12. அ) கிரந்த எழுத்து – குறிப்பு வரைக.

(அல்லது)

ஆ) கல்வெட்டுக்களின் தனிச்சிறப்பினை எடுத்துரைக்க.

13. அ) நதிக்கரை நாகரீகங்கள் எவ்வாறு வளர்ச்சி பெற்றன?

(அல்லது)

ஆ) பண்டைய வணிகமுறைகள் குறித்து விளக்குக.

14. அ) 'குடைவரை கோயில்கள்' – குறிப்பு வரைக.

(அல்லது)

ஆ) சுவடிகளின் பயன்பாடு குறித்து விளக்குக.

15. அ) சிந்துச் சமவெளி நாகரீகத்தின் சிறப்புக்கள் யாவை?

(அல்லது)

ஆ) ஆதிச்சநல்லூர் அகழாய்வு குறித்து விளக்கியுரைக்க.

பகுதி – III **(3x10=30)**

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. தொல்லியலின் தோற்றம் மற்றும் வளர்ச்சி பற்றி கட்டுரை வரைக.
17. தமிழ் எழுத்துக்களின் பல்வேறு வளர்ச்சி நிலைகள் குறித்து ஆராய்க.
18. பாறை ஓவியங்களுக்கும் அரண்மனை ஓவியங்களுக்கும் உள்ள வேறுபாடுகள் யாவை?
19. பண்டையத் துறைமுகங்களும் வாணிக முறைகளும் எவ்வாறு இருந்தன என்பதை விளக்கி வரைக.
20. 'அகழாய்வுகள்' – அன்றும் இன்றும் ஆராய்க

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : M.A., Tamil **COURSE CODE : 18P4TMC19**
COURSE TITLE : ஒப்பிலக்கியம் **QN.NO : 6763**
TIME : 3 Hours **MAX.MARKS :75**

பகுதி – 1 (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. 'போரும் அமைதியும்' நூலின் ஆசிரியர் யார்?
2. ஒப்பியல் நோக்கில் சங்ககாலம் நூலின் ஆசிரியர் யார்?
3. இலக்கிய ஒப்பீட்டுக் கழகம் தோன்றிய இடம் எது?
4. 'ஒப்பீட்டிற்காக ஒப்பீடு' என்பதை மறுத்தவர்கள் யார்?
5. இளிவரல் என்ற மெய்ப்பாடு எந்த காரணங்களில் தோன்றும்?
6. உள்ளுறை உவமம் எதனை இடமாகக் கொண்டு தோன்றும்?
7. மனித இன வரலாற்றை ஐந்து பிரிவாக பிரித்தவர் யார்?
8. அவலப்பாடல்களின் தந்தை எனக் கிரேக்கர்கள் யாரை அழைக்கின்றனர்?
9. வள்ளத்தோள் தனது குருநாதர் என்று யாரைக் குறிப்பிடுகிறார்?
10. குமாரன் ஆசானின் குரு யார்?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் விடையளிக்க.

11. அ) ஒப்பிலக்கியம் என்பதன் வரைவிலக்கணம் யாது?

(அல்லது)

ஆ) நான்கு வகை இலக்கியப் பார்வைகள் குறித்து விளக்கு.

12. அ) பிரெஞ்சுக் கோட்பாடு பற்றி விளக்குக.

(அல்லது)

ஆ) அமெரிக்கக் கோட்பாடு பற்றி விளக்குக.

13. அ) தொல்காப்பியரின் மெய்ப்பாட்டியலும் வடமொழி ரசக்கோட்பாடும் விளக்குக.

(அல்லது)

ஆ) உள்ளுறை, இறைச்சி விளக்குக.

14. அ) பாரதியும் ஷெல்லியும் ஒப்பீட்டு நோக்கில் விளக்குக.

(அல்லது)

ஆ) கம்பனும் மில்டனும் ஒப்பீட்டு நோக்கில் விளக்குக.

15. அ) பாரதியும் குரஜாட வேங்கட அப்பாராவும் விளக்குக.

(அல்லது)

ஆ) பாரதிதாசனும் குமாரன் ஆசானும் ஒப்பீட்டு விளக்குக.

பகுதி – III (3x10=30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. ஒப்பிலக்கியம் தோற்றம் வளர்ச்சி குறித்து கட்டுரை வரைக.
17. ஒப்பிலக்கியக் கோட்பாடுகள் குறித்து கட்டுரை வரைக.
18. தமிழ் வடமொழி இலக்கிய ஒப்பீடு பற்றி விவரி.
19. தமிழ் மேனாட்டு இலக்கிய ஒப்பீடு பற்றி விவரி.
20. தமிழ்க் கவிஞர்களும் பிற இந்திய மொழிக் கவிஞர்களும் குறித்து ஒரு கட்டுரை வரைக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : M.A., Tamil **COURSE CODE : 18P4TMC20**

COURSE TITLE : விளம்பரக்கலை **QN.NO : 6764**

TIME : 3 Hours **MAX.MARKS :75**

பகுதி – 1 (10 x 1 = 10)

அனைத்து வினாக்களுக்கும் ஓரிரு வரிகளில் விடை தருக.

1. மக்களுடைய நுகரும் சக்தியைத் தூண்டுவது எது?
2. காப்பித்தூள் பற்றிய விளம்பரம் எந்த ஆண்டு வெளிவந்தது?
3. விளம்பர வாயில் என வழங்கப்படுவது எது?
4. நுகர்வோரது விளைவை மதிப்பிட உதவுவது எது?
5. படைப்பாற்றல் மிகுந்த விளம்பரத்திற்குச் சான்று தருக.
6. 'Image Advertising' என்றால் என்ன?
7. போட்டியாளர் திறனாய்வு என்றால் என்ன?
8. 'விளம்பரத்தின் விளைவு' - குறிப்பு வரைக.
9. நுகர்வோர் விளம்பரத்திற்குச் சான்று தருக.
10. சந்தையில் ஆராய்ச்சி முடிவுகளைக் கணக்கிடுபவர் யார்?

பகுதி – II (5 x 7 = 35)

அனைத்து வினாக்களுக்கும் விடையளிக்க.

11. அ) விளம்பரம் என்றால் என்ன? விளக்குக.

(அல்லது)

ஆ) விளம்பர மூலங்கள் குறித்து எழுதுக.

12. அ) விளம்பரத்தின் நோக்கங்கள் யாவை? விவரி

(அல்லது)

ஆ) துறை விளம்பரங்கள் என்றால் என்ன? விளக்குக.

13. அ) விளம்பர நிறுவனங்களுக்குரிய ஒழுக்க நெறிகள் குறித்து எழுது.

(அல்லது)

ஆ) விளம்பரப்படம் எடுக்கும்போது கவனத்தில் கொள்ளவேண்டியவை யாவை? விளக்குக.

14. அ) விளம்பரம் வெளியிடுவதில் உள்ள பதிப்புரிமைச் சட்டங்களை விவரி

(அல்லது)

ஆ) தடை செய்யப்பட்ட விளம்பரங்கள் குறித்து எழுது.

15. அ) விளம்பர நிறுவன விருதுகள் குறித்து எழுது.

(அல்லது)

ஆ) விளம்பர ஆராய்ச்சி அமைப்புகள் பற்றி எழுதுக.

பகுதி – III (3x10=30)

எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக

16. இந்திய விளம்பர வரலாறு குறித்து கட்டுரை வரைக.
17. விளம்பரத்தின் வகைகள் குறித்து விளக்குக.
18. நல்ல விளம்பர நகலின் சிறப்பியல்புகளைப் பட்டியலிடுக.
19. விளம்பரக் கட்டுப்பாட்டுச் சட்டங்கள் தேவையா? ஏன்? ஆராய்க.
20. விளம்பர பட்ஜெட் தயாரித்தல் குறித்து விளக்குக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., **COURSE CODE : 17U4SLA4**

COURSE TITLE : Sanskrit – IV **QN.NO : 7024**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. **What is the date of Jayasimhasuri**
   a) 10th CenturyAD b) 11th CenturyAD c) 12th CenturyAD d) 9th CenturyAD
2. **What is the date of** शेषकृष्ण
   a) 10th CenturyAD b) 11th CenturyAD c) 16th CenturyAD d) 9th CenturyAD
3. **Who is the author of Karunabharam**
   a) Basa b) Kalidasa c) Nilakantha Dikshitha d) Bana
4. **What is the date of Jayadeva**
   a) 4th CenturyAD b) 13th CenturyAD c) 5th CenturyAD d) 9th CenturyAD
5. कुलशेखरवर्म Lived in-----
   a) Madurai b) Trichy c) Kerala d) Tanjore
6. Who is the author of मालविकाग्निमित्रम्
   a) Kalidasa b) Bana c) Bharavi d) Lilasuka
7. How many act in चारुदत्तम्
   a) 4 act b) 5 act c) 6 act d) 7 act
8. what do you mean by सूत्रधार:
   a) King b) Stage Manager c) Minister d) Vidhushka
9. Who is शक्र:
   a) Indra b) Karuna c) Krishna d) Salya
10. What do you mean by सहस्त्रम्
    a) Ten b) Thousand c) Hundred d) Lakhs

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. A. Write a short note on Karunabharam

Or

B. Wrtie a short note on Svapanavasadattam

12 A. Write a short note on Kalidasa

Or

B Write a short note on Bhattanarayana

13 A Write a short note on Harshavardhana

Or

B How does Karuna overcome his mental depression

14. Annotate

A. अस्ति खलु भगवत: क्षत्रियवम्श्यै:

Or

B सूर्य इव चन्द्र इव हिमवानिव सागर इव तिष्ठतु ते यश:

15. Annotate

A हतेषु देहेषु गुणा धरन्ते

Or

B सपदि बहुसहस्त्रम् वाजिनाम् ते ददामि

PART – C

Answer any THREE questions. (3 x 10 = 30)

16. What are the sources of the Karunabharam

17. Justify the title Karunabharam or what is the Basa of Karuna referred to in the title?

18. Summarise Origin of Sanskrit Drama

19. Summarise Types of Sanskrit Drama

20. Sketch the Character of Karuna

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., **COURSE CODE : 17U4HLA4**

COURSE TITLE : Hindi - IV **QN.NO : 7039**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. हरिगीतिका छंद में कितने मात्राएँ होते हैं?
① 15 ② 18 ③ 28 ④ 12

2 रौद्र रस की स्थायी भाव क्या है?
① क्रोध ② शोक ③ वीर ④ हर्ष

3 निर्गुण भक्ति धारा के प्रवर्तक कवि कौन है?
① रामानंद ② कबीरदास ③ तुलसीदास ④ सूरदास

4 "सूरसागर" के कवि का नाम क्या है?
① सूरदास ② कबीरदास ③ तुलसीदास ④ मीराबाई

5 "एक पाव" के रचनाकार कौन है?
① प्रेमचन्द ② प्रसाद जी ③ भगवतीचरण वर्मा ④ भण्डारी

6 "एक पाव" के विधा क्या है?
① कहानी ② उपन्यास ③ जाटक ④ निबंध

7 कन्याकुमरी में —— का मंदिर है।
① कामाक्षी ② सुन्दरी ③ अम्मन ④ भगवती देवी

8 मीनाक्षी देवी मंदिर —— नहर में बसा है।
① चेन्नै ② सेलम ③ मदुरै ④ करूर

9 कर्ता कारक का उदाहरण क्या है?
① राम खाता है। ② राम से मिला ③ सीता की बहन
④ आँखों से अंधा

10 इस में समुच्चय बोधक क्या है?
① मैं ② पर ③ हम ④ और

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

सभी प्रश्नों के उत्तर दीजिए।

11 (a) शृंगार रस की परिभाषा लिखिए उदाहरण के साथ लिखिए :-

(या)

(b) "रौला" और हरिगीतिका" परिभाषा लिखिए। उदाहरण दीजिए।

12 (a) "सूरदास" का जीवन परिचय लिखिए।

(या)

(b) 'भक्ति काल' में मुख्य कवियों के बारे में लिखिए

13 (a) 'सुधा' का पात्र परिचय लिखिए :-

(या)

(b) 'मोहन' का पात्र परिचय लिखिए :-

14 (a) "मीनाक्षी मंदिर" के बारे में एक निबंध लिखिए।

(या)

(b) "कन्याकुमारी" - एक निबंध लिखिए।

15 (a) "समुच्चय बोधक" परिभाषा, उदाहरण के साथ लिखिए।

(या)

(b) "विस्मयादी बोधक" क्या कहते हैं? उदाहरण के साथ लिखिए।

PART – C

(3 x 10 = 30)

Answer any THREE questions.

16 "अकै पाव" उपन्यास कला की आधार पर उसकी विशेषताएँ लिखिए :-

17 ① "वीर रस" की परिभाषा लिखिए।
② 'दोहा' छंद में कितने मात्राएँ होती है।
③ 'यमक' अलंकार के भेदों को लिखिए।

18 कबीदास के भक्ति भावना पर प्रकाश डालिए।

19 "ताजमहल" के बारे में एक निबंध लिखिए।

20 "कारक" क्या कहते है। कितने है ? उदाहरण के साथ लिखिए :-

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 17U1NEK1**

COURSE TITLE : Business English - I **QN.NO : 7221**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Symbols can be used for both _____and expressive communications.
   a)perspective b) hostile c) perception d) receptive
2. Posters are designed to be eye-catching and _____.
   a) influential b)interactive c) informative d)formative
3. Assessment is otherwise called as _____.
   a) evaluation b)refrain c) declassification d)catch phrase
4. A job interview is a formal consultation for evaluating the qualifications of the _____for a specific position.
   a) Interviewer b) interviewee c) inquirer d)canvasser
5. The main PR activities are_____ and event management.
   a) Sponsorship b) exhibition c) publicity d) lobbying
6. Usually, PR and marketing have been functionally, _____
   a) united b)separated c) merged d)combination
7. The second vision of Kalam is_____
   a)sovereignty b)liberty c)freedom d) development
8. Marie Curie won the Nobel Prize in _____
   a) physics b) mathematics c)chemistry d)zoology
9. A nation is broken up into fragments by narrow _____ walls
   a) boundary b)public c) domestic d)private
10. _____ is the subtitle of the poem, The Pulley.
    a)the coming of God b)the blessings of God
    c) the sayings of God d)the gifts of God

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Define fax and list out some of its features.

(OR)

b) What is Verbal Communication and explain its type.

12.a) List out some the steps to prepare for interview.

(OR)

b)Comment on under-stress interview.

13. a) What is house organ and explain its purpose?

(OR)

b) Write a note on press handouts.

14.a) Explain the best investment made by the doctor in the story by A.J. Cronin?

(OR)

b) Write down a short note on Marie Curie's achievements.

15. a) What does purple symbolize in the poem, Wait Till the Majesty of Death?

(OR)

b) What kind of freedom does Tagore desire for the country?

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Bring out the difference between facial expression and body language.

17. List out the types and techniques of interview.

18. Analyze the need and importance of Public Relations.

19. Elaborate the three vision of India mentioned by Dr. A.P.J. Abdul Kalam.

20. Describe the gift of God to man in the poem, The Pulley?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com ., **COURSE CODE : 17U2NEK2**

COURSE TITLE : Business English - II **QN.NO : 7222**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. *Little Girls Wiser than Men* opens at the beginning of _____
   a) Holy Week b) Spring c) Winter d) Christmas Eve
2. _____ is a written plan of topics to be discussed during a meeting and is prepared by the secretary.
   a) Memo b) minutes c) Agenda d) report
3. The Bishop's Candlestick is taken from the original play _____
   a) Les Miserables b) *Little Girls Wiser than Men*
   c) The Trial of Billy Scott d) A Meeting in a Forest
4. Madame Mathilde Loisel lost her _____
   a) Diamond necklace b) friend's diamond necklace
   c) her fake diamond necklace d) her friend's fake diamond necklace
5. _____ letters deal with personal matters written to relatives, friends or acquaintances.
   a) personal letters b) friendly letters
   c) informal letters d) formal letters
6. A report that contains facts and data collected from a specific period is___
   a) Inspection Report b) Investigation Report
   c) Data Report d) Survey report
7. Which is the most important aspect in reading News items?
   a) Clarity b) Spelling c) voice d) appearance
8. _____ is the most important in the minutes of a meeting, that is recorded after discussion.
   a)Welcome address b) agenda c) resolution d) recommendation
9. Whose frock got stained when the muddy water splashed on her?
   a) Malasha b) Natasha c) Natalie d) Akulya
10. The astrologer started his business punctually at _____
    a) the town's square b) midday c) sunrise d) sunset

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a. Write the need and importance of written communication.

(OR)

b. What are all the qualities of a good speaker?

12. a. List out the visual aids that are used for presentation?

(OR)

b. Explain the structure of a report.

13. a. What are the two ways of writing the points in agenda?

(OR)

b. What are the essential parts of minutes?

14. a. How did Loisel lose the necklace and how did it tell upon her life?

(OR)

b. Describe how a small incident was blown up into a big quarrel in the village in the short story little girls wiser than men.

15. a. Why was bishop attached to candlesticks and what did he do with at the end?

(OR)

b. Write a note on comic element of the play a meeting in a forest by G.B. Shaw.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. What are the things to be remembered while writing a letter head?
17. Elucidate the different types of reports.
18. As the secretary of a college association, prepare a welcome speech to be given on the occasion of the inauguration of the year's activities.
19. Describe what happened after she lost the necklace – up to when she met Madame Forestier ten years character.
20. Attempt a critical appreciation of the one act play " The Trial of Billy Scott".

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 17U1NSM1**

COURSE TITLE : Basic Communicative English **QN.NO : 7229**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 =10)

Answer all Multiple choice questions by choosing the correct option.

1. She _____(write) lessons regularly.
   a)has written b) writes c) Wrote d) will have written
2. My mother _____42 years old on next Saturday.
   a) was b) is c) will be d) will have
3. The meaning for the word "Borne" is_____
   a) newly coming into life b) bearing in mind
   c) A set of values d) scatter
4. Select the exact word that describes 'a doctor's clients'.
   a) patients b) patience c) penance d) pertinence
5. The expression "Good morning ". I am Gita is used
   a) to introduce oneself b) for greeting
   c) to introduce others d) for complaning
6. The response for 'How do you do?' is_____
   a) I am fine b) Glad to meet you
   c) How will you do d) Nice to meet you
7. The expression "Certainly" is used for
   a) Asking permission b) Giving permission
   c) Declining permission d) asking excuse
8. Pick out the word that is used to express
   a) From my point of view b) I don't agree
   c) Excuse me d) I am afraid
9. It makes me to feel _____ when she has no one to play with
   a) happy b) sad c) excited d) thrilled
10. "Do you like to play cricket?" is an expression used to ask_____
    a) permission b) suggestion c) likes d) Apology

Contd...

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Fill in the blanks with suitable verb form

i) When I opened my eyes, I _____(see) a strange sight.
ii) We_____ (visit) Greece next month.
iii) The moon _____ (revolve) around the earth
iv) She ___(write) a novel
v) Te students _____(rehearse) their dialogues.
vi) Jane_____ (live) with her parents.
vii) I _____ (teach) English for twelve years.

(OR)

b) Fill in the blanks with suitable verb form

i) My friend _____(buy) a car next year.
ii) They _____(meet) you tomorrow.
iii) The patient _____(die) before the doctor came.
iv) I _____(draw) a picture recently.
v) It_____(rain) yesterday.
vi) The boy jumped off the train when it _____(move)
vii) We _____(learn) Spanish from next year.

12. a) Pick out the correct spelling in the pairs below:

i) dropping , droping
ii) panicking , panicking
iii) regretted , regretted
iv) maddening , maddening
v) picnick , picnic
vi) forgotten , forgotten
vii) baggage , bagage

(OR)

b) Write the sentence of your own using the following words:

i) inapt
ii) beset
iii) hitling
iv) gumption
v) dauntless
vi) relent
vii) drew

13. a) Complete the dialogue with suitable answers:

Ravi : Could you please answer me a few questions?

Contd...

Latha:_____.
Ravi: May I know your name, please?
Latha: _____.
Ravi: Where do you come from?
Latha: _____.
Ravi: How old are you?
Latha:_____
Ravi: What's your occupation?
Latha: _____
Ravi: What's your ambition in life?
Latha: _____
Ravi: _____.
Latha: Good bye.

(OR)

(b) Assume that you are the leader of the college cultural club. Introduce two of the students who have recently joined college, to the Cultural in charge, speaking about their talents in fine arts. Construct a dialogue between you and the in charge.

14. (a) Meara wants to go to the movie with her friends. She asks her mother for permission. Construct a dialogue between both of them.

(OR)

(b) Read the conversations below and fill in the gaps with the words and phrases from the lists.
1. I have to 2. Is it OK if I 3. here you are 4. telling me 5. thanks 6. can I borrow 7. go ahead

Conversation 1
A: Yeah?
B: Hello, ... (1) turn the music down, please? It's one o'clock and I'm trying to sleep.
A: Oh, sorry. Is that better?
B: Yes, ...(2) Perhaps I can get some sleep now. Good night.

Conversation 2
A: I'm sorry, ... (3) leave early today? I'm going to take my cat to see the vet.
B: You're going to take your cat to the vet? What's the matter with her then?
A: Him. I don't know. That's why I'm going to take him to the vet's.
B: Oh, I see. Sure, ...(4) Thanks for ..... .(5)

Conversation 3
A: David, do you have your mobile phone with you?
B: Um... yes. Why?
A: .....(6) it, please? I need to make a quick call to my mother.
B: OK, ...(7)

15. (a) Choose the best words to describe your feelings/responses for the given situation.

1. It's your 18th birthday tomorrow.

a) exhausted b) excited c) amused

2. You're about to make a speech in public for the first time.

a) excited b) nervous c) upset

Contd...

3. Somebody has slashed the tyres of your bike/car.

a) depressed b) upset c) worried

4. Your best friend is much popular than you are.

a) anger b) jealous c) worried

5. A T.V programme that made you laugh.

a) fascinating b) amusing c) wonderful

6. You are alone in the house at night and you hear a window being opened.

a) annoyed b) frightened c) depressed

7. You met with a big loss in your business.

a) annoyed b) depressed c) exhausted

(OR)

(b) Complete the dialogue with suitable answers:

Amy: Do you like Lady GaGa?

You: Yes, I do. _____very much.

Amy: What do you think of Maths?

You: _____, but I prefer Science.

Amy: Do you like the actor, Brad Pitt?

You: _____. I don't like him at all.

Amy: What do you think of Brindavan garden? _____?

You: Yes I like them. _____favourite garden.

Amy: Do you like singing?

You: Yes, I do. But I'm not_____!

Amy:_____?

You: My favourite singer is Latha Mangeshkar.

PART – C **(3 x 10 = 30)**

Answer any THREE questions

16. Fill in the blanks with an appropriate verb form.

1. The boys _____(play) games when it started raining.
2. You _____(watch) TV when I was preparing for my exam.
3. The phone rang while I _____ (cook) dinner.
4. She _____(throw) a glass at me, but missed.

Contd...

5. We _____ (know) each other for a long time.
6. We _____ (learn) nothing from all the wars in history.
7. I _____ (prepare) well for the exam.
8. If you don't hurry you_____ (miss) the train.
9. The teacher _____ (ask) an interesting question in the class yesterday.
10. I_____ (look) around but I didn't find anyone.

17. Discuss the spelling rules with suitable examples.

18. Introduce yourself and your friends to your professor highlighting his and your achievements. Frame a suitable dialogue having minimum ten pairs.

19. Ram is a new student in the college. The asks varun for directions to the library. Write a conversation using the phrase for giving proper directions.

20. Draft a speech on the role of the Central reserve police force in protecting and guarding its country with reference to the recent attack by terrorist in India.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 17U2NMC3**

COURSE TITLE : British Prose **QN.NO : 7230**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Riches are spending and spending for _____
   a) honor and good action b) honor and bad action
   c) honor and unnecessary things d honor and trivial actions
2. Children are the greatest gift of God but at the same time, they make parent's condition_____
   a) miserable b) cheerful c) generous d) wealthy
3. _____was the friend of Thomas Gray
   a) Horace Walpole b) Harold Pinter c) John Donne d) Thomas Hardy
4. Ode to Adversity is written by _____
   a) Bacon b) Addison c) Graye d) Matthew
5. Charles Lamb's My Relations contains biographical sketches of his _____
   a) aunt and cousins b) brother and sisters
   c) father and mother d) wife and children
6. _____was from morning till night poring over good books and devotional exercises.
   a) Gray's mother b) Lamb's aunt
   c) Lamb's wife d) Gray's sister
7. _____is the autobiographical account of the author's addiction.
   a)The opium Eaters b) Julius Ceasar
   c) On falling in Love d) Knowledge Its Own End
8. Quincey married _____
   a)Margaret Simpson b) Gabriel Rossetti
   c) Lucettal c) Margaret Atwood
9. _____was both a theologian and an educationalist.
   a) Charles Lamb b) William Hazlitt
   c) Newman d) R.L. Stevenson
10. Newman refers to _____who showed some inconsistency between their philosophical beliefs and lives.
    a) Socrates, Seneca and Bacon
    b) Shakespeare, Ben Jonson and Bernard Shaw
    c) Chaucer, Gower and Ruskin
    d) Milton, Marlowe and Arnold

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a. What is, according to Bacon, griefs and joys of parents?

(OR)

b. Sketch the character of Will Wimble.

12.a. Write a short note on Johnson's Life of gray

(OR)

b. write a short note on Gospel of Mathew in the authorized version of the Bible.

13.a. Write a short note on William Barclay's I believe in God

(OR)

b. What does the essay of Charles Lamb's My Relations contain?

14.a. Write a short note on William Barclay's Julius Caesar.

(OR)

b. Write a short note on Quincey.

15.a. Write the biography of Newman.

(OR)

b. Write a short note on Stevenson's On Falling in Love

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Write an essay on Bacon's suggestions to parents in his essay 'Of parents and Children'

17. How does Johnson describe the life of Gray in his lives of the poets?.

18. Discuss Charles lamb as an essayist.

19. Discuss Thomas De Quincey's The Opium Eaters as an autobiographical narrative.

20. Bring out Newman's idea of what university learning should consist of with refence to the 'Knowledge Its Own End'.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 17U2NAC2**

COURSE TITLE : History of English Literature **QN.NO : 7232**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Who wrote Le Morte d'Arthur?
   a) Geoffrey Chaucer b) William Caxton
   c) King Alfred d) Thomas Malory
2. In 'Canterbury Tales' the pilgrims meet at_____
   a) Tabard inn b) London inn c) Vatican d) Canterbury
3. The first Critical Essay in English was written by _____
   a) Sidney b) Spenser c) Steele d) Shelly
4. What was William Shakespeare's play house called?
   a) The Globe b) The Universe
   c) The World d) The Continent
5. William Congreve is the finest writer of _____
   a) Comedy of errors b) Comedy of manners
   c) Comedy of humours d) Comic tragedy
6. What is the name of the daily publication, founded by Joseph Addison and Richard Steele?
   a) The Blackfriars b) Spectator
   c) Sir Roger d) The Coverly Papers
7. Wordsworth, Coleridge and _____ were called as he Lake Poets
   a) Blake b) Shelly c) Southey d) Marlowe
8. Lyrical Ballads is a collection of poems by ____ and ____
   a) Keats and Shelley b) Shelley and Byron
   c) Wordsworth and Colridge d) Coleridge and Shelley
9. _____ was considered more a critic than a poet
   a) Tennyson b) Browning c) Mathew Arnold d) Dryden
10. Who is the author of "*Waiting for Godot* "?
    a) Harold Pinter b) Samuel Beckett
    c) T.S.Eliot d) Thomas Hardy

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Give a brief account of the contribution of Wyatt and Surrey to English Literature.

(OR)

b) Comment on Spencer's The Faery Queen.

12. a) Assess Bacon as an essayist.

(OR)

b) Enlist the characteristic features of Milton's poetry.

13. a) Describe the salient features of Restoration Comedy.

(OR)

b) Attempt an assessment of the satires of Jonathan Swift.

14. a) Write a note on the works of Dr. Johnson.

(OR)

b) Write a note on Charles Lamb and Hazlitt.

15. a) Write a note on Dicken's interest in social reform.

(OR)

b) Write a note on Victorian Poets.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Write an essay on Chaucer's contribution to English poetry.

17. Attempt a classification of Shakespeare's plays.

18. Bring out the Characteristics of the Neo – Classical School of Poetry.

19. How was the Romantic movement a revolt against the Classical Movement?

20. What are the Contributions of T.S. Eliot to English Literature?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 17U2NSM2**

COURSE TITLE : Business English **QN.NO : 7233**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Neither you nor I _____ in the class
   a) are b) am c) is d) have
2. Good grammar helps people _____ more effectively.
   a) Communicate b) Performing c) listening d) Reading
3. 'You show me your hand' follows _____ pattern
   a) SVC b) SVA c) SVIODO d) SV
4. A sentence can be formed with just a subject and a/an _____
   a) Adjective b) Adverb c) Verb d) Pronoun
5. The meaning of the phrase 'put up with' is _____
   a) live b) hang c) tolerate d) die
6. Don't expect any sympathy from his. He is as hard as _____(nails/cotton)
   a) nails b) Cotton c) flower d) Sand
7. Fax is an _____ communication
   a) Electric medium b) Electronic medium
   c) Communicative medium d) Electrician medium
8. _____is more descriptive than a resume
   a) CV b) bio-data c) e-mail d) report
9. Communication that occurs through gestures and facial expressions is called _____ communication
   a) Non –verbal b) oral c) verbal d) effective
10. _____ is very important as far as a recruitment in a group discussion
    a) Mannarism b) First impression
    c) Eye Contact d) Cat walk

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Define shortly the two parts which consists of a sentence.

(OR)

b) Choose the correct verb that agree with its subject in number and person:
(i) Either Ram or Somu _____(has/have) stolen the ring.
(ii) Every boy and girl _____(was/were) ready.
(iii) Ram and Mala _____(is/are) very good friends.
(iv) John, as well as James _____(deserve/deserves).
(v) The Orator and sateman _____(is/are) dead.
(vi) The orator and the satesman_____(is/are) dead.
(vii) The news_____(is/are) true.

12. a) Differentiate idioms and Phrases with examples.

(OR)

b)Identify the sentence pattern in the following sentences:
(i) He laughed.
(ii) They invited me.
(iii) She is a teacher.
(iv) They select me a leader.
(v) We are going to Chennai.
(vi) Open the door.
(vii) She reads the poem loudly.

13. a) Make a suitable sentence to each phrasal verb:
Call for, Carry on, Put on, Give up, Put off, Look up, Break down.

(OR)

b)Complete the verbs in the following sentences with suitable particles:
(i) Don't put _____ for tomorrow, what you can do today.
(ii) Look at these sarees and pick _____ one for your mother.
(iii) Look _____! The man is driving too fast.
(iv) Please fill _____ these forms if you want to open an account.
(v) I get _____ at 5.30 every morning.
(vi) Good ! Carry _____ your work.
(vii) I have carried _____ these mistakes.

14. a) Write an e-mail to your friend asking him to search a book in his college library.

(OR)

b)Write a fax message to a foreign company seeking information of their nutritional product.

15. a) Classify factors that are important in a group discussion.

(OR)

b)How do you prepare yourself for an interview?

Contd…

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Write an essay on the different sentence patterns with suitable examples.
17. Write a sentence on each of the following pattern:
    a) SVO
    b) SVOOA
    c) SVCA
    d) SVOCA
    e) SVOO
18. Write a sentence on each of your own using each idiom:
    a) An eye for an eye.
    b) Cock and bull story
    c) as the crow flies
    d) on cloud nine
    e) keep an eye on
19. Prepare an application along with curriculum vitea for the post of English teacher in a reputed school.
20. Write out a group discussion on Money whether it is evil or blessing (with a minimum of 5 adjacency pairs).

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 17U3NMC5**

COURSE TITLE : British Poetry - I **QN.NO : 7234**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. In Chaucer's "The Knight's Tale" _____ prays to Mars, God of War and wins the war.
   a) Theseus b) Palamon c) Arcite d) Saturn
2. Spenser wants the _____ to bring garlands for his beloved.
   a) Nymphs b) Muses c) Angels d) Fairies
3. Milton in *Paradise Lost* Book I says how Adam and Eve's sin brought _____ to human beings for the first time.
   a) birth b) death c) chaos d) disobedience
4. Milton begins *Paradise Lost* Book I with a Prologue, invoking the Heavenly Muse _____, the Muse of Astronomy.
   a) Erato b) Thalia c) Polymnia d) Urania
5. John Donne says that, their two souls, being one, remains united, just as _____ stretches thinly without breaking.
   a) gold b) earth c) compass d) moon
6. In Andrew Marvell's "The Dialogue Between the Body and the Soul", the soul feels that it is a _____ inside the body.
   a) cleaner b) sinner c) prisoner d) murderer
7. _____ is the name of the chief sylph who talks to Belinda in her sleep.
   a) Crispissa b) Brillante c) Umbriel d) Ariel
8. John Dryden wrote "Alexander's Feast" to celebrate _____.
   a) St.Cecilia's Day b) St.Barbara's Day
   c) St.Barnaba's Day d) St.Patrick's Day
9. Shelley feels that _____ is able to sing very happily as it does not know anything about the sorrows of human beings.
   a) the poet b) the child c) the skylark d) the maiden
10. One of the objectives of Wordsworth's "London 1802" is to pay tribute to the great genius _____.
    a) John Keats b) John Milton c) Shelley d) Byron

Contd..

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Explain in detail the cause and result of the duel between Palamon and Arcite.

(OR)

b) Describe Spenser's use of conventional features in "Epithalamion".

12.a) Discuss Milton's aim in writing *Paradise Lost* as revealed in Book I.

(OR)

b) Give Milton's description of Hell in *Paradise Lost* Book I.

13.a) Bring out the significance of the title of the poem "Redemption" by George Herbert.

(OR)

b) Describe the struggle between the body and the soul as portrayed by Andrew Marvell in "The Dialogue between Soul and Body".

14.a) Explain the first Canto of Alexander Pope's "Rape of the Lock".

(OR)

b) Give a brief summary of John Dryden's "Alexander's Feast".

15.a) Describe the reaction of Shelley on hearing the song of the skylark.

(OR)

b) In "London 1802" Wordsworth reveals his views about the English society of his time- Discuss.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Give a critical appreciation of Spenser's "Epithalamion".

17. Show how John Milton has portrayed Satan in *Paradise Lost* Book I.

18. Bring out the metaphysical elements reflected in John Donne's "A Valediction Forbidding Mourning".

19. How does Dryden describe the power of music in "Alexander's Feast"?

20. Describe the happiness Keats hears in the song of the nightingale and his wish to die in that ecstasy.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 17U3NMC6**

COURSE TITLE : British Fiction-I **QN.NO : 7235**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Harriet Smith, the friend of Emma, finally marries_____.
   a) Mr. Weston b) Mr. Elton c) Robert Martin d) Mr. Knightley
2. _____ comes to see his father Mr.Weston in Highbury .
   a) Mr. Elton b) Frank Churchil c) Mr. Knightley d) Mr. Weston
3. Kenneth brings _____ to cure Richard's fever.
   a) El Hakim b) Saladin c) Theodorick d) a Talisman
4. In *Talisman,* _____ represents the seeker of order and honour through proper conduct.
   a) King Richard b) Saladin c) Conrade d) Sir Kenneth
5. _____ brought Heathcliff from Liverpool, to raise with his own children.
   a) Lockwood b) Mr.Earnshaw c) Hindley d) Joseph
6. Lockwood learns the mystery behind Wuthering Heights from _____.
   a) Nelly Dean b) Joseph c) Edgar Linton d) Heathcliff
7. _____ informed Lucie that her father is alive.
   a) Sydney Carton b) Jarvis Lorry c) Charles Darnay d) Stryver
8. The main reason for Sydney Carton's sacrifice of his life is his _____ for Lucie.
   a) friendship b) kindness c) love d) loyalty
9. Golding conveys that if human beings are left to themselves, they will return to _____.
   a) animal instincts b) evil instincts
   c) good instincts d) heavenly instincts
10. Ralph and Piggy find _____ on the beach and they use it to signal to the rest of the boys.
    a) a piece of plane b) a signal fire
    c) a conch shell d) a loud speaker

Contd..

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Write an essay on the theme of marriage and social status as portrayed by Jane Austen in *Emma.*

(OR)

b) Sketch the character of George Knightley in Jane Austen's *Emma*.

12. a) Describe the meeting between Sir Kenneth and Lady Edith Plantagenet in the Chapelof the Convent of Engaddi.

(OR)

b) Narrate the difficulties faced by Sir Kenneth in bringing El Hakim.

13. a) Examine the theme of the destructive power of love as expressed in Emily Bronte's *Wuthering Heights.*

(OR)

b) Summarize Emily Bronte's use of symbols in *Wuthering Heights.*

14. a) Analyze the contemporary issues dealt by Charles Dickens in *A Tale of Two Cities.*

(OR)

b) Sketch the character of Madame Defarge in *A Tale of Two Cities.*

15. a) Discuss the symbolic representation of the conch shell in *Lord of the Flies*.

(OR)

b) Discover the implication of the imaginary beast in *Lord of the Flies*.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Explain the confusions created by Emma's misplaced confidence in her abilities as a matchmaker.
17. Consider Walter Scott as a historical novelist with reference to *Talisman.*
18. Heathcliff is responsible for all the problems in Earnshaw's and Linton's family- Discuss.
19. Elucidate the themes dealt by Charles Dickens in *A Tale of Two Cities.*
20. Examine 'Evil is an inherent feature of every human being' as the key theme of *Lord of the Flies*.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 17U3NAC3**

COURSE TITLE : Sociological, Philosophical & Psychological Approaches to Literature **QN.NO : 7236**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Ulrich Weisstein's famous work is_____.
   a) Comparitive Literature and Literary Theory
   b) An Anthology of Literary Terms
   c) Classical Literature
   d) Literary Criticism
2. "The Mutual Illumination of Arts" is written by_____.
   a) Einstein b) T.S. Eliot c) Jane Austen d) UlrichWeisstein
3. The _____ intellectuals believe in thought without action.
   a) Bourgeois b) academic c) non-academic d) normal
4. _____ is the study of human social relationships and institutions.
   a) Sociology b) biology c) theology d) Zoology
5. "A Room of One's Own" was written by_____.
   a) Sylvia Plath b) Jane Austen
   c) George Eliot d) Virginia Woolf
6. _____ is a social, political and economic philosophy named after Karl Marx.
   a) Feminism b) Historicism c) Marxism d) Stoicism
7. Where does the narrator's plane crash in *The Little Prince*?
   a) a desert b) an island c) a valley d) a hill
8. _____ is a form of philosophical inquiry that explores the problem of human existence.
   a) Feminism b) Historicism c) Existentialism d) Stoicism
9. _____ is the unconscious part of our psyche.
   a) Id b) Ego c) Alter d) Super-Ego
10. According to Freud,_____ operates as a moral conscience.
    a) Ego b) Super-ego c) Brain d) Id

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Shortly examine " The Mutual Illumination of Arts".

(OR)

b) Analyse the views of Ulrich Weisstein in "The Mutual Illumination of Arts".

12. a) Bring out the relationship between Literature and sociology.

(OR)

b) Examine the concept of ideal world by Shaw.

13. a) Give an introduction to feminist criticism.

(OR)

b) Describe Marxist Criticism.

14. a) Examine the essentials of Existentialism.

(OR)

b) Comment on the moral of *The Little Prince*.

15.a) Define Id, Ego, and Super-ego.

(OR)

b) Evaluate the relationship between Literature and Psychology.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Consider "The Mutual Illumination of Arts" is a plea for considering the study of the interrelations of literature with other arts.

17. Express the views of Shaw in "A Study of the Bourgeois Superman".

18. Analyse Virginia Woolf as a feminist critic with your prescribed text.

19. Analyse the theme of the danger of narrow mindedness in *The Little Prince*.

20. Draft an essay on the analysis of Geoffrey Gazer in "The Myth in Jane Austen".

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 17U3NSM3**

COURSE TITLE : Computer Applications **QN.NO : 7237**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. CD, DVD, pen drive and hard disk are used to_____ work.

a) printout b) store c) edit d) Control

2. The equipment associated with a computer system is called _____.

a) software b) keyboard c) hardware d)CPU

3. _____computers are used for scientific and engineering applications.

a) Micro b) Mini c) Super d) Mainframe

4. The _____ generation computers started using keyboards and monitors.

a) First b)Second c)Third d) Fourth

5. _____ is a presentation program used to create slideshows.

a) MS Word b) MS Excel c) MS Power point d) MS Access

6. The first row of the window is called the _____

a)Title bar b) Tool Bar c) Clipboard d)Home

7. E.mail stands for _____.

a) Electronic mail b) Energy mail c) Electro mail d) Easy mail

8. The Internet is the global system of interconnected _____networks.

a) people b) computer c) data d) files

9. Initially Tweets were originally restricted to _____ characters.

a) 130 b)140 c)150 d)280

10. _____is an American social news aggregation, web content rating, and discussion website.

a) LinkedIn b) Twitter c)Instagram d) Reddit

Contd...

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Give a brief account of Memory devices.

(OR)

b)Explain the data processing in computer.

12. a) Write a short note on the types of computers.

(OR)

b) Trace the history and generations of Computer.

13.a) Explain the use of spell check.

(OR)

b) Write the steps to copy a text in one file to another file.

14. a) What is a mail merge?

(OR)

b) What does internet surf mean? and List its advantages.

15. a) Explain Google Plus.

(OR)

b) Write a note on Twitter.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Introduction to various components of computer.

17. Give an account of the characteristics of computers.

18. Explain the methods for creating any three types of charts in excel with example.

19. Explain the modern methods of communication.

20. Write an essay on YouTube.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - English **COURSE CODE :17U3NNM1**

COURSE TITLE : English for Employability **QN.NO : 7238**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. _____ communication refers to hand and body movements.

a) Electronic b) Draft c) Written d) Non-Verbal

2. _____ communication is about language, both written and spoken.

a) Verbal b) Non-Verbal c) Written d) Draft

3. One of the most important steps in the interview process happens to be the first is called_____.

a) conclusion b) small talk c) introduction d) informal speech

4. An _____ is the way of face to face conversation between the interviewer and the interviewee.

a) idea b) interview c) advertisement d) informal speech

5. In an employment vocabulary, "fire" means_____.

a) to appoint b) to discuss c) to dismiss d) to promote

6. The goal of every business is to make_____.

a) debt b) profit c) loss d) mortgage

7. _____ communication relies on grammar, punctuation and word choice.

a) oral b) spoken c) written d) gesture

8. To write professionally or academically choose only_____ kind of writing

a) simple b) formal c) colloquial d) informal

9. Professional ethics are principles that govern the behaviour of a person or group in a_____ environment.

a) natural b) wilder c) artificial d) business

Contd...

10. A _____ path is a sequence of jobs that leads to the short and long term career goals.

a) Career b) Local c) Normal d) Informal

PART – B

Answer all questions by choosing either (a) or (b) **(5x 7=35)**

11. a) Bring out the different barriers of communication.

Or

b) List out the type of non-verbal communication.

12. a) Examine interview skills and its types.

Or

b) Analyse the general stages of an interview.

13. a) Examine the most commonly used vocabulary in an organization.

Or

b) Mention some of the business terms.

14. a) Describe the informal writing style.

Or

b) Write shortly on the importance of effective written communication.

15.a) Mention some of the ethical principles for a profession.

Or

b) What does an effective job search strategy include?

PART – C

Answer any THREE questions. **(3 x 10 = 30)**

16. Draft an essay on the techniques and methods of effective communication.

17. Write an essay on the successful preparation for a job interview.

18. Bring out the most important Business and Finance Terms in an Organization.

19. Analyse the formal writing style for a profession.

20. Is professional ethic important for any profession-Give your answer?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 17U4NMC7/ 2N2 (Upto 16)**

COURSE TITLE : British Poetry - II **QN.NO : 7239**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. _____ 's hands worked busily a day according to the Duke in "My Last Duchess".
   a) Duchess b) Fra Pandolf
   c) Picasso d) Leonardo da Vinci
2. The _____ cracked from side to side in "The Lady of Shallott".
   a) mirror b) table c) glass vase d) glass window
3. The vast image in "second Coming" had a shape with _____ body.
   a) tiger b) lion c) child d) human
4. In the poem "Leisure" Davies says there is no time to see streams full of _____
   a) stars b) fish c) sands d) moon
5. The soldiers die as _____ in Owens's "The Anthem for Doomed Youth"
   a) sheep b) cattle c) bees d) lions
6. The war shattered the soldier's _____ in Sassoon's " Survivors".
   a) pride b) envy c) jealous d) anxiety
7. Philip Larkin donates an Irish _____ in the church's donation box.
   a) seven pence b) five pence c) six pence d) four pence
8. _____ at their end know dark is right.
   a) Good men b) Wild men c) Grave men d) wise men
9. Laura offers to pay a _____ to the goblins.
   a) lock of her hair b) a penny
   c) a basket of fruits d) a bunch of flowers
10. The friends in "Come Walk With me" used to love walking through the snow on _____ nights.
    a) rainy b) spring c) winter d) summer

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Consider the poem "My Last Duchess" as a dramatic monologue.

(OR)

b) Critically analyze the poem " Say not the Struggle naught Availeth".

12.a) Comment on the terrifying prophecy of W.B. Yeats in "The second coming"

(OR)

b) "Leisure" is a poem of protest against the unnecessary commitment of worldly affairs - Substantiate.

13.a) Analyze the patriotic sentiments of the poet in "Peace"

(OR)

b. How does the Siegfried Sassoon expose the sham of war and its effects on the Combatants in the "Survivors"?

14.a) Explain the central idea of the poem "Snow Drop".

(OR)

b) How does Dylan Thomas want his father to face death ?

15.a) Bring out the themes of nostalgia and sadness in "Come Walk With Me" by Emily Bronte.

(OR)

b) Comment on the theme of the poem From "The Emigrants"

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Bring out the symbolism in 'The Lady of shallot".
17. Describe the struggle, pain, suffering and agony of the Magi during their journey to see infant Jesus.
18. How does Owen describe the sensory horrors of war to life?
19. Critically analyze and appreciate the poem "The church going".
20. Describe the power of sisterly love in Rossetti's "The Goblin market".

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 17U4NMC8**

COURSE TITLE : British Fiction-II **QN.NO : 7240**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Where does Silas go when he finds his gold missing
   a) The church b) Dolly Winthrop's house
   c) The Rainbow d) The Red house
2. What prompts Godfrey to confess his secret?
   a) He found out that he is terminally ill
   b) Dunsey's remains are discovered in the drained stone pit
   c) He gets drunk d) All of the above
3. Mary had an affair with _____
   a) Jim b) Holmes c) Watson d) Alex Fairbaim
4. _____ is Beddington's brother
   a) Pinner b) Jim c) Alex Fairbaim d) Watson
5. What kind of appendages does the black blob have?
   a) Claws b) Arms c) Noodles d) Tentacles
6. Why can't the Time Traveller run from the Palace of Green porcelain to the Sphinx statue?
   a) He break his leg b) He is exhausted
   c) A bridge collapses d) A fire block him
7. Who runs their horse into the flowers at the Bridge Party?
   a) Miss Dereck b) Aziz c) Panna Lal d) The Bhattacharyas
8. How does Fielding shock the Indians in Aziz's sickroom?
   a) He is bluntly honest b) He sits on the floor
   c) He hugs Aziz d) He denounces Islam
9. Septimus goes to the doctor because, he is suffering of _____
   a) Shell shock b) Tooth ache c) Back pain d) The flu
10. Where does Peter Walsh live?
    a) Boston b) India c) London d) Sweden

Contd...

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) What does Silas Marner's cottage represent?

(OR)

b) Compare Silas Marner's love of his money to his religious faith.

12.a) How Holmes solved the adventure of Stock broker's clerk?

(OR)

b) Who was the murderer of John Straker? Explain.

13.a) Describe the life style of Morlocks.

(OR)

b) What the Time Traveler explained to the guest at his home?

14.a) Brings out pessimistic view on cross-cultural relationship from the play A passage to India, Part III, 'Temple' by E.M. Foster.

(OR)

b) Write down the comparison between English and Indian buildings by E.M. Fosters, in his play A passage to India.

15.a) How does "the Old women in the Window" represents in Mrs. Dalloway?

(OR)

b) Write the character sketch of Clarissa Dalloway.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Identify the theme The Individual Versus the Community in Silas Marner.

17. Sherlock Holmes is noted for his brilliant deductive reasoning abilities, yet of the dozen stories which make up the Memoirs, Holmes actually solves only two using those skills. With the primary evidence being that the last story in the collection is the one in which Sherlock is killed off, deduce the reasons that may explain this seeming paradox.

18. Write down how he escaped from the Morlocks.

19. Mention the purpose of Adila and Mrs. Moore to visit India and their experience over there.

20. Fear no more the heat'o the sun/ Nor the furious winter's rages" is a quote from Shakespeare's play Cymbeline. The words are repeated or alluded to many times throughout Mrs. Dalloway, by both Clarissa and Septimus. What to the words mean, and why do Clarrisa and Septimus repeat them?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 17U4NAC4**

COURSE TITLE : Literature and Theatre **QN.NO : 7241**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Theater is the performance of 'Sacred Mysteries' defined by _____
   a) Plato b) Aristotle c) Shakespeare d) G.B. Shaw
2. The aim of the Sanskrit Theater was to _____
   a) Educate b) Pleasure c) Entertain & Educate d) Instruct
3. A/An _____ can also be another name for a Thrust Stage
   a) Apron b) Deck c) House d) Fly loft
4. Shakespeare's Globe Theater was a _____
   a) Five sided thrust stage b) Four sided thrust stage
   c) Three sided thrust stage d) Two sided thrust stage
5. The Pageant was _____
   a) A runner b) A movable stage
   c) An Immovable stage d) A cycle
6. The Play of the 'Weather' is _____
   a) An interlude b) A Masque
   c) A miracle play d) A mystery play
7. The World's largest Prasads 3D IMAX Screen is in _____
   a) Hyderabad b) Chennai c) Calcutta d) Mumbai
8. The term theatre derived from which word
   a) 'Threatron' b) 'Theatron' c) 'Threatingon' d) 'Throtitleon'
9. The Epilogue is the _____ act of the ply
   a) Final b) Middle c) Second d) First
10. A Play Script will include a list of _____
    a) Characters b) Acts
    c) Scenes d) All of these three

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Write on briefly the earliest form of 'Indian theater'

(OR)

b) Define the important features of the classical Indian Dance Drama 'Kathakali'

12.a) What are the basic elements of theater? Describe

(OR)

b) Define the Parts of a 'Proscenium Theater'

13.a) Write a note on the 'Morality Plays' in English

(OR)

b) Comment on shortly the characteristics of the 'Restoration Drama'

14.a) What is 'Thoolpavaikoothu'? How does it perform? Explain

(OR)

b) What is 'Therukoothu'? How does it perform? Explain

15.a) Explain the primary purpose of good dramatic dialogue

(OR)

b)What is a theme? How do you prepare a theme in a play?

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. How far the Theater helps to improve Human Culture? Write your own point of view.
17. Elucidate the verity of theatrical styles used in theater.
18. Describe the characters used in the theater of 'Absurd'.
19. Define the features of 'Modern Indian Theater'.
20. Consider why action is drama's most mysterious element.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 17U4NSM4**

COURSE TITLE : Nature of Translation Concepts & Theories **QN.NO : 7242**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. According to _____, translation is neither a transference nor a transcoding of meaning but a substitution of meaning.
   a) J.C. Catford b) Dryden c) Eugene Nida d) Arnold
2. Theodore Savory defines translation as _____.
   a) a Science b) an Art c) a Craft d) a Text
3. The views of both Cicero and _____ on translation were to have great influence on successive generations of translators.
   a) Plato b) Aristotle c) Horace d) Longinus
4. In _____, the adjustments made to the SL text by such major translators as Wyatt and Surrey have led critics to describe their translations at times as 'adaptations'.
   a) prose b) poetry c) drama d) dialogue
5. Syntagmatic Equivalence is also called as _____ equivalence.
   a) stylistic b) linguistic c) paradigmatic d) textual
6. _____ translation is one in which some part or parts of the SL text are left untranslated.
   a) Restricted b) Phonological c) Literal d) Partial
7. _____ 'Preface' states clearly that the translator shall translate 'after the sentence' and not only 'after the words'.
   a) Purvey's b) Wycliffe's c) St. Jerome's d) Bologna's
8. The _____ Bible contains a general prologue, composed between 1395-96.
   a) Second Wycliffe b) I Wycliffe c) Tyndale d) Geneva
9. _____ translated 'Rubaiyat' of Omar Khayyam.
   a) Schlegel b) Edward Fitzgerald c) Lefevere d) Taylor
10. _____ says in his Preface to Ovid's Epistles that rendering poetry into prose in another language is a plain impossibility.
    a) Shelley b) Horace c) Dryden d) Cicero

Contd...

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) What is translation? Why do we need translation?

(OR)

b) What are the types of translation as viewed by John Dryden.

12.a) Discuss the position of translation in Renaissance period.

(OR)

b) Write on the growth of translation in India.

13. a)Explain Roman Jakobson's three kinds of translation.

(OR)

b) What is translation procedure? Expound.

14.a)Write on the need and importance of Machine translation.

(OR)

b) Bible translation remained a key issue in the sixteenth century. Explain.

15.a)What are the obstacles in Prose translation?

(OR)

b) Translate the following into Tamil.

i) I have guests at home

ii) My friends and myself have read many English novels

iii) Truth triumphs iv) Face is the index of mind

v) Live and let live vi) I shall go to the temple tomorrow

vii) I help my sister to solve problems in Maths.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Analyse translation as Science, Art and as Craft.
17. Trace the developments in translation during the British regime in India to Post Independence era.
18. Discuss in detail Eugene Nida's two types of Equivalence.
19. Each successive version of Bible drew on the work of previous translators, borrowing, amending, revising and correcting. Enumerate.
20. Discuss the problems in Verse-translation.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME-English **COURSE CODE : 17U4NNM2**

COURSE TITLE : Soft Skills **QN.NO : 7243**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. _____ thinking enables to have feeling of security and confidence
   a) neutral b) positive c) negative d) pessimistic
2. _____is any technique for creating images, diagrams, or animations to communicate a message
   a) centralization b) Visualization c) individualization d) industrialization
3. Group members are encouraged to share ideas and _____
   a) opinions b) wealth c) projects d) rule
4. Successful leaders master _____
   a) slave b) companies c) people d) stress management
5. Integrity is essential in all functions, but it is most crucial in _____
   a) leadership b) management c) compliance d) supervision
6. Leaders speak well and _____ better.
   a) write b) listen c) read d) do
7. The time management matrix is a _____ tool
   a) self- development b) self- respect
   c) self-management d) individual's identity
8. A Priority Matrix is a tool used to prioritize work categorically and inform _____and time management
   a) things b) matter c) issues d) decision –making
9. _____ empathy is the ability to understand how a person feels and what they might be thinking
   a) emotional b) Cognitive c) conservative d) compassionate
10. Empathy is of _____ types
    a) 2 b) 4 c) 3 d) 5

Contd...

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) List out the significance of positive visualization technique.

(OR)

b) How can one develop positive thinking?

12.a) Briefly outline the importance of creativity and motivation.

(OR)

b) Discuss any five tips /steps that help to achieve the goals.

13.a) What is Democratic style of leadership?

(OR)

b)What are the qualities of a team leader?

14.a) How will you plan or schedule for an event?

(OR)

b) Explain the software application 'Priority Matrix'.

15.a) Comment on the importance of Empathy.

(OR)

b) What are the types of Empathy? Explain it.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16.Describe, how factors influence the positive and negative attitude?

17.How can an individual set smart goals and explain the ways to achieve the goals?

18.Bring out the ethics and values of leadership.

19.Discuss the time management matrix

20.List out the ways to strengthen Empathy.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE :17U6NMC12**

COURSE TITLE : New Literatures in English **QN.NO : 7250**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The nameless, the father in the 'The Noosing of the Sun-god' is _____
   a) Maui b) Te Ra c) Io d) Ina
2. 'The Canadian Author's meet is a _____
   a) Elegy b) Sonnet c) Ode d) Satire
3. To discover the artistic capacity in art must be the aim of the _____ of art
   a) artist b) historian c) critic d) patron
4. The figure of Mahishasuramardhini is a ____ image
   a) Satwie b) Tamasie c) Rajasie d) Puranie
5. _____ is viewed as the Anti-Christ in the Double Hook
   a) James b) Greta c) William d) Mrs.Potter
6. The recurrent image illustrated in the novel 'The Double Hook' is _____
   a) fishing b) boxing c) dancing d) singing
7. Johnny is dismayed by his loss of _____
   a) wealth b) health c) culture d) family
8. The return to India committee decides to threaten _____ action against the Government
   a) mass procession b) mass suicide c) mass fasting d) mass attack
9. Achebe suggests that the European Critic of African literature must cultivate the habit of _____
   a) patience b) tolerance c) humility d) compassion
10. V.S.Naipaul calls the _____as a tragic attempt at a revaluation
    a) Emergency b) Gandhiji's non-violent movement
    c) the Nexalbari movement d) Quit India movement

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Annotate: What they really want
at times
is a specimen
whose heart is in the dust
A mother-of-sufferer
Trampled, oppressed
They want a little black blood
undressed
and validation

(OR)

b) Comment on the tensions arising between master and slave in Derek Walcott's poem.

12. a) Why is it difficult for an artist to follow the instructions in creating a work of art?

(OR)

b) How does art represent, what has to be said?

13. a) Describe the role of Coyote in 'The Double Hook'.

(OR)

b) Analyse the symbolic elements in 'The Double Hook'.

14. a) State the differing attitudes of the Old and new in returning to India.

(OR)

b) Discuss the role of Mary in 'Home Sweet India'.

15. a) What is the exaggerated grossners in colonialist eroticism referred by Chinua Achebe?

(OR)

b) What does Chinua Achebe refer to 'the man of two worlds'?

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Summarise A.D.Hope's views on migration in his poem 'The Death of a Bird'.
17. Examine Coomaraswami's ideas of on 'Indian images with many Arms'.
18. Evaluate the postrayal of human suffering and redemption in 'The Double Hook'.
19. Explore the experience of migrants in 'Home Sweet India'.
20. Why does Naipaul call India as a wounded civilization?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 17U6NMC13**

COURSE TITLE : History of English Language **QN.NO : 7251**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The oldest literary texts preserved in any Indo-European languages are the _____.
   a) Vedas b) Epics c) Poems d) Folk Tales
2. Primitive Germanic split into Gothic, _____ and West Germanic.
   a) Iranian b) Italian c) Scandinavian d) French
3. The kingdom of *Kent* owes its name to the _____ word *Canti* or *Cantion.*
   a) Celtic b) French c) Norman d) Scandinavian
4. After, the Norman Conquest _____ remained the language of ordinary intercourse among the upper classes in England.
   a) French b) English c) Latin d) Spanish
5. _____ translated the Bible in 1526.
   a) Tyndale b) Dr. Johnson c) Caxton d) Wycliff
6. The invention of _____ was bound to have a far-reaching effect upon the development of the language.
   a) Typewriter b) Printing c) Telephone d) Computer
7. Webster defines _____ as "low, vulgar, unmeaning language.
   a) dialects b) vocabulary c) slang d) grammar
8. The dialect of _____ has claims to special consideration on historical and literary grounds.
   a) Southern Scotland b) Northern English
   c) Eastern Scotland d) Western English
9. _____ wrote the first dictionary of English language.
   a) Dr. Johnson b) Webster c) Tyndale d) Wycliff
10. The movement towards'purer English' is seen most markedly in _____ works.
    a) Tennyson b) Matthew Arnold
    c) Robert Burns d) Milton

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Write a short note on Grimm's Law.

(OR)

b) Distinguish the difference between human and animal language.

12.a) State the reasons for the rise of Standard English.

(OR)

b) Describe some characteristics of old English.

13.a) Analyse the change in pronunciation and Grammar during Renaissance and after Renaissance.

(OR)

b) Explain the three aspects of Printing upon the development of language.

14.a) Write a note on English dialects.

(OR)

b) Examine the evolution of English as a global language.

15.a) What are the factors which contributed to the growth of vocabulary in English.

(OR)

b) Describe the contribution of makers of English to the development of English language.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Elaborate the Indo-European family of languages and its branches.

17. Describe the influences of Latin and French influence in the evolution of English language.

18. Analyse in detail the impact of Renaissance on English.

19. Describe slang and standard speech of England.

20. Explain in detail the different methods in which words change their meaning.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 17U6NMC14**

COURSE TITLE : American Literature **QN.NO : 7252**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The Raven often utters the word_____in the poem "The Raven".
   a) Hello b) Hai c) Never More d) Saturn
2. The speaker stops his horse in a _____in "Stopping by the Woods on a Snowy Evening".
   a) Castle b) Palace c) Hotel d) Deserted Wood
3. Thoreau refused to pay taxes in protest of Slavery and the _____ war.
   a) Mexican b) World c) French d) Indian
4. Emerson blamed that the American Scholars followed the footsteps of_____Scholars.
   a) French b) British c) Irish d) European
5. _____ is an ardent admirer of Santiago.
   a) John b) Stephen c) DiMaggio d) Manolin
6. The narrator of the story "The Real Thing" is a/an_____.
   a) teacher b) artist c) docor d) lawyer
7. Yank dies in the _____cage
   a) Parrot's b) Pigeon's c) Gorilla's d) Lovebird's
8. Yank is a stoker in a _____.
   a) ship b) train c) car d) bus
9. According to Frost, _____ are eternal.
   a) women b) men c) children d) Poems
10. To Poe,_____ is the most legitimate of all the poetical tones.
    a) mirth b) laughter c) melancholy d) happiness

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Trace the evolution of thought in "The Raven".

(OR)

b) Bring out the symbolism in "Stopping by the Woods on a Snowy Evening".

12. a) Consider Thoreau as a Transcendentalist.

(OR)

b) Examine the central theme of Emerson's essay" The American Scholar".

13. a) Comment on the personality of Santiago.

(OR)

b) Analyse the reality-illusion dichotomy in Henry James's "The Real Thing"

14. a) Sketch the character of Yank.

(OR)

b) Identify the theme of isolation and identity in *The Hairy Ape.*

15. a) Write a brief note on Poe's views on "Unity of Effect".

(OR)

b) Examine Frost's views on "From delight to Wisdom".

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Draft an essay on the significance of the rivers in "Negro- Speaks of River".
17. How does Emerson stress the importance of action in the life of the American Intellectual?
18. " *The Old Man and the Sea* is a plea for human fellowship"- Discuss.
19. Trace out the symbolism in *The Hairy Ape*.
20. Bring out the main argument of Poe's in "The Philosophy of Composition".

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 17U6NME3**

COURSE TITLE : English Language Teaching **QN.NO : 7253**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. _____ introduced English in India as medium of instruction in schools and colleges.
   a) Lord Mountbatten b) Lord Bentinck
   c) Lord Macaulay d) Lord Hillary
2. _____ is used for teaching and testing spelling, inflection, and punctuation.
   a) Dictation b) Role-play c) Group Work d) Play acting
3. In the _____ method the learner was expected to learn the new language like his mother tongue..
   a) Grammar-Translation b) Direct c) Audio-Lingual d) Structural
4. _____ is an overall plan for the orderly presentation of language material.
   a) Technique b) Approach c) Method d) Test
5. The word 'Curriculum is derived from the _____ word meaning 'race course 'or 'run' .
   a) French b) Latin c) Greek d) English
6. _____ syllabus was brought to India in 1952.
   a) Structural b) Notional c) Communicative d) Functional
7. _____ is a branch of applied linguistics.
   a) Evaluation b) Examination c) Test d) Error analysis
8. _____ test focuses on measuring competencies and readiness.
   a) Aptitude b) Cloze c) Proficiency d) Class
9. Prose texts help learners to develop intensive _____ skills.
   a) reading b) speaking c) writing d) listening
10. Teaching ____ help the learners to develop the understanding ability and create enjoyment.
    a) vocabulary b) prose c) grammar d) poetry

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) The status of English as a 'second language' in the three language formula in India is often reviewed. - Discuss.

(OR)

b) Explain the importance of acquiring the four major skills (LSRW).

12.a) Describe the characteristics of the Audio-Lingual method.

(OR)

b) Explain the principles, advantages and techniques of the Direct Method.

13.a) State the differences between curriculum and syllabus.

(OR)

b) What are the measures taken by the Tamilnadu Government to design syllabus with reference to ELT.

14.a) Describe the characteristics of a good test.

(OR)

b) Write a note on Error analysis and types of questions.

15.a) Write steps in writing a lesson plan for either prose or for poetry.

(OR)

b) What are the characteristics of a good lesson plan. Illustrate your answer.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain briefly the aims of English language teaching in India.
17. How far does Grammar Translation method help in the act of acquisition of a foreign language? What are the limitation of this method?
18. Explain the concept of Curriculum and Syllabus with reference to ELT.
19. What is Evaluation? Explain the types of Evaluation.
20. Prepare a lesson plan for teaching grammar and vocabulary.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 17U6NME4**

COURSE TITLE : One Act Plays **QN.NO : 7254**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Name the prompter in *The Swan Song* by Anton Checkhov.
   a) Vasili Svietovidoff b) Yegorka
   c) Petrushka d) Nikita Ivanitch
2. How many characters are there in *How He Lied to Her Husband*?
   a) 4 b) 3 c) 5 d) 1
3. What does Mrs. Rowland find in her husband's vest pocket?
   a) Helen's photo b) a bill c) a bottle of Gordon gin d) a letter
4. Where did the spinster's grandmother Irenee meet Byron?
   a) Patras b) Larissa c)Volos d) Acropolis
5. ---------- is the only son of Elmer Kirby and Ma Kirby in *The Happy Journey*.
   a) Arthur b) Andrew c) Benjamin d) Alexander
6. Who is the old college friend of Hal Carter in *Picnic*?
   a) Paul Newman b) Alan Semour c) Howard Bevans d) Bomber
7. The youngest and patient daughter of Maurya is ----------.
   a) Caroline b) Nora c) Cathleen d) Angeline
8. *The Romancers* by Edmond Rostand is a ---------- play.
   a) Satirical b) Tragic c) Comic d) None of the above
9. Why does Kamuli go out to see Kazungu in *The Trick*?
   a) To convey a message b) To invite for funeral
   c) To help him d) To marry him
10. Who will get angry if a fisherwoman stands on the seashore with her hair loosened?
    a) Fishing Community b) Kadalamma
    c) Chemmen d) Goddess Earth

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Describe Vasili Svietlovidoff's life as a young man as given in his own account of it.

(OR)

b) What makes Aurora blame the play Candida for all that has recently happened in her life?

12.a) In what way, according to Mrs. Rowland, is her father different from her father-in-law?

(OR)

b) Narrate the story of a young woman's meeting with Lord Byron.

13.a) Comment on the role played by Ma Kirby in *The Happy Journey*.

(OR)

b) How does Hal Carter and Madge Owens unite at the end of the play titled *Picnic*?

14.a) Explain the influence of the priest in Maurya's family.

(OR)

b) Compare and contrast the characters of Nick Carraway and Jay Gatsby in *The Romancers*.

15.a) Why is Kamuli disappointed with her husband in the play titled *The Trick*?

(OR)

b) What is the irony in the reference to God's Own Country in Matsyaganddhi?

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. What are Svietlovidoff's feelings when he looks back at his long career as an actor?

17. In detail, explain about the family background of the Rowland's from *Before Breakfast*.

18. Describe the plight of teenagers and restless wanderers in William Inge's *Picnic*.

19. How is death depicted in *Riders to the Sea*?

20. Bring out the twist at the end of the play *The Trick* by Erisa Kironde.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 17U6NSM6**

COURSE TITLE : Journalism **QN.NO : 7255**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The Latin word 'diurnalis' means _____
   a) Daily b) bi-weekly c) weekly d) Monthly
2. The term 'fourth estate' was first used by _____
   a) Macaulay b) Aristotle c) Guttenberg d) George Polk
3. The press should be the _____ of the society.
   a) watch dog b) government supporters
   c) protector of the social order d) watch man
4. Journalists should not publish anything which is _____
   a) obscene b) commercial c) violent d) vulgar
5. _____ columnists are writers whose articles can be published in all the newspapers.
   a) Syndicated b) Dedicated c) News d) Feature
6. According to Mansfield, a good sub-editor is a _____.
   a) Creative artist b) news reporter c) proof reader d) page maker
7. _____ is considered as the 'electronic magic carpet'.
   a) Television b) Internet c) Newspaper d) Magazines
8. Sometimes, Radio is called _____
   a) blind medium b) visual medium
   c) creative medium d) None of the above
9. Considering the attraction and the respect that printed words command, the _____ can be regarded as the most powerful force in the field of advertising.
   a) press b) radio c) internet d) mobile
10. Advertising is a _____ device through the use of which business organisations make people buy their products
    a) Commercial b) political c) ethical d) moral

Contd...

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Define Journalism and the functions of journalism.

(OR)

b) Write a short note on elements of news.

12. a) What are the four theories of the press?

(OR)

b) Write a short note on advocacy journalism.

13. a) Jot down the principles of conducting an interview.

(OR)

b) List out the qualities of a good reporter.

14. a) Write a short history of Radio and Television.

(OR)

b) Analyse the role played by FM stations in India.

15. a) What makes Television journalism unique?

(OR)

b) Describe the powerful role of TV as a socio-cultural force in India .

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Sketch the history of Indian Journalism.
17. Write an essay on the code of media ethics.
18. Enumerate the responsibilities of a news editor
19. Discuss the development of electronic media.
20. Trace the origin and development of advertising.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., English **COURSE CODE : 17P1NMC2**

COURSE TITLE : Modern Literature - II **QN.NO : 7302**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. _____ is the kingdom of Thomas Shadwell.
   a) Republic b) Nonsense c) Ulysses d) Elysium
2. Shelley sees the west wind as a force of _____ and decay.
   a) life b) love c) death d) destruction
3. _____ is ashamed of his natural benevolence.
   a) Man in Black b) Citizen of the World
   c) Life of Milton d) Dream Children
4. The great- grandmother of Lamb's children lived in _____.
   a) Southwalk b) Cambridge c) Norfolk d) Southompton
5. Mr & Mrs Hardcastle are waiting for the arrival of _____.
   a) Kate b) Marlow c) Tony d) Constance
6. _____ has sent the jewels in a casket to Marlow to keep it safe.
   a) Constance b) Tony c) Kate d) Hastings
7. Edgar's father supported king _____
   a) James I b) Charles II c) Edward II d) James VII
8. Lucy decided to marry Laird of Bucklaw as she thought that _____lost interest in her.
   a) Edgar b) Edmund c) Edward d) Charles
9. Elizabeth refused _____ because she thought that he was the reason for the separation of Bingley and Jane.
   a) Darcy b) Wickham c) Collins d) Charles
10. The earlier title of Pride and Prejudice is _____
    a) Northanger Abbey b) Sense and Sensibility
    c) First Impressions d) Elinor and Marianne

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11.a) Explain the theme depicted in "The Tyger".

(OR)

b) How did the poet portray his childhood communion with nature?

12.a) Elaborate Hazlitt's first acquaintance with poets.

(OR)

b) Comment on the humour and pathos in "Dream Children",

13.a) Do you agree with Kate's stooping to succeed in her love?

(OR)

b) Sketch the character of Tony Lumpkin.

14.a) Write a brief note on the historical elements in *Bride of Lammermoor.*

(OR)

b) Describe the role played by Lady Ashton.

15.a) How did Jane Austen portray the hypocrisy of the then English society?

(OR)

b) Comment on the role played by Elizabeth Bennet.

PART – C (3x10=30)

Answer any THREE questions

16. Describe the salient features of mock-heroic poem with reference to "Mac Flecknoe".
17. Comment on Dr. Johnson's portrayal of "Life of Milton".
18. Bring out the significance of the title *She Stoops to Conquer.*
19. Critically analyse *The Bride of Lammermoor*
20. Describe the theme of love and marriage depicted in *Pride and Prejudice.*

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., English **COURSE CODE : 17P1NMC3**

COURSE TITLE : A Survey of British Literature **QN.NO : 7303**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. English is essentially a ---------- language in its foundations.
   a) Norman b) German c) Anglo-Saxon d) Teutonic
2. ---------- was called 'the morning star of Reformation'.
   a) Chaucer b) Wyclif c) secretly d) effectively
3. Spenser's fame rests mainly on his work ----------.
   a) Shepherd's Calendar b) The Faery Queen
   c) Four Hymnes d)Amoretti
4. Milton's "Areopagitica "is a plea for ----------.
   a) classical learning b) elegant and grand style
   c) freedom of thought and speech d) censorship of books
5. Dryden's ---------- is a defence of the Church of England.
   a) Annus Mirabilis b) Religio Laici
   c) The Hind and Panther d) Absalom and Achitophel
6. Pope's 'Essay on Criticism' is a ----------.
   a) poem b) Critical essay c) drama d) epic
7. ---------- is called 'the critic's critic' .
   a) John Wilson b) William Cobbett c) William Hazlitt d) Leigh Hunt
8. *Sartor Resartus* is a work by ----------.
   a) Macaulay b) William Morris c) Ruskin d) Carlyle
9. ---------- brought about a revolution in the modern age drama .
   a) Oscar Wilde b) Bernard Shaw c) A.W.Pinero d) J.M.Barrie
10. ---------- is not a play by T.S.Eliot.
    a) Murder in the Cathedral b) Saint Joan
    c) The Cocktail Party d) The Family Reunion

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Comment briefly on Anglo-Saxon poetry.

(OR)

b) Write on the beginnings of the English Drama.

12. a) Comment on the contribution made by Milton.

(OR)

b) Comment on the classification of Shakespeare's plays.

13. a) What are the characteristic features of Metaphysical poetry?

(OR)

b) Discuss the characteristics of the classical school of poetry.

14. a) In what ways is Coleridge different from Wordsworth, as a romantic poet?

(OR)

b) Give a general estimate of the Age of Tennyson.

15. a) What aspects of modernism are highlighted in the works of T.S.Eliot?

(OR)

b) Can Hopkins be called an innovator in the poetry of the times?

PART – C (3x10=30)

Answer any THREE questions

16. Examine Chaucer's contribution to English Literature**.**
17. Why is the Elizabethan Age considered one of the greatest in the annals of the world's literature?
18. Write an essay on the age of Johnson.
19. Discuss the important features of the Victorian novel.
20. Choose any five novelists or dramatists of the early twentieth century and explain the themes in their novels.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., English **COURSE CODE : 17P1NMC5**

COURSE TITLE : Indian Writing in English **QN.NO : 7305**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. After her _____ death, it was a sad time to spend among the books as she felt lonely
   a) Aunt's b) Mother's c) granny's d) sister
2. In the poem " Village Song "the girl runs away into the forest to see _____
   a) Animals b) Champa c) Birds d) Tiger
3. Sri Aurobindo was a Bengali_____
   a) Novelist b) Philosopher c) Scientist d) Dramatist
4. Swami Vivekananda's Lectures from Colombo to Almora book contains report of _____ lectures
   a) 14 b) 18 c) 17 d) 7
5. Who is Mr. Prime Objective?
   a) Rawte b) Sukhatme c) Mr.Kashikar d) Kamik
6. Chitra play adapts part of the story from_____
   a) Ramayana b) Mahabharata c) Kamayani d) Kurukshetra
7. The name of Susila's daughter is _____
   a) Priya b) Leena c) Padma d) Leela
8. Who is Padma?
   a) Saleem's wife b) Saleem's caretaker
   c) Saleem's mother d) Saleem's nanny
9. Ruskin Bond was awarded the Sahitya Academy Award in _____
   a) 1992 b) 1934 c) 1999 d) 2014
10. Sometimes Labhu tales are _____
    a) fictional b) fanciful c) thiriller d) romantic

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Discuss the poem **"***Lakshman*" by *Toru Dutt* is a tense conversation between *Lakshman* and his sister-in-law Sita from the Hindu epic *Ramayana*.

(OR)

b) How does the poetess pine for her grandmother's love?

12. a) What is the concept of Shiva as an artifact by the views of Ananda Kumaraswamy?

(OR)

b) How Nirad C. Chaudhuri expose his mental and intellectual development in *An Autobiography of an Unknown Indian*?

13. a) What verdict does Kashikar give in Benare's case?

(OR)

b) What is the significance of the title of the play "Chitra"?

14. a) Describe in short Krishna's later sitting with Susila's spirit?

(OR)

b) What is the theme of *the English Teacher?*

15. a) Write a summary of Ruskin Bond's "*My Father's Trees in Dehra*".

(OR)

b) How does Mulk Raj Anand explore the theme of story telling in " The liar"?

PART – C (3x10=30)

Answer any THREE questions

16. Attempt a critical appreciation of R. Parthasarathy's "Homecoming"
17. Comment on Jawaharlal Nehru's glorification of the Indian past.
18. Discuss Tendulkar's humour, satire and irony in "Silence! The Court is in session".
19. Sketch the characters of "The Midnight Children".
20. Discuss Mulk Raj Anand's art of characterization with special reference to his work "The Liar".

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., English **COURSE CODE : 17P2NMC6**

COURSE TITLE : Modern Literature - III **QN.NO : 7306**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Who is the wife of Ulysses?
   a) Portia b) Beatrice c) Penelope d) Bianca
2. Windhover is _____
   a) a bird b) an animal c) an insect d) a creature
3. Who is the author of the book, *The History of British India* ?
   a) John Mill b) James Mill c) Ruskin d)John Stuart Mill
4. Who said , "Shakespeare has no heroes ,only heroines"?
   a) Ruskin b) Stuart Mill c) Carlyle d) John Mill
5. Where did Mr.Thomas Cardew find Jack as a baby?
   a) at the railway station b) museum
   c) church d) a foundling hospital
6. What is Jack's birth name?
   a) John Worthing b) Algernon Worthing
   c) Ernest Worthing d) Bunbury Worthing
7. Where is the story of *Hard Times* Set?
   a) Smoketown b) Old Town c) Motown d) coketown
8. Whom does Lousia Marry?
   a) Mr.Blackpool b) Mr.Bounderby c) Mr Sleary d) Mr Harthouse
9. How many years after the auction does the sailor, Newson, die?
   a) three b) ten c) fifteen d) eighteen
10. Which of these characters is not a peasant in Casterbridge?
    a) Newson b) Nance Mockridge
    c) Mother Cuxom d) Solomon Longways

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Write a short note on the rhyme scheme of the Grammarians' Funeral

(OR)

b) Write a short summary on the Structure of Windhover by Gerard Manley Hopkins.

12. a) How does Stuart Hall's early life and school education shape his personality?

(OR)

b) Why does Ruskin call Shakespeare as Hero and Prophet?

13. a) Sketch the character of Algernon Moncrieff

(OR)

b) Sketch the Character of Miss Prisom

14. a) Discuss the narrative techniques in *Hard Times*

(OR)

b) Comment on the Characterization in Hard Times

15. a) Who is the narrator in The Mayor of Casterbridge, can she or he read minds, and, more importantly, can we trust her or him?

(OR)

b) Critically analyse the setting of the novel, Mayor of Casterbridge.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Critically analyze the poem , "Ulysses"
17. How would Carlyle see himself in the company of Johnson, Rouseau and Burns?
18. In *The Importance of Being Earnest*, characters often use words such as bad and Wicked and make pronouncements about what is and isn't acceptable behavior. Do true virtue or wickedness appear in the play?
19. Mrs. Sparsit is a fairly minor character in Hard Times. What themes does she illustrate? Why is she important in terms of plot development?
20. Sketch the Character of Michael Henchard.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., English **COURSE CODE : 17P2NMC7**

COURSE TITLE : Modern Literature - IV **QN.NO : 7307**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. In Sailing to Byzantium, the author says that the country is only for _____
   a) Old men b) Young c) Children d) Women
2. The Magi started their travelling in _____
   a) Summer b) Winter c) Spring d) Rainy
3. The pig weighed as much as _____.
   a) three men b) two men c) four men d) five children
4. Seamus Heaney's father is digging the field of _____
   a) Potato b) Tomato c) Ladies finger d) Cucumber
5. Toynbee's 'A Study of History' contains _____ volumes.
   a) Ten b) Eleven c) Twelve d) Thirteen
6. We ultimately obtain a vision of _____ from Russell.
   a) economical condition b) job opportunities
   c) good life d) fame.
7. _____ is Raina's fiancé.
   a) Sergius b) Robert c) Michael d) Catherin
8. Murder in the Cathedral opens in the _____
   a) Archbishop's Hall b) Canterbury Hall
   c) Party Hall d) Round Rose Hall
9. A Portrait of the Artist as a Young Man tells the story of _____.
   a) Philip Larkin b) Dylan Thomas
   c) Ted Hughes d) Stephen Dedalus
10. A Power-hungry pig, refers in 'Animal Farm' is _____
    a) Napoleon b) Hitler c) Mussolini d) Mr. Joans

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Discuss the wish of Yeats with reference to 'Sailing to Byzantium'.

(OR)

b) What are the biblical elements of the 'The Journey of Magi'?

12. a)What is the theme of Ted Hughes's 'View of a Pig'?

(OR)

b) How does Seamus Heaney compare his job with his father's job?

13. a) Describe the significances of Bertrand Russell on the Aims of Education.

(OR)

b)What will we understand from 'The Zenith of Philosophy'?

14. a) Sketch the character of Sergius.

(OR)

b) Why does the herald rejoice on the arrival of Thomas Becket?

15. a) How is epiphany used in A Portrait of the Artist as a Young Man?

(OR)

b) Describe the uniqueness of writing style of James Joyce with reference to the prescribed text.

PART – C (3x10=30)

Answer any THREE questions

16. How does Auden describe the painting in his poem, "Musee des Beaux Arts"?
17. How does Philip Larkin conclude the poem 'The Church Going'?
18. What is the central theme of 'The Relativity of Historical Thought'?
19. How does Shaw display different kind of bravery in Arms and the Man?
20. Describe 'Animal Farm' is a satire.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., English **COURSE CODE : 17P2NMC8**

COURSE TITLE : Twentieth Century Canadian Literature **QN.NO : 7308**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Northrop Frye stressed on the importance of literatures underlying _____
   a) thematic b) structure c) archetypes d) none of these
2. Neil Bissoondath is a Canadian critic of _____
   a) multiculturalism b) expatriate literature
   c) archetype d) melting pot culture
3. In "The Winter Lakes", Campbell mentions that "Wherever the ice- winds sob, and the griefs of ____ are heard."
   a) summer b) spring c) autumn d) winter
4. P.K. Page in "Stories of Snow" imagines that hunters in ____ arise from their feather beds.
   a) Holland b) Finland
   c) Scotland d) Canada's frozen land
5. The central symbol for Canada is ____
   a) survival b) the island c) the frontier d) the leaf
6. Emily Carr in her "Lecture on Totems" says that she takes more care to illustrate the particulars of the _____
   a) places b) poles c) boats d) photos
7. The narrator of "A Bird in the House" is ____
   a) Vanessa b) Laurence c) a man d) a boy
8. ___ was crippled up with rheumatism in "The Flats Road".
   a) Mitch Plim b) Uncle Benny c) Mr. McQuade d) The narrator
9. Rita Joe is falsely charged with working as a ____ by _____ policemen.
   a) Prostitute, three b) Prostitute, four c) Prostitute, two d) thief, two
10. In *The Drawer Boy,* Morgan and Angus are two _____
    a) farmers b) actors c) policemen d) dramatists

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Examine the importance of Northrop Frye's "Preface" to an uncollected anthology

(OR)

b) Briefly summarize the main argument in "The Limits of Diversity"

12. a) Critically comment on the title of the poem "Portrait of the poet as a landscape".

(OR)

b) Give a critical appreciation of Jeanette Armstrong's poem, "Indian Woman".

13. a) How does Atwood elaborate on National frontiers and symbols in "Survival"?

(OR)

b) Why is Emily Carr interested in actual reality and how does she achieve it in her art?

14. a) Summarize Stephen Leacock's "The Hostelry of Mr. Smith"

(OR)

b) Sketch the character of Uncle Benny in "The Flats Road."

15. a) What are the charges levelled against Rita Joe?

(OR)

b) Examine the relation between Miles and the two farmers, Morgan and Angus.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. How does Neil Bissoondath bring out the element of multiculturalism in the essay, "The Limits of Diversity"?
17. How do the Canadian writers prescribed for yourstudy bring out the Canadian landscape in their poems? – Answer with reference to any two Canadian poets.
18. Is "Survival" a thematic guide to Canadian Literature? How?
19. Comment on the autobiographical elements in "A Bird in the House".
20. Examine the theme of *The Ecstasy of Rita Joe* or *The Drawer Boy.*

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., English **COURSE CODE : 17P2NMC9**

COURSE TITLE : New Literature in English **QN.NO : 7310**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Where was Chinua Achebe born?
   a) Nigeria b) Kenya c) Zimbabwe d) Uganda
2. Nelson Mandela was in prison for
   a) 28 years b) 27 years c) 30 years d) 24 years
3. In the play, *Lion and the Jewel*, Lakunle is a
   a) King b) Teacher c) President d)Wrestler
4. *Lion and the Jewel* was first performed in the year
   a)1950 b) 1954 c) 1955 d) 1959
5. I wear a Centaur's hide
   And I have carried the world since the first morning……., are lines from
   a) *Once Upon a Time* b) *I Thank You God*
   c) *To a Student* d) *Australia*
6. How many lines does the poem, *Once Upon a Time* have?
   a) Thirty lines b) Forty lines
   c) Forty three lines d) Thirty five lines
7. The protagonist in, *A Bend in the River*, is a
   a) Shopkeeper b) Teacher c) Carpenter d) Coolie
8. Determined by the struggle to be free, as desert dwellers days are determined by the Struggle against thirst and those of dwellers amid snow and ice by the truggle against numbing cold……., are words of
   a) Narine Gordimer b) Achebe c) Derek Walcott d) Soyinka
9. The Doctor in the novel, *Ice-Candy Man* is
   a) Sher Singh b) Hari c) Imam Din d) Bharucha
10. Who is the gardener in *Ice-Candy Man*?
    a) Lenny b) Shanta c) Ranna d) Hari

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) What, according to Achebe should an African writer teach?

(OR)

b) How does Mandela recollect his experience at School and College?

12. a) Write a character sketch of Baroka in *, Lion and the Jewel.*

(OR)

b) Write a character sketch of Lakunle.

13. a) What is A.D. Hope's description of Australia?

(OR)

b) How does Derek Walcott explore the history of Africa in, *A Far Cry From Africa*?

14. a) Write a character sketch of Sonny in, *My Son's Story*.

(OR)

b) Write a character sketch of Salim in, *A Bend in the River.*

15. a) Write a character sketch of the *Ice-Candy Man*.

(OR)

b) Write a character sketch of Lenny in *Ice-Candy Man*.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. How does Achebe prove that he is very much attached to the tradition of his Country through his work, *The Novelist as aTeacher*?
17. *The Lion and the Jewel* dramatizes the conflict between tradition and modernization. Justify.
18. What does Kirpal Singh depict in his poem, *To a Visitor to Singapore*?
19. *A Bend in the River*, explores the theme of exile and corruption. Explain.
20. How does Bapsi Sidhwa employ, political and narrative strands in *Ice-Candy Man*?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., English **COURSE CODE : 17P2NMC10**

COURSE TITLE : Shakespeare **QN.NO : 7312**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Shakespeare tragedies and Shakespeare comedies have more _____ than differences.
   a) characters b) actions c) plots d) similarities
2. While most women's roles were played by _____ in the all-made casts.
   a) female b) boys or young men c) clergy d) soldier
3. _____ decides to disguise herself as a man, taking on the name of Cesario, and goes to work in the household of Duke Orsino.
   a) Viola b) Olivia c) Sebastian d) Malvolio
4. _____ has been arrested by Orsino's officers.
   a) Maria b) Antonio c) Sir Toby d) Sir Andrew
5. The _____ scold the citizens for abandoning their duties and remove decorations from Caesar's statues.
   a) Antony b) Lucius c) Tribunes d) Marcus Brutus
6. Caesar tells Antony that he deeply distrusts _____
   a) Cassius b) Lucius c) Tribunes d) Marcus Brutus
7. Lady Macbeth suffers _____ of her husband's uncertainty.
   a) none b) one c) two d) three
8. Macbeth hires a _____ to kill Banquo and his son Fleance.
   a) group of murderers b) Birnam Wood
   c) Duncan d) Lady Macduff
9. Prospero has spent his _____ years on the island refining the magic that gives him the power he needs to punish and forgive his enemies.
   a) ten b) eleven c) twelve d) thirteen
10. After making his enemies suffer, Prospero eventually employs _____ to guide each group toward his camp, where reunion and reconciliation can at last take place.
    a) Miranda b) Ariel c) Caliban d) Ferdinand

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Give an account on Shakespeare's actors.

(OR)

b) How will you categories Shakespeare's plays?

12. a) Discuss the confusion prevailed when Viola and Sebastian are reunited.

(OR)

b) Critically examine the opening of the play "Twelfth Night".

13. a) Explain about the theme of 'fate versus free will' in "Julius Caesar".

(OR)

b) Comment on the end of the play "Julius Caesar".

14. a) Sketch the character of Lady Macbeth.

(OR)

b) Write a short note on theme of the relationship between gender and power presented in "Macbeth".

15. a) Write a note on A.C.Bradley's lecture on "Othello".

(OR)

b) Write a ashort note on Wilson Knight's "Interpretations of Shakespearean Tragedy".

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Give a detail account on Shakespeare theatres.
17. Critically examine the theme of female identity in "Twelfth Night".
18. Sketch the character of Julius Caesar.
19. Examine the importance of the role played by the Three Witches in "Macbeth".
20. Analyse "The Tempest" is illusion of Justice.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - English **COURSE CODE :17P3NNM1**

COURSE TITLE : English for Formal Writing **QN.NO : 7319**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Communication is derived from the Latin term _____.
   a. Communis b. Communicar c. Communicare d. Communicas
2. 'Gesture' can be called a _____communication.
   a. verbal b. non-verbal c. written d. oral
3. _____ sentences describe a thing.
   a. Narrative b. descriptive c. analytical d. none of these
4. "Although Ramesh did not do well at first, he was later very successful, finally becoming the Managing Director of the company". The sentence is a _____ sentence.
   a. Narrative b. descriptive c. analytical d. none of these
5. In a formal correspondence, one has to write always in _____.
   a. active voice b. passive voice c. complex sentence d. none of these
6. The specific word for the general word 'aggregate' is _____.
   a. sum b. total c. round up d. end
7. Project writing may otherwise be called _____ writing.
   a. technical b. formal c. informal d. None of these.
8. Topic sentence is to be elaborated in _____
   a. a short story b. a correspondence c. a letter d. an essay
9. A short report may be presented in the form of a _____ .
   a. memo b. letter c. draft d. statement
10. 'Summary' is used to summarise the contents of the written communication in the _____ of it. .
    a. beginning b. middle c. end d. none of these

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a. Define "Oral Communication"

    Or

    b. Write a short note on "Written Communication"

12. a. Write a short note on "Narrative Writing"

    Or

    b. Explain "Argumentative Writing"

13. a. Describe a particular situation that you might have experienced in a classroom in about three pages.

    Or

    b. Write a note on the style of Formal Correspondence.

14. a. Write a letter to your friend asking him to come and stay with you during summer vacation.

(P.T.O)

Or

b. Draft a memo on any imagined reason to be issued to your subordinate in your service.

15. a. Write a letter of agreement to a company to install solar panels inside the company premises stating the expenditure and the time duration for installation.

Or

b. Prepare the minutes of a meeting (any imaginary) that you conducted recently.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Bring out the difference between formal and informal correspondence.
17. Write an essay on different types of writing.
18. Define 'Formal Correspondence' and detail its styles.
19. Write an essay on the uses of 'Solar energy'
20. The director of Collegiate Education, Rajasthan, Jaipur has been concerned about the poor academic standards and mismanagement of the affairs of B.S. Degree College, Sikar. You as Deputy Director of Education have been asked to enquire into the matter and to submit a report to the Director. Write a report keeping in view the following:

1. Programmes-B.A., B.Sc.,&B.com.
2. Admissions Policy
3. Number of students 2200
   Number of teachers 40
4. Quality of teaching
5. Hostel Facilities
6. Physical facilities such as classroom space, lab-equipment, library, etc.
7. Facilities for games and sports etc.
8. State of discipline
9. Role of students' union
10. General administration
11. Financial resources.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., English **COURSE CODE : 17P4NMC15**

COURSE TITLE : Literary Criticism **QN.NO : 7320**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which of the following is NOT a part of Aristotle's definition of tragedy?
   a) It arouses pity and fear b) It has an unhappy ending
   c) It involves Mimesis d) It is performed rather than narrated
2. Horace's *Ars Poetica* is the _____ counterpart to Aristotle's *Poetics*.
   a) Greek b) Latin c) French d) Roman
3. According to Sir Philip Sidney, what is the primary reason why Poetry is the important discipline?
   a) Poetry makes women fall in love with you
   b) Poetry possesses beauty
   c) Poets have a unique power to create and drive men into virtue
   d) Plato said so in ancient Greece
4. Who favours Greek drama in Dryden's *Essay on Dramatic Poesy*?
   a) Eugenius b) Crites c) Lisideius d) Neander
5. When was Coleridge's *Biographia Literaria* published?
   a) 1810 b) 1815 c) 1817 d) 1820
6. In which chapter of Biographia Literaria, Coleridge's Theory of Imagination occurs?
   a) Chapter 1 b) Chapter 3 c) Chapter 14 d) Chapter 13
7. Which of the following central idea is discussed in T.S.Eliot's *Tradition and Individual Talent*?
   a) The relation between tradition and individual talent are interrelated
   b) The tradition and individual talent are in constant contrast with each other
   c) The individual talent exemplifies how rebellious is the poet against the influence of tradition
   d) Tradition involves historical sense
8. Wilson's speech on *The Historical Interpretation of Literature* was delivered in the year __
   a) 1930 b) 1940 c) 1950 d) 1960
9. Identify the part in which Chapter XI – Myths and Reality of Simon De Beauvoir's *Second Sex* appears.
   a) Part I – Destiny b) Part II – History
   c) Part III – Myths d) Part IV – The Formative Years

Contd…

10. Foucault's *What is an Author?* is a _____ given at the College de France on 22 Feb' 1969.
    a) Speech b) Assignment c) Oration d) Lecture

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Explain Aristotle's concept of mimesis. In what way is poetry imitative?

(OR)

b) What is the importance of Oratory in relation to poetry in Horace's *Ars Poetica*?

12. a) Discuss Sidney's views on the nature of poetry in *Defense of Poesie*.

(OR)

b) Bring out the arguments of Eugenius and Crites in the *Essay on Dramatic Poesy*.

13. a) Exemplify the differences between prose and poetry as differentiated by Coleridge in *Biographia Literaria*.

(OR)

b) Describe briefly Johnson's Life of Pope as contributions of Pope towards the development of English Literature.

14. a) Explicate the Impersonal Theory of poetry by T.S. Eliot in *Tradition and Individual Talent*.

(OR)

b) Analyse the main ideas as presented by Wilson in his criticism on *The Historical Interpretation on Literature*.

15. a) What is the difference between Cultural Diversity and Cultural Difference as pointed out by Homi Bhabha? Mention the need to stress the differences.

(OR)

b) Summarise the first chapter of Terry Eagleton's *Literary Theory* as the development of English as a field of serious scholarly inquiry.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Describe Aristotle's definition of Poetry. Bring out the limitations as mentioned by him in his work *Poetics*.
17. Discuss Dryden's views on Neo Classical theory of Literature as presented in his *Essay on Dramatic Poesy*.
18. Explain the function of criticism according to Arnold's *The Function of Criticism at the Present Time*.
19. What is T.S.Eliot's concept of Tradition and Individual Talent as put forth in his essay?
20. Explore the notions about culture identity as attempted by Homie Bhabha in his work, *The Commitment to Theory.*

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., English **COURSE CODE : 17P4NMC16**

COURSE TITLE : Research Writing **QN.NO : 7321**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Research is _____
   a) searching again and again
   b) finding a solution to any problem
   c) working in a scientific way to search for truth of any problem
   d) coping the previous research
2. A research paper is a brief report of research work based on _____
   a) primary data only b) secondary data only
   c) both primary and secondary data d) purely imagination
3. The need of research is to _____
   a) discover the truth which is hidden and which has not been discovered as yet
   b) discover the drawbacks
   c) discover the author's limitations
   d) discover the reader's understanding
4. _____are list of related books and other materials.
   a) Bibliographies b) Indexes c) Abstracts d) Dictionaries
5. The primary purpose of _____is to ensure the clarity and readability of writing.
   a) Punctuation b) Italics c) Spelling d) Quotations
6. A Principal function of Apostrophes is to indicate_____
   a) possession b) profession c) non-profession d) property
7. The list of works cited appears at the _____of the paper.
   a) beginning b) end c) middle d) now and then
8. When citing a book, what is the proper textual formatting?
   a) Bold b) Underlined c) Quotations c) Italicized
9. _____are used regularly in the list of works cited and in tables but rarely in the text of a research paper.
   a) Abbreviation b) Expansions c) Quotations d) Dialogues

Contd…

10. To use another person's ideas or expressions in your writing without acknowledging the source is _____

a) Plagiarism b) Preventing Plagiarism

c) Original Writing d) Writing Culture

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Bring out the significance of documenting sources in Research writing.

(OR)

b) How does Note-taking help in research?

12. a) Write a short note on gathering information about the sources.

(OR)

b) Write a short note on the purpose of punctuation.

13. a) Explain the methods of citing the publication date of the online sources.

(OR)

b) Write a note on capitalization in the title of sources.

14. a) How do you quote poetic lines in a research work?

(OR)

b) Write a short note on common scholarly abbreviations and reference words.

15. a) Explain the ways of abbreviating titles of sources.

(OR)

b) Write a short note on citing web sources.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Explain various forms of plagiarism and its consequences in a research work.

17. Illustrate the significance of primary and secondary sources.

18. Write an essay on the importance of abbreviations in a dissertations.

19. Write an essay on Mechanics of Writing.

20. Write an essay on the format of the research paper.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., English **COURSE CODE : 17P4NMC17**

COURSE TITLE : Comparative Literature **QN.NO : 7322**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The term' Comparative Literature 'was coined by _____
   a) Matthew Arnold b) T.S. Eliot
   c) Plato d) Aristotle
2. _____ remains as one of the basic tools of Comparative Literature.
   a) Analogy b) Thematology
   c) Transliteration d) Translation
3. 'Counter-design' is a variant of negative influence popularized by the German writer_____
   a) Goethe b) Brecht c) .S.S.Prawer d) Weisstein
4. _____ is term used by Horst Rudiger to refer to 'Reception' in Comparative literature.
   a) Survival b) Literary Fortune
   c) Influence d) Receiver
5. _____ is the largest segment in Periodisation.
   a) Period b) Motif c) Epoch d) Movement
6. Romanticism is a _____
   a) Generation b) Movement c) Period d) Epoch
7. Frye classifies genre based on _____
   a) subject and matter b) style and language
   c) myths and archetypes d) motifs and themes
8. 'Genre' is a _____ term.
   a) French b) Spanish c) English d) German
9. Cleanth Brooks made a thematic study of _____
   a) Faulkner b) Hemingway c) Whitman d) Larkin
10. Theme of Goethe's 'Faust' is identified by _____
    a) time b) character c) place d) situation

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Discuss in detail the major aspects of Comparative Literature.

(OR)

b) Write in detail the definition and scope of Comparative Literature.

12.a) What are the three types of Influence Studies according to S.S. Prawer? Explain.

(OR)

b) Explain the importance of Reception Study in Comparative Literature.

13.a) Distinguish Epoch from Period.

(OR)

b) Write a brief note on Movement and Generation.

14.a) Explain with Examples 'Contamination'

(OR)

b) Discuss in detail the methods of Genre Studies.

15. a) Bring out the relationship between 'Motif' and 'Theme'

(OR)

b) Write in detail the important terminologies connected with Thematology.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16.Elaborate the aim of Comparative Literature.

17.Examine Influence Study as the key concept in Comparative Literature.

18.Explain the importance of Literary History and the problems of Literary History.

19.Discuss in detail the problems concerning Genre and their Classifications.

20.Trace the history of Thematology and the scope of Thematology.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., English **COURSE CODE : 17P4NME2**

COURSE TITLE : Introduction to Journalism **QN.NO : 7323**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The main functions of the Press are to inform, educate and _____ the public.
   a) empower b) entertain c) evaluate d) elevate
2. Raja Ram Mohan Roy's _____ was the real torchbearer to Indian Language Journalism.
   a) Indian Gazette b) Sambad Kaumudi
   c) Mirat-ul-Akhbar d) Kesari
3. Freedom of expression and publication is a _____ freedom.
   a) Collective b) personal c) submissive d) alternate
4. The Parliamentary Proceedings Act 1956 is popularly known as _____
   a) Mahatma Gandhi b) Indira Gandhi
   c) Feroz Gandhi d) Rajiv Gandhi
5. The prime concern of a journalist is _____
   a) Authenticity b) clarity c) vagueness d) anonymous
6. A News story has _____ parts.
   a) four b) five c) three d) seven
7. Cable TV is through cable networks and _____ is wireless.
   a) satellite b) mobile network c) projector d) DTH
8. Online journalism is nothing but reporting of facts produced and distributed via___
   a) internet b) mobile c) laptop d) desktop computer
9. ____ is one branch of journalism that a junior reporter can practice early in his career.
   a) Interviewing b) Note making
   c) Developing the hints d) Art of writing
10. A _____ cannot afford the time and effort required to send a copy to the newspaper.
    a) professional writer b) story writer
    c) freelancer d) content writer

Contd..

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) What is the function of Journalism?

(OR)

b) Write a short note on "Early Newspaper in India."

12. a) What is the social responsibility of the press?

(OR)

b) What are the fundamental rights of journalism?

13. a) Describe the qualities of a Good Sub-Editor.

(OR)

b) What is the basic style of journalism?

14. a) What is News?

(OR)

b) Write a short note on "AIR."

15. a) Who is a freelancer? Describe.

(OR)

b) Write a short note on "Visual material."

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Describe the History of Indian Journalism.
17. What are the principles and ethics of journalism?
18. What are the basic rules of an Editor?
19. What are the features of online journalism?
20. Write an essay on "Blog writing vs Content writing."

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.A., English **COURSE CODE : 17P4NME3**

COURSE TITLE : Introduction to Theory and Practice of Translation **QN.NO : 7324**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The Process of converting information into an appropriate format for the target language and culture is _____
   a) Alignment b) Algorithm c) Ambiguity d) Adaption
2. The publication of the papers in machine translation began in the
   a) 1950s b) 1940s c) 1960s d) 1955s
3. Translation within the same language is called as _____
   a) Intralingual b) Interlingual c) Intersemiotic d) Literal
4. There are _____ types of translation.
   a) Four b) Six c) Eight d) Seven
5. The message of the source language should be _____
   a) Receptive b) Influential c) Equivalent d) Resourceful
6. The procedure that refers to the conversion of foreign letters in Target Language is _____
   a) Transliteration b) Borrowing c) Transposition d) Modulation
7. The study of the formation of words is called _____
   a) Phonology b) Morphology c) Linguistics d) Syntax
8. The well-known name during the Middle English period for the translation of Bible is _____
   a) Thomas Nash b) Langland c) Chaucer d) John Wycliffe
9. Hindu texts in Dravidian languages are considered disciplines in _____
   a) Indology b) Anti- Semitism c) Asian Studies d) Dravidology
10. A good translator needs the support of _____ and the experience of _____
    a) Language, Culture b) Theory, Source
    c) Theory, Practice d) Source, Practice

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Write a brief history of translation during the middle ages.

(OR)

b) Write two paragraphs, not exceeding 150 words each, about translation in general.

12. a) What are the different kinds of translation? Explain any three in detail.

(OR)

b) Write short notes on the three methods of translation.

13. a) Describe any two translation procedures with relevant information.

(OR)

b) Explain Equivalence and its function and role in Translation.

14. a) Bring out the importance of the translation of Bible through the ages.

(OR)

b) Discuss the importance of the translation of literature.

15. a) Briefly explain the contributions of the Indologists to translation.

(OR)

b) Comment on Kavimani Desiya Vinayakam Pillai's translation.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Describe the importance of translation in the present scenario in your own words.
17. Is Translation a Science or an Art? Justify your statement (even if you call it both).
18. Explain the responsibilities and requirements of a translator in detail.
19. Exemplify the role of linguistics in translation highlighting grammar and linguistic analysis.
20. Discuss the need of theory and practice for a translator with relevant inferences.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A / B.Sc.,/ B.Com **COURSE CODE : 17U1EVS1**

COURSE TITLE : Environmental Studies **QN.NO : 7402**

TIME : 3 Hours **MAX.MARKS : 75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Umbrella of earth is called _____layer.
   a)Mantle b)Troposphere c)Ozone d) biosphere
2. The renewable source of energy is
   a)Petrol b)Diesel c)Wind d)Natural gas
3. All biological organisms are inter linked with one another by
   a)Food Production b)Food web
   c)Food decomposition d)Food consumption
4. Which of the cycle is started from sedimented rocks?
   a)Water b)Carbon c)Nitrogen d)Phosphorous
5. The one horned Rhinoceros are found in this state
   a)Gujarat b)Odissa c)Assam d)Kerala
6. Which one of the following is designated as UNESCO heritage site?
   a)Western Ghats b)Aravalli hills c)Eastern Ghats d)Satpura hills
7. Ozone depletion is Caused by
   a)Carbon oxides b)Nitrogen oxides c)Sulphur oxides d)CFCs
8. Environment Protection Act (EPA) was passed in the year
   a)1986 b)1980 c)1996 d)1992
9. The adverse effect of global warming is
   a)Fall in ocean level b)Rise in ocean level
   c)Fall in temperature d)Increased crop yield
10. RRR stands for
    a)Reduce Reform Repair b)Reduce Reuse Retry
    c)Reduce Refill Recycle d)Reduce Reuse Recycle

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11.a)Briefly explain the structure of atmosphere.

(OR)

b)Distinguish between renewable and non – renewable energy sources.

12.a)Elucidate the concept of food chain and food web.

(OR)

b)Write a short note on carbon cycle and its importance.

13.a)Give a brief account of conservation of biodiversity with examples.

(OR)

b)Explain the types and values of biodiversity.

14.a)What is air pollution ? Suggest measures to control it.

(OR)

b)Write a short note on Global warming and Acid Rain.

15.a)Give an account of water conservation methods.

(OR)

b)Distinguish between sustainable development and sustainable agriculture.

PART – C (3x10=30)

Answer any THREE questions

16.Describe evolution of Earth over the periods of time.

17.Discuss the ecology and ecosystem concepts of environment.

18.Enumerate the various threats to biodiversity.

19.State the causes of soil pollution in India and mention the methods to overcome it.

20.Discuss the various types of disaster management programmes in India.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A / B.Sc.,/ B.Com **COURSE CODE : 17U2VEN1**

COURSE TITLE : Value Education **QN.NO : 7404**

TIME : 3 Hours **MAX.MARKS : 75**

PART - A (5 x 6 = 30)

Answer all questions by choosing either (a) or (b)

1. a) How will you consider self – discipline as value?

   (OR)

   b) What do you mean by character building?
2. a) How do educational institutions contribute value education?

   (OR)

   b) What are the faiths and believes in religion?
3. a) Write a note on love and justice as explained in Christianity.

   (OR)

   b) Discuss the tri rathna and Jainism.
4. a) What are the conflicts in our society?

   (OR)

   b) Explain mutual recognition and respect.
5. a) What are the impacts of exploitation of money on values?

   (OR)

   b) Explain the Urbanization process.

PART – B (3 x 15 = 45)

Answer any THREE questions.

6. Explian the classifications of values.
7. Give an essay on social evils like alcoholism, smoking and drug abuse.
8. Explain the values of courage in Sikhism and brotherhood in Islam.
9. Examine the role of mass media in the value system.
10. Write on the causes, impacts & remedial measures for desertion of villages.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., / B &I / CM **COURSE CODE : 17U1KLA1**

COURSE TITLE : Business Communication **QN.NO : 7801**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Communication process is completed with
   A. Message B. Feed back C. Output D. Medium
2. Which of the following flows like a chain in grapevine communication?
   A. Single Strand B. Gossip C. Cluster D. Probability
3. _____ is made to the general public by the seller voluntarily
   a) Quotation b) Enquiry c) Offer d) Discount
4. The expansion of FOR is _____
   a) Free On Road b) Free On Rack c) Free On Rail d) Free On Receipt
5. An advisory body , do not have powers to take any decision, but to discuss and advise other bodies are an example of ____ meeting.
   a) Executive meeting b) Advisory meeting c) Problem-solving meeting d) Briefing meeting
6. A presentation should be delivered to ____ audience.
   a) Knowledgeable b) Illiterate c) Literate d) Acceptable
7. _____ are used for internal communication between executives and subordinates or between officers of the same level
   a) Memorandum b) D.O c) office notes d) Resolutions
8. A _____ is given in confidence to an employee whose work is unsatisfactory
   a)Memo b) Warning Memo c) Warning d)Resignation
9. A report must always have a _____ indicating the subject of the a study
   a) Title b) Reference c) Procedure d) assignment
10. _____report is submitted as soon as inspection is carried our
    a) Investigation b) Inspection c) Progress d) Performance

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Explain the importance of effective business communication. (Or)
    b) State the difference between formal and informal communication
12. a) What are the essentials of business letters? (Or)

Contd...

b) State the situations that need circular letters.

13. a) What are the characteristics of a good speech (Or)

b) How is group communication differ from mass communication

14. a) Write down the various types of resumes and its functions (Or)

b) What do you mean by presentation? Explain the elements of presentation.

15. a) What are the characteristics of a good report? (Or)

b) Draft a report to the company secretary regarding complaints about unsatisfactory quality of goods.

PART – C

(3 x 10 = 30)

Answer any THREE questions.

16. Discuss the barriers to communication. Explain the way in which overcoming the barriers in a successful manner?
17. Write a letter to Mr. Suhasini Sen, Senior Sales Manager, Aurobindo Sales Corp., to place an order for 250 file folders, 100 punching machines, 100 staplers (small size), 100 staplers (bigsize) and 50 cartridges of black ink for office printers. Your are Vinita Nanda/ Vinay Khanna, Head, Purchase Department, Unique Entreprises, Mumbai.
18. For successful communication, listening is more important than speaking – Explain
19. A leading television channel is in search of human resource manager. Write a letter of application to the channel, along with your resume.
20. Explain in detail the process and mechanics of report writing.

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THE MADURA COLLEGE (Autonomous), MADURAI – 625 011

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RE-ACCREDITED (3rd Cycle) WITH "A" GRADE BY NAAC

No of Pages	5

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com.,/ Com (B&I) / Com (CM) **COURSE CODE : 17U1KMC1**

COURSE TITLE : Financial Accounting – I **QN.NO : 7802**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Patent registered is a
   a) Personal A/c b) Real A/c c) Nominal A/c d) Expenses A/c
2. Accounting Standards in India are issued by
   a) Reserve Bank of India b) Central Government
   c) Institute of Chartered Accountants of India
   d) Institute of Cost and Management Accountants of India
3. Goods worth Rs.200 returned by Mohan were taken into stock, but no entry was passed is an error of _____
   a) Commission b) Principle c) Omission d) Duplication
4. Credit side of the pass book was overcast by Rs.500. When overdraft as per cash book is the starting point
   a) Rs.500 to be deducted b) Rs.1000 to be deducted
   c) Rs.500 to be added d) Rs.1000 to be added
5. Loss by theft is debited to _____.
   a) Manufacturing account b) trading account
   c) profit and loss account d) balance sheet
6. Sales are equal to _____.
   a) Cost of goods sold + Gross profit
   b) Cost of goods sold – Gross profit
   c) Gross profit – Cost of goods sold
   d) Cost of goods sold + Net profit
7. Sinking fund method is also known as
   a) depletion method b) Annuity method
   c) Depreciation fund method d) none
8. Depreciation arises due to
   a) physical wear and tear of the asset
   b) fall in the market value of an asset
   c) fall in the value of money
   d) increase in the value of an asset
9. Insurance claim is the difference between the loss of stock and _____
   a) Closing stock b) Opening stock
   c) Salvaged stock d) Average stock
10. Epoque method is used _____
    a) To calculate del credere commission b) To avoid future losses
    c)In Account current d) In Average due date

Contd…

PART – B **(5 x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) From the information below, Pass journal entries:
    i. Salary paid □ 5,000
    ii. Rent paid to house owner □ 1,000
    iii. Credit purchases from Mr. Anbu □2000
    iv. Sold goods to James □4,000.

(OR)

b) Brief the accounting concepts with examples

12. a) The following errors were detected in the accounts of Siva & Sons for the year ended 30th June 1992.
    i. Sales to Sridhar □152, posted to his accounts as □125
    ii. Purchased goods from Manohar □550, credited as □505
    iii. Received bills receivable from Seenu □1,000, posted as □100
    iv. Purchased furniture from Raghu □404 on credit debited as □440
    v. Discount allowed □64 to Anbu credited to his account as □46

    Pass necessary journal entries to rectify these errors.

(OR)

b) From the following particulars, prepare a Bank reconciliation statement as on 31st December, 2000
    i. Bank balance as per cash book as on 31.12.2000, □5400
    ii. Cheques issued but not presented for payment □515
    iii. Cheque deposited into bank but not credited in the pass book □240
    iv. Bank charges debited in the pass book □30
    v. Interest on current account credited by the bank but not recorded in the cash book □25

13. a) Prepare trading and profit and loss account from the information gives below:

	□
Opening Stock	3600
Purchases	18260
Wages	3620
Closing stock	4420
Sales	32000
Carriage on purchases	500
Carriage on sales	400
Rent (factory)	400
Rent (Office)	500
Sales Returns	700
Purchase Returns	900
General Expenses	900
Discount to Customers	360
Interest from Bank	200

(OR)

Contd..

b) Prepare Trading Account of Archana for the year ending 31-12.2016 from the following information:

Opening stock	80,000
Purchases	8,60,000
Freight inward	52,000
Wages	24,000
Sales	14,40,000
Purchase returns	10,000
Sales returns	3,16,000
Closing stock	1,00,000
Import duty	30,000

14. a) On 1st April, 2007, a limited company purchased a Machine for 1,90,000 and spent 10,000 on its installation. At the date of purchase, it was estimated that the scrap value of the machine would be 50,000 at the end of sixth year.
Give Machine Account and Depreciation A/c in the books of the Company for 4 years after providing depreciation by Fixed Installment Method. The books are closed on 31st March every year.

(OR)

b) Distinguish between Straight Line Method and Diminishing Balance Method

15. a) Kannan purchased goods from Raman, the due dates for payment in cash being as follows:

Mar.15	1000	Due 18th April
Apr.21	1500	Due 24th May
Apr.27	500	Due 30th June
May.15	600	Due 18th July

Raman agreed to draw a bill for the total amount due on the average due date. Calculate average due date.

(OR)

On 1st August 2011 a fire occurred in the premises of a firm which carried on the business of general merchandise. From the various books which were saved from fire it was ascertained that:

a. Sales from 1st January to 31st august 2010 - 12,80,000

b. Purchases from 1st January to 31st August 2010 - 8,40,000

c. Stock on hand on 31st December 2009- 2,36,000

Gross profit for the past five years had averaged at 35% on sales.
The value of salvaged stock was agreed at 30,000. Draft a statement o amount of claim. There was no average clause.

Contd..

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Prepare Trial Balance

	□		□
Opening stock	10,600	Wages	2,200
Carriage	200	Commission (Dr.)	300
Purchases	12,000	Returns inward	440
Trade Expenses	580	Rent	200
Plant	2,600	Repairs to plant	460
Cash in Hand	200	Cash at bank	1,000
Debtors	3,000	Income Tax	500
Drawings	700	Returns outwards	150
Sales	25,200	Discount Received	400
Capital	7,000	Creditors	830
Loan (Cr.)	1,400		

17. The following errors were found in the books of Prabhakar and sons. Give the necessary entries to correct them.
    i. Salary of □1,000 paid to a Mohan due to him has been debited to his personal account.
    ii. □1,500 paid in cash for a typewriter was charged to office expenses account.
    iii. □5,000 paid for furniture purchased has been charged to purchase account.
    iv. Repairs made were debited to building account for □250.
    v. An amount of □500 withdrawn by the proprietor for his personal use has been debited to trade expenses account.
    vi. □200 received from Shanthi and Co. has been wrongly entered as Shajahan and Co.

18. From the following balance obtained from the books of Siva, Prepare trading and profit and loss account.

	□		□
Stock on 1.1.2016	9,000	Bad debts	1,200
Purchases	22,000	Sundry expenses	1,800
Sales	42,000	Discount allowed	1,700
Expenses on purchases	1,500	Expenses on sales	1,000
Bank charges paid	3,500	Repair on office furniture	600

Adjustments:
    i. Closing stock on 31st December 2016 was □4500
    ii. Manager is entitled to receive commission @5% of net profit after providing such commission.

Contd…

19. On 1.7.2009 W Ltd. purchased a machinery for □ 1,10,000 and spent □ 6,000 on its installation. The expected life of the machine is 4 years, at the end of which the estimated scrap value will be □ 16,000.

Desiring to replace the machine on the expiry of its life, the company establishes a Sinking Fund. Investments are expected to realize 5% interest.

On 30.06.2013, the machine was sold off as scrap for □ 18,000 and the investments were retained at 5% less than the book value. On 1.7.2013, a new machine is installed at a cost of □ 1,25,000.

Sinking Fund table shows that □ 0.2320 invested each year will produce □ 1 at the end of 4 years at 5%.

Show the necessary ledger accounts in the books of W Ltd.

20. From the following particulars prepare an Account Current to be rendered by Mr. Ram to Mr. Siva as on 31st October 2016 by means of product methods charging interest at 5% p.a.

2016 July 1	Balance due from Siva	□750
Aug 15	Sold goods to Siva	□1250
Aug 20	Goods returned by Siva	□200
Sep 22	Siva paid by cheque	□800
Oct 15	Received cash from Siva	□500

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No of Pages	2

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com.,/ Com (B&I) / Com (CM) **COURSE CODE : 17U1KMC2**

COURSE TITLE : Business Mathematics **QN.NO : 7803**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The ratio of 1 hour to 300 seconds is ----------

   (a) 1:12 (b) 12:1 (c) 1:5 (d) 5:1

2 Find fourth proportion to 2,3,6 ---------

   (a) 18 (b) 12 (c)9 (d) 4

3 Order of the matrix (x y z) is ---------

   (a) 1x3 (b) 3x1 (c) 1x1 (d) 2x2

4 The value of $(A^{T)T}$= ----------

   (a) A (b)A^T (c) $-A^T$ (d) –A

5 If A={1,2,3,4} B={4,5,6} then A∩B is equal to ----------

   (a) {4} (b) {1,2,3} (c) {5,6} (d) none of these

6 A set with no element is called a ----------

   (a) finite set (b) infinite set (c) null set (d) none of these

7 Let f(x) and g(x) be two real valued functions of real variable x defined on the same domain. Then (f+g) (x) is equal to ----------

   (a) f(x)-g(x) (b) f(x)+g(x) (c) f(x)/g(x) (d) f(x). g(x)

8 $\lim_{x \to a} f(x)/g(x)$=----------

   (a) g(a)/f(a) (b) g(a). f(a) (c) f(a)/g(a) (d) none of these

9 At what per cent per annum will the simple interest on Rs.75 for 9 months be Rs.4.50?----------

   (a) 8% (b)9% (c)7% (d) 6%

10 Find 9% of 1250 ----------

   (a) 110 (b) 112.50 (c) 150 (d) 125

Contd..

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.(a) If a+b: a-b = 7:3, find the value of a:b?

(OR)

(b) Show that $\log_4 x+\log_2 x=6$

12. (a) Find the sum of first 15th terms of an A.P 2,5,8,11,….

(OR)

(b) If A = $\begin{bmatrix} 1 & -1 \\ -1 & 1 \end{bmatrix}$, B $\begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}$; AB = 0.

13. (a) If U={0,1,2,3,4,5,6,7,8,9} is the universal set A={1,4,6,7} and B={1,2,4,5,8}

write down the sets (i) A∩B' (ii) A'∩B (ii) (AUB)'

(OR)

(b) If A={1,2,3,4} and B={3,4,5,6} then verify that

(A-B) U (B-A) = (AUB) – (A∩B)

14. (a)Differentiate the following w.r.t. x $(2x+3)^3$

(OR)

(b) Differentiate the following w.r.t. x $5x^2-7x+1$

15.(a) At what rate per cent per annum will (a) the simple interest on Rs 75 for 9 months be Rs 4.50? (b) simple interest on Rs 25 for 3 years be Rs4.50?

(OR)

(b) On what date will Rs 2208 be repaid for a sum of Rs 2190 borrowed on 1st Feb,1963 at 5% p.a. simple interest?

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Show that, to any base $\log \frac{81}{16}-\log\frac{8}{9}+\log\frac{128}{243} = \log 3$.

17. If A =$\begin{bmatrix} 1 & -3 \\ -2 & 4 \end{bmatrix}$;B=$\begin{bmatrix} 3 & 0 & 1 \\ -1 & -2 & -7 \end{bmatrix}$ and C=$\begin{bmatrix} 1 & 6 & 0 \\ -3 & 5 & -2 \end{bmatrix}$ verify that A(B+C) =AB+AC.

18. In a class consisting of 120 students 30 take income tax, 40 take Accounts and 45 take costing, 15 take income tax and accounts, 20 takes income tax and costing, 12 take accounts and costing, 8 take all the three subjects. How many do not take any of these subjects? How many take only one subject? Show Venn diagram.

19. Find the elasticity of demand for the demand function $D=50-5P-P^2$ at P=2.

20. A sum of money put out at compound interest amounts in 2 years to Rs 2809 and in three years to Rs. 2977.54. Find the rate of interest and the original sum.

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No of Pages	2

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 17U1KAC1**

COURSE TITLE : Managerial Economics **QN.NO : 7804**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Scope of Managerial economics is _____.
   a) Limited b) Unlimited c) Infinite d) Endless
2. Given the price, if the cost of production increases because of higher price of raw materials, the supply
   a) Decreases b) Increases
   c) Remains same d) Any of the above
3. The concept of cardinal utility was given by
   a) A. Marshall b) J.R. Hicks
   c) P.Samuelson d) J.M. Keynes
4. Managerial economics is the integration of economic theory with business practice defined by
   a) Mc Nair and Meriam b) Prof. Spencer and Siegelman
   c) Alfered Marshall d) DC Hague
5. Demand is determined by
   a) Price of the product b) Relative prices of other goods
   c) Tastes an Habits d) All of the above
6. Setting a price below that of the competition is called
   a) Skimming b) Profit maximization
   c) Corporate growth d) None of the above
7. A tabular representation of different quantities of a commodity. Demanded a different prices are known as
   a) Demand series b) Demand schedule
   c) Demand pattern d) Statistical demand table.
8. Indicate below what is NOT a factor of production
   a) Land b) A bank loan c) Labor d) Capital
9. Managerial economics generally refers to the integration of economic theory with business
   a) Ethics b) Management c) Practice d) All of the above
10. Setting a price below that of the competition is called _____.
    a) Skimming b) Penetration pricing
    c) Competitive pricing d) None of these

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b)

11. a) Indicate the nature of Managerial Economics.

(OR)

b) Explain the role of managerial Economist.

12. a) Write note on : 1. Total utility
2. Marginal utility

(OR)

b) Write note on Consumer's surplus.

13. a) Explain the law of Demand.

(OR)

b) What are the factors influencing the demand of a product?

14. a) What are the causes of diminishing returns to scale?

(OR)

b) Explain Iso-quant and Iso-costline.

15. a) Point out the objectives of pricing policy.

(OR)

b) Write note on: (i) Penetration Pricing
(ii) Skimming Pricing

PART – C **(3x10=30)**

Answer any THREE questions

16. Explain the scope of managerial economics.

17. Illustrate the law of diminishing marginal utility with the help of a diagram.

18. Explain the different methods of demand forecasting

19. Explain the assumptions and usefulness of Break Even Analysis.

20. Explain the different methods of pricing.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., / BBI **COURSE CODE : 17U1KSM1/ 17U1ISM1**

COURSE TITLE :Accounting Software **QN.NO : 7805**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Tally package is developed by _____
   a) Coral solutions b) Tally solutions
   c) Peutronics d) Vedika solutions
2. BoM stands for _____
   a) Bond of Materials b) Bond of Management
   c) Bill of Management d) Bill of Material
3. In accounting software, the short cut to select Calculator from Gateway of Tally screen is
   a) Ctrl+M b) Ctrl+N c) Ctrl+A d) Alt+C
4. Which groups can be created only in single create option in Tally.ERP 9?
   a) Secondary b) Primary c) Sundry Debtors d) Bank Account
5. Function key for Journal Voucher.
   a) 76 b) F7 c) F8 d) F9
6. The amount paid for the purchase of fast the purchase of machinery must be treated in _____
   a) Journal voucher b) Payment voucher
   c) Contra d) Delivery Note Voucher
7. Shortcut key for purchase order is
   a) F2 b) F6 c) F4 d) F1
8. _____ is issued at the time of delivery of goods, which affects stock note
   a) Delivery Note b) Receipt Note c) Rejection Note d) Sales Order
9. If the interest is calculated only for the Principal the it is called _____
   a) simple interest b) compound interest
   c) both a and b d) None
10. Formula for compound interest _____
    a) $A=P(1+r/100)^n$ b) $A=P(1+P/100)^n$
    c) $A=P(1+T/100)^n$ d) $A=P(1+r)^n$

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) What are the features of Tally?

(OR)

b) Bring out the benefits of Tally.

12. a) How to create directory in Tally?

(OR)

b) Write down the process of creating a ledger.

13. a) What are the various types of voucher?

(OR)

b) Explain Alteration and deletion of vouchers.

14. a) List out the drawbacks of Bank Reconciliation statement.

(OR)

b) Discuss the creation of stock group and stock items.

15. a) List the compound interest formula and calculations.

(OR)

b) How to calculate simple interest for
P=Rs.30,000 r=10% p.a. Term=4 Years.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Discuss the role of Tally in accounting software.
17. What are the various types of vouchers? Explain.
18. Explain the Gate way of Tally in Trail Balance, Profit & Loss Account and Balance Sheet.
19. How to create alter and delete stock item in Tally?
20. Calculate the compound interest for the following:

P=Rs.40,000, r=12%p.a. Period=5 years.

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SEMESTER EXAMINATIONS – APRIL 2021

CLASS: B.Com.,/ B&I / CM **COURSE CODE : 17U2KLA2**

COURSE TITLE : Technology for Business Applications **QN.NO : 7806**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. _____ refers to sets of electronic instructions that tell the hardware what to do.
   a) Hardware b) Software c) data d) users.
2. when was the first mini Computer built?
   a) 1975, b) 1962 c) 1971 d) 1966
3. The personal Computers are also called _____.
   a) Desk top Computer b) palmtop Computer
   c) Advanced Computer d) portable Computer
4. An assembly language is a division of _____
   a) Binary language b) low-level language
   c) high-level language d) Machine language
5. Laye Collection of files are called _____
   a) fields b) Record c) databases d) file system
6. A top-to-bottom relationship among the items in a database is established by a _____.

(P.T.O)

a) hierarchical schema b) network schema
c) relational schema d) paradox

7. How can you update the values of formula cells if auto calculate mode of Excel is disabled?
a) F8 b) F9 c) F10 d) F11

8. The maximum zoom percentage in Microsoft Powerpoint is _____.
a) 100%. b) 200%. c) 400%. d) 500%.

9. which of the following is not a type of MS Access data base object?
a) Table b) Form c) worksheets d) Modules

10. which feature is used to duplicate a Control's formatting?
a) Manager b) wizard c) painter d) Control.

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11 a) what are the uses of Computers?

(or)

11 b) Explain the Characteristics of Computer.

12 (a) Discuss about the Memory Units.

(or)

12 b) what are the various languages? Explain

13@ What are the Information Processing in data base?

(or)

13⑤ What are the functions of data in the data base?

14@ How do you create a Table in MS-Excel.

(or)

14⑤ Discuss about the power point presentation.

15@ Write a payroll Programme in Access.

(or)

15⑤ Write short notes on:-

a) Data warehousing

b) Cloud Computing

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Briefly discuss about the classification of Computer?

17. Explain the various components of a Computer.

18. Describe about the various types of Data base Management system.

19. Explain the Mathematical function in Excel.

20. Briefly discuss about the Data Mining.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com.,/ Com (B&I) / Com (CM) **COURSE CODE : 17U2KMC3**

COURSE TITLE : Financial Accounting – II **QN.NO : 7807**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Consignment A/C is of the nature of
   a. Personal A/C b. Nominal A/C c. Real A/c d. None
2. invoice price means
   a. cost price b. purchase price c. selling Price d. cost of sales
3. memorandum joint venture A/c is a
   a. Personal A/C b. Real A/C c. Nominal A/C d. trading A/c
4. Profit and losses on joint venture is shared by the co- venture
   a. Equally b. in the capital ratio
   c. as per the agreement d. new ratio
5. Goodwill A/C is opened in
   a. Debtors ledger b. Creditors ledger
   c. General ledger d. none
6. No self- balancing entry is required for
   a. Bad debt written off recovered b. B/R dishonoured
   c. Discount allowed d. B/P honoured
7. Single entry is usually adopted by
   a. Small firms b. joint stock company c. Registered bodies d. none
8. Closing capital + Drawings – Opening capital = _____
   a. Profit or loss b. additional capital
   c. opening capital d. none
9. income and expenditure A/C reveals
   a. Cash in hand b. surplus or deficiency c. net profit d. gross profit
10. Subscription received in advance is
    a. An asset b. an income c. a receipt d. a liability

Contd…

PART – B **(5 x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. (a) M sent 10 cars to N on consignment. The cost of each car was Rs. 12,000. The expenses of M were: Freight Rs. 7,000 and Insurance Rs. 3,000. During transit, one car was destroyed and the insurance company paid Rs. 9,000 towards that claim. N sold 7 cars at Rs. 15,000 each and he paid for unloading and insurance Rs. 3,300. He sent Rs. 90,000 by drafts. It was agreed that N is to get 5% commission. Give ledger account in the book of M.

(OR)

(b) Messrs. Sundar& Company consigned 1,000 tons of Ghee costing Rs. 60 per tin to their agents, Bansal stores, at Calcutta. The agents sold 400 tings at Rs. 80 per ton for cash, 400 tins at Rs. 82 per ton on credit and they took over the balance to their own stock at Rs. 82 per ton. Messrs. Sundar& company paid freight and carriage Rs. 500 and miscellaneous expenses Rs. 200. They drew on Bansal stores at 3 months for Rs. 45,000 which was duly accepted by the latter. The expenses incurred by the Bansal stores were:

a. Carriage Rs. 50
b. Octroi Rs. 40
c. Storage Rs. 110
d. Miscellaneous Rs. 100

They were entitled to 5% commission and 2% Del credit commission on total gross sale proceeds. They sent their account sales to their principal showing as a deduction there from their commission and the various expenses incurred by them. A month later all the debtors accept one who owed Rs. 200 paid cash and the Bansal stores remitted the amounts due on consignment.

Show the journal entries in the books of thee consignor and the consignee's account and consignment account in the consignor's ledger. Show also the entries relation to consignment inwards and the consignor's personal account as it would appear in the consignee's ledger.

12. (a) A and B enter into a joint venture for guaranteeing the subscription at par of 1,00,000 shares of Rs. 10 each of a joint stock company. They agree to share profits and losses in the ration of 2:3. The terms with the company are: 4.5% commission in cash and 6,000 fully paid up shares of the company.

The public take up 88,000 of the shares and the balance shares of the guaranteed issue are taken up by A and B who provide cash equally. The commission in cash is taken by the partners in the ration of 4:5.

The entire shareholding of the joint venture is then sold through brokers: 25% at a price of Rs.9, 50% at a price of Rs. 8.75; 15% at a price of Rs. 8.50 and the remaining 10% is taken over by A and B equally at Rs. 8 per share.

Prepare a joint venture account and the separate accounts of A and B showing the adjustment of final balance between A and B. Ignore interest and income tax.

Contd..

(OR)

(b) A of Bangalore enters into a joint venture with B of Bombay to ship cotton bales to C in Japan. A sends cotton of the value of Rs. 30,000, pays railway freight and etc., Rs. 1,500 and sundry expenses Rs. 1,575. B sends goods valued at Rs. 20,750 and pays freight and insurance Rs. 1,200

Dock dues Rs. 200; customs charges Rs. 500 and other sundry expenses Rs. 500. A advances to B Rs. 6,000 on account of the venture. B receives account sale and remittance of the net proceeds from C in Japan for the whole of goods amounting to Rs. 80,000. Show how joint venture transactions will be recorded in the books of A. (Memorandum method is not required).

13. (a) the system of self-balancing control is employed by Kumar in relation to debtors. Prepare general ledger adjustment account in the sales ledger with the help of the following particulars:

	Rs.		**Rs.**
Opening balance (Dr.)	36,000	Credit sales	70,500
Opening balance (Cr.)	1,500	Bills receivable dishonored	3,000
Allowances to customers	750	Bad debts written off	4,500
Returns inward	5,250	Discounts allowed	2,250
Closing credit balance	500	Bad debts written off previously now received	1,500
Cash received from debtors	52,500	Discounts disallowed (previously allowed)	80
Bills receivable received	12,750		

A credit balance of Rs. 7,500 in the purchases ledger is to be transferred to the sales ledger and a debit balance of Rs. 2,000 in the sales ledger is to be transferred to purchases ledger on account of settlement of account.

(OR)

(b) Below are given particulars from the books of Sriram, a trader for the month of January,2018:

January 1, 2018	**Rs.**	**January 31, 2018**	**Rs.**
Opening balance	30,000	Bills dishonored	1,500
		Discount allowed to debtors	400
January 31,2018		Bad debts	350
Total sales for the month	90,000	Transfer from another ledger	750
Sales returns	500	Bills receivable endorsed to suppliers	1,200
Cash received from debtors	40,000		
Bills receivable	15,000		

Contd..

You are required to prepare the relative 'sales ledger' and 'general ledger' adjustment account.

14. (a) x tells you that his capital on 31st December, 2016 is Rs. 18,700 and his capital on 1st January 2016 was Rs. 19,200. He further informs you that during the year he gave loan of Rs. 3,500 to his brother on private account and withdrew Rs. 300 p.m. for personal purposes. He also used a flat for his personal purposes, the rent of which at the rate of Rs. 100 p.m. and electricity charge at an average of Rs. 10 p.m. were paid from the business account. He once sold his 7% government bond Rs. 2,000 at 2% premium and brought that money into the business. Besides this there is no other information.

You are required to prepare a statement of profit.

(OR)

(b) P commenced business on 1st January, 2017 with a capital of Rs. 20,000. Soon, thereafter, he bought furniture and fixtures for Rs. 4,000. On 30th June, 2017, he borrowed Rs. 10,000 from his brother at 12% p.a. (interest not yet paid) and introduced a further capital of his own amounting to Rs. 3,000. He withdrew @ Rs. 600 p.m. at the end of each month for household expenses. On 31st December, 2017 his position was as follows:

Cash in hand Rs. 400; cash at bank Rs. 5,200; sundry debtors Rs. 9,600; stock Rs. 10,000; bills receivable Rs. 3,200; sundry creditors Rs. 1,000 and owing for rent Rs. 300; Furniture and fixtures are to be depreciated by 10%;

Ascertain the profit or loss made by P during the year 2017.

15. (a) from the following information prepare an Income and Expenditure Account and the Balance sheet

Receipts	**Rs.**	**Payments**	**Rs.**
Cash in hand	140	Salaries	4,800
Cash at bank	1,600	Stationery and postage	200
Subscriptions:		Bicycle purchased	300
2011 500		Rent	500
2012 8,300		Defense Bonds	3,000
2013 600	9,400	Help to needy student	2,000
Sale of investment	2,000	Cash in hand	300
Interest on investment	60	Cash at bank	2,400
Sale of furniture (book value Rs. 400)	300		
	13,500		13,500

Subscriptions for 2012 still due wasRs. 700. Interest due on defense bonds was Rs. 100. Rent still owing was Rs. 60. The book value of the investments sold was

Contd…

Rs. 1,800, Rs. 1,200 of the investments were still in hand. Subscriptions received in 2012 included Rs. 1000, from a life member. The total furniture on 1st January, 2012 was Rs.900

(OR)

(b) Dr. Iodine commenced practice as an eye specialist, investing Rs. 50,000 in equipment, on 1st January, 2016. The receipts and payments account for the year was as follows:

Particular	Rs.	Particular	Rs.
To fees	1,00,000	By rent	6,000
To miscellaneous receipts	200	By salaries to assistants	15,000
To equipment sold	4,000	By journals	2,000
		By library books	6,000
		By equipment purchased	8,000
		By drawings	24,000
		By balance:	
		At bank	43,000
		In hand	200
	1,04,200		1,04,200

Rs. 3,000 of the fees were still outstanding. Equipment sold and purchased was on 1st October, 2016; the cost of equipment sold, being Rs. 6,000. Depreciation on equipment is 20% and on library books 5%. Salaries to assistants still payable isRs. 2,000.

Prepare the Receipts and Expenditure Account and the Balance sheet relation to 2016.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Swastik Ltd. Forwarded on 1st January, 2016 – 100 bicycles to Narinder& co. of Delhi to be sold on behalf of Swatik Ltd. The cost of one bicycle was Rs. 250, but the invoice price was Rs.300. Swastik Ltd. Incurred Rs. 1000 on freight and insurance and received Rs. 10,000 as advance from Narinder& co.Narinder&co. paid Rs. 500 as octroi and carriage, Rs. 400 as rent and Rs. 300 as insurance and by 30th June, 2016 had disposed of 80 bicycles for Rs. 25,000. Narinder& co. is entitled to commission on sale at 5% on proforma invoice price and 25% of any surplus price realized. Narinder and co. remitted the amount due from them by a bank draft. You are required to give journal entries to record him above transaction in the books of thee consignor and the consignee and also write up the ledger accounts in the books of both the parties.
17. On 1st January, 2018 Messrs. Alpha Radios of Madras consigned 300 radios to Beta agencies of Port Blair. The cost price of each radio is Rs. 250 but invoiced pro forma to give a profit of one-sixth on invoice price. The consignees were entitled to

Contd…

a commission of 7% on gross sales plus a special commission of 20% on the excess sale price over invoice price after charging all commission. The consignors paid Rs. 400 by way freight and Rs. 200 by way of insurance.

The consignment was duly received by Beta agencies on 1st February and they incurred the following expenses:

Import duties	Rs. 900
Unloading and cartage	Rs. 300
Selling and Estb.	Rs. 600

The consignors drew a bill for Rs. 50,000 at 3 months after sight and the same was accepted by Beta agencies. The consignors realized Rs. 49,695 by discounting the bill on 31st March. For the Messrs. Alpha Radios for the amount due.

After preparing the annual accounts on 30th June 2018. It was however decided that Messrs. Beta agencies should be treated as co-venture with retrospective effect from 1st January, 2018 subject to the following conditions:

a. The cost of each radio to be taken at Rs. 275
b. Beta agencies to be entitled to a commission of 5% on sales.
c. Messrs. Alpha radios entitled to interest at 10% p.a. on their investment, after taking into account the gross value of acceptance received from Beta agencies.
d. Profits or losses after charging interest and commission to be shared equally.

Show the adjustment journal entries to be passed by both the parties necessitated by the conversion.

18. Prepare total accounts from the following particulars in the three ledgers.

January 1,2016		**Rs.**
Balance on bought ledger	Dr.	1,740
Balance on bought ledger	Cr.	23,880
Balance on sales ledger	Dr.	29,240
Balance on sales ledger	Cr.	480

January 31, 2016	**Rs.**		**Rs.**
Purchases	1,32,360	Discount received thereon	3,320
Purchases returns	5,120	Cash paid to customers	260
Sales	1,74,980	Bills receivable	8,240
Sales returns	2,340	Bills payable	4,500
Cash received from customers	1,52,420	Bills receivable dishonored	500
Discount allowed thereon	5,640	Bought ledger balances (Dr.)	1,540
Cash paid to suppliers	1,16,860	Sales ledger balances (Dr.)	36,700

19. Mukesh carries on business as retail merchant. He does not maintain regular books. From cash sales effected by him he effects business and other payment, always retains cash of Rs. 1,000 on hand and deposits the balance in the bank account. The stock inventories for the year ended 31st December, 2017 are lost.

Contd…

However, he informs you that he has sold goods invariably at a price which yield him a profit of 33 1/3% on cost. Form the following additional information supplied to you, prepare necessary final account for the year ended 31st December, 2017:

Assets and Liabilities	**1st Jan. 2017**	**31st Dec; 2017**
Cash in hand	1,000	1,000
Sundry creditors	4,000	9,000
Cash at bank	Nil	8,000
Sundry debtors	10,000	35,000
Stock of goods	28,000	nil

Analysis of the bank pass book reveals the following information:

	Rs.
Payment to creditors	70,000
Payment for business expenses	12,000
Receipts from debtors	75,000
Loan from asit taken on 1st Jan. 2017 @ 10%p.a	10,000
Cash deposited in the bank	10,000

In addition, he paid to the creditors for goods Rs. 2,000 in cash and salaries Rs. 4,000 in cash. He also withdrew Rs. 8,000 cash for his personal expenses.

20. The Jubilee Club, Salem had the following assets and liabilities as on 01-01-2016: Cash in hand Rs. 2,000; subscription receivable Rs. 200; furniture Rs. 1000; sport material Rs. 600; investments Rs. 2,500; buildings Rs. 5,000; outstanding creditors for supplies Rs. 300 and capital fund Rs. 11,000.
During the year 2013 the club did the following business:
Subscriptions received (including the arrears) Rs. 3,000; subscription due Rs. 300; paid the outstanding creditors for supplies; subscriptions to newspapers Rs. 500; sports materials purchased Rs. 1000; sales of establishment Rs. 1,000; stock of sports materials at the end Rs. 500; interest received on investments Rs. 75 (outstanding Rs. 25); borrowings Rs. 2,000; purchased furniture (31-12-2016) Rs. 400; expenditure on annual function Rs. 375; donations received Rs; 1,800; (half to be capitalized). Provide depreciation at 5% on furniture and buildings.
Prepare a Receipts and payments account and Income and Expenditure account for the year ended 31st December, 2016 and a Balance sheet as on that date.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com.,/ Com (B&I) / Com (CM) **COURSE CODE : 17U2KMC4**

COURSE TITLE : Business Statistics **QN.NO : 7808**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Statistics does not study---------

   a) Constant b) Statistic c) Parameter d) Individual

2. Histogram is useful to determine graphically the value of----------

   a) Mean b) median c) mode d)all the above

3. Ten families have an average of 2 boys. How many boys do they have together?

   a) 2 b) 10 c) 12 d) 20

4. Sum of the deviations about mean is ----------

   a) Zero b) minimum c) maximum d)one

5. --------- refers to the relationships of two or more variables

   a) Tabulation b) Dispersion c) Correlation d) Regression

6. The signs of regression coefficients and correlation coefficient are always:

   a) Different b) Same c) Positive d) Negative

7. Seasonal variations repeat during a period of-------

   a) one year b) Five years c) seven years d) Four year

8. Index numbers can be used for.

   a) Forecasting b) Fixed prices

   c) Different prices d) Constant prices

9. $5c_2$ is equal to---------

   a)20 b) 10 c) 30 d) none of these

10. Probability of getting 3 heads or 3 tails in tossing a coin 3 times is ---------

    a)1/8 b)1/4 c)0 d)3/7

Contd…

PART – B **(5 x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Describe the Various of Functions of Statistics.

(OR)

b) In Survey of 30 families in a village, the number of children per family was recorded and the following data are obtained

1	0	2	3	4	5	6	7	2	3
4	0	2	5	8	4	5	6	3	4
3	7	6	5	3	3	7	5	9	2

Prepare the data in the form of a discrete frequency distribution.

12.a) Compute Harmonic Mean of the following data.

Size	0-10	10-20	20-30	30-40	40-50
Frequency	5	8	12	6	4

(OR)

b). Calculate Co-efficient of range from the following data.

Marks	10-20	20-30	30-44	40-50	50-60
No. Of Students	8	10	12	8	4

13.a) Explain the different types of correlation with examples.

(OR)

b) Find Regression lines by using assumed mean.

X	40	38	35	42	30
Y	30	35	40	36	29

14.a) construct an index number for 2015 taking 2014 as base from the following data.

Commodity	Price in 2014(Rs)	Price in 2015 (Rs)
A	50	60
B	40	80
C	70	110
D	90	70
E	50	40

(OR)

Contd…

b.Calculate the trend value by using three yearly moving averages of the following data.

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Production(in '000 tons)	21	22	23	25	24	22	25	26	27	26

15.a) Describe the sample space and all 16 events for a trial in which two coins are thrown and each shows either a head or a tail.

(OR)

b) You consult Joe the bookie as to the form in the 2.30 at Ayr. He tells you that, of 16 runners, the favorite has probability 0.3 of winning, two other horses each have probability 0.20 of winning, and the remainder each have probability 0.05 of winning, excepting Desert Pansy, which has a worse than no chance of winning. What do you think of Joe's advice?

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain the various types of Statistical diagrams with examples.

17. From the following data, calculate mean, median, and ,mode.

X	50-53	53-56	56-59	59-62	62-65	65-68	68-71	71-74	74-77
F	3	8	14	30	36	28	16	10	5

18. Compute the co-efficient of correlation between X and Y.

X	10	12	18	8	13	20	22	15	5	17
Y	88	90	94	86	87	92	96	94	88	85

19. Construct chain index number from the link relatives given below.

Year	2010	2011	2012	2013	2014
Link index	100	105	95	115	102

20. A fair coin is tossed, and a fair die is thrown. Write down sample spaces for
(a) The toss of the coin;
(b) The throw of the die;
(c) The combination of these experiments.
Let A be the event that a head is tossed, and B be the event that an odd number is thrown. Directly from the sample space, calculate $P(A \cap B)$ and $P(A \cup B)$.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., / Com (CM)	COURSE CODE : 17U2KMC5
COURSE TITLE : Marketing	QN.NO : 7809
TIME : 3 Hours	MAX.MARKS :75

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Market is derived from the _____ word
   a) Latin b) Italic c) England d) French.
2. Market includes both place and Region in which _____
   a) seller b) Buyer c) Trader d) Customer.
3. Goods can be purchased in _____ ways.
   a) Two b) Three c) four d) Ten.
4. product planning and Development is one _____ of selling
   a) function b) Type c) Advantage d) Elements.
5. Consumer Behaviour Can be classified into _____ Types of factor
   a) five b) Six c) Three d) four.
6. colour basis is one of the _____ for standard
   a) Bases b) Types c) Importance d) Advantages.
7. _____ Element of the Marketing mix
   a) price b) post c) pre d) previous.
8. Concentration is one of the Marketing _____
   a) problem b) process c) promotion d) public
9. physical evidence Can be classified into _____ types of categories
   a) four b) Three c) Two d) One
10. _____ is one of the problems of service Quality control
    a) people oriented b) pre oriented c) post oriented d) public oriented.

P.T.O.

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Explain about the Elements of marketing system (or)

    b) Discuss the Various Apporaches to the study of marketing.

12. a) Explain the various methods of Buying (or)

    b) State the Advantages of Assembling.

13. a) Discuss the Various factors Influencing Consumer Behaviour (or)

    b) what are the forces motivating to Buy?

14. a) Explain the Various Dimensions of product mix (or)

    b) State the different stages in the Development process.

15. a) Disuss the charactertistics of Service marketing (or)

    b) Difference between Goods and Service.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Define marketing and Breifly Explain about functions of marketing.
17. Define Selling and Briefly Describe about Methods of selling.
18. Dicuss the Various Advantages of standardisation.
19. Explain about the Various stages of product life cycle with Suitable one Examples
20. Briefly Explain about the elements of Service Marketing mix.

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SEMESTER EXAMINATIONS – APRIL 2021

CLASS: B.Com., **QN.NO : 7810**

TITLE : Branding and Advertising **CODE : 17U2KSM2**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. A brand is a _____
   a) Name of company b) a colour
   c) Packing of product d) a name of product
2. Packaging used for the ice creams is an example of which of the following?
   a) Decorative packaging b) Transport packaging
   c) Secondary packaging d) Primary packaging
3. Copy testing is also known as ------
   a) Pre Testing b) Copy writing
   c) Concurrent testing d) Preview
4. Personal selling
   a) Face to face communication b) Written communication
   c) Indirect communication d) Impersonal communication
5. _____ creates desire for new product
   a) Marketing b) Advertising
   c) Marketing d) Personal selling
6. The content and context of a message contained in an advertisement is called?
   a) Ad copy b) Script c) Body d) Advertising appeal
7. Any paid form of non-personal presentation and promotion of ideas, goods, or services by an identified sponsor is called
   a) Personal selling b) Advertising
   c) Direct marketing d) Sales promotion
8. The process of purchasing space in a media is -------
   a) Media Spacing b) Media Scheduling
   c) Media Purchasing d) Media Buying
9. Which characteristics of an advertisement copy will create a last impression in the minds of its readers?
   a) Educational value b) Attention value
   c) Memorizing value d) Conviction value
10. Which one of the following is not a children's magazine?
    a) Magic pot b) Champak c) Nandan d) 4 ps.

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Explain merits and demerits of Labelling.

(OR)

b) Discuss the requisites of good package.

12. a) Explain the importance of personal selling.

(OR)

b) Summarize forms of promotion.

13. a) Write short notes on Branding.

(OR)

b) Describe about the functions of advertising

14. a) Explain the various kinds of brandings..

(OR)

b) Explain the designing of a product label.

15. a)Discuss the merits and demerits of TV advertisement.

(OR)

b) Summarize the non commercial advertising for social activities.

PART – C (3x10=30)

Answer any THREE questions

16. Explain in detail the essentials of good brand.

17. Describe the qualities of a good salesman.

18. Expound the Qualities of Good Advertisement Company.

19. Describe legal framework for advertisement.

20. Discuss the preparation of an advertising copy.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., / Com (PA) **COURSE CODE : 17U3KMC6**

COURSE TITLE : International Trade **QN.NO : 7811**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Trade between two countries is called_____
   a) International Trade b) Entrepot trade
   c) Bilateral trade d) Multilateral trade
2. When goods are purchased from a foreign country it is called_____
   a) Home Trade b) Import Trade
   c) Export Trade d) Entrepot trade
3. Pegged exchange rate is also called_____
   a) Fixed Exchange Rate b) Fluctuating exchange rate
   c) Spot Rate d) Forward Exchange Rate
4. A non resident bank account is refers to _____
   a) Nostro a/c b) Vostro a/c
   c) Loro a/c d) Foreign bank a/c
5. The commercial invoice is important for_____
   a) Exporter b) Importer
   c) Both A and B d) None of these
6. Mixed policy is consists of _____
   a) Voyage and time b) Voyage and floating
   c) Voyage and construction d) Floating and constructing
7. A letter of credit is addressed to…….
   a) Beneficiary b) The negotiating bank
   c) Reimbursing bank d) None
8. A transferable credit can be transferred_____
   a) Once b) Twice
   c) Thrice d) Any Other Time
9. WTO was established on_____
   a) 1st Jan 1995 b) 31st may 1995
   c) 1st sep 1995 d) 1st Dec 1995
10. The insurance arm of World Bank is _____
    a) IDA b) IFC
    c) IBRD d) MIGA

Contd..

PART – B **(5 x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Explain the Differences between Domestic Trade and International Trade.

(OR)

b) Write about the Needs and Importance of International Trade.

12. a) Explain about the Importance of Export Financing.

(OR)

b) Write about the EXIM BANK and its Functions.

13. a) Explain about the Certificates of Inspection.

(OR)

b) Define Export Order and its Processing.

14. a) Explain the Letters of Credits and its Types

(OR)

b) Write about the Bill of Exchange and its types.

15. a) Explain the WTO Objectives and its Functions.

(OR)

b) Write notes on GATT Objectives and its Functions.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Explain the details International Commercial Terms.
17. Write in detailed about the Export Financing and its Methods
18. Write about the details of Exports Documentations
19. Describe the Bills of Leading & Bills of Exchange.
20. Explain the details about the External Commercial Borrowing and its Advantages.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., / Com (B & I) **COURSE CODE : 17U3KMC7**

COURSE TITLE : Cost Accounting **QN.NO : 7812**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Sunk Cost is the cost relating to
   a) Present b) Future c) Past d) Tax
2. Work cost is otherwise known as
   a) Prime cost b) Production cost
   c) Factory cost d) Cost of sales
3. A Purchase requisition is prepared by
   a) Store keeper b) Supplier
   c) Manufacturer d) Purchase manager
4. In base stock method of pricing the material issues the term base stock represents the
   a) Minimum stock b) Maximum stock
   c) Stock in balance d) Quantity of stock
5. The time wage system
   a) Increases cost of production
   b) Benefits the less efficient workers
   c) Satisfies trade union d) None
6. Factory overhead should be absorbed on the basis of
   a) Machine hours b) Direct labors hours
   c) Direct labor cost d) Relationship of cost incurred
7. In a job costing system, costs are accumulated
   a) By a specific job b) On a monthly basis
   c) By kind of material used d) By department or process
8. When a contract is not completed at the end of the financial year, loss on incomplete Contract is
   a) Debited to contract A/C b) Transferred to P & L A/C
   c) Transferred to WIP d) None of above
9. Which of the following items is not included in financial books?
   a) Interest on capital b) Notional rent
   c) Loss on sale of fixed assets d) Donations
10. Which of the following method of costing can be used in a large oil refinery?
    a) Job costing b) Unit costing
    c) process costing d) Operating costing

Contd…

PART – B **(5 x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11.a) What are the objectives of Cost Accounting?

(OR)

b) Distinguish between Cost Accounting and Financial Accounting

12.a) From the following information calculate (a) Economic order quantity(b) Reorder level(c) Maximum level(d) Minimum level

Normal usage 150 units per day. Minimum usage 100 units per day. Maximum usage 200 units per day. Reorder period 50 to 60 days. The annual usage is 50,000 units. The cost of purchase is Rs. 100 per order. Cost per unit is Re. 1.00. Carrying cost is 10% per annum.

(OR)

b) The stock of a material as on 1st April was 200 units at Rs. 2 each. The following purchases and issues were made subsequently. Prepare Stores Ledger Account showing how the value of the issues would be recorded under FIFO method

April 5	Purchases	100 units at Rs. 2.20 each
10	Purchases	150 units at Rs. 2.40 each
20	Purchases	180 units at Rs. 2.50 each
2	Issues	150 units
7	Issues	100 units
12	Issues	100 units
28	Issues	200 units

13.a) Calculate the normal and overtime wages payable to a workman from the following data.

Days	Hours worked
Monday	8
Tuesday	10
Wednesday	9
Thursday	11
Friday	11
Saturday	5

Normal working hours 8 per day Normal wage rate Re. 1 per hour
Overtime rate upto 9 hours in a day at single rate and over 9 hours in a day at double rate (or)
Upto 48 hours in a week at single rate and over 48 hours at double rate whichever is more beneficial to the workman.

(OR)

Contd…

b) Calculate the machine hour rate for machine A

Cost of Machine	Rs. 16,000
Estimated scrap value	Rs. 1,000
Effective working life	10,000 hours
Running hours for a 4 weekly period	160 hours
Average repairs and maintenance for a 4 weekly period	Rs. 120
Standing charges allocated to machine A for a 4 weekly period	Rs. 40

Power: 4 units per hour at a cost of 25 paise per hour

14.a) The following was the expenditure on a contract for Rs 6,00,000. Work commenced in January 2009.

Materials	Rs.1,20,000
Wages	Rs.1,64,400
Plant	Rs. 20,000
Business expenses	Rs. 8,600

Cash received on account was Rs. 2,40,000 being 80 per cent of work certified. Value of materials on hand at 31.12.2009 was Rs. 10,000. Prepare the contract account for 2009 showing the profit to be credited to profit and loss account. Plant is to be depreciated at 10 per cent.

(OR)

b) Narmada Travels is running a fleet of six buses between two towns 75 kms apart. Seating capacity of each bus is 40 passengers.
The following particulars are available for the month of June.

	Rs. 7,200
1. Wages of drivers and conductors	3,000
2. Salaries of office staff	4,800
3. Taxation and Insurance	6,000
4. Interest	20,640
5. Diesel and oil	2,400
6. Repairs and maintenance	7,800
7. Depreciation Total	51,840

Actual passengers carried were 80 per cent of seating capacity. All the buses ran on all the days of the month. Each bus made one round trip per day. Find out the cost per passenger km.

15.a) 100 units are introduced into process I at a cost of Rs. 9,600 and an expenditure of Rs. 4,800 is incurred. From past experience, it is ascertained that wastage normally arises to the extent of 15% of units introduced. This wastage is having a scrap value of Rs. 10 per unit. The actual output of process I is 90 units, transferred to process II. Prepare Process I Account, Abnormal Gain Account and Normal Loss Account.

(OR)

Contd..

15b. Prepare a reconciliation statement from the following details:

	Rs.
Net loss as per cost accounts	3,44,800
Net loss as per financial accounts	4,32,890
Works overhead under recovered in costing	6,240
Depreciation overcharged in costing	2,600
Interest on investments	17,500
Administrative overhead over recovered in costing	2,600
Goodwill written off	92,000
Stores adjustment in financial books (cr)	950
Depreciation of stock charged in financial books	13,500

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. From the following information, prepare a cost sheet for the month of December 2010.

	Rs.
Stock on hand-1st Dec. 2010:	
Raw materials	25,000
Work-in-progress	8,200
Finished goods	17,300
Raw materials consumed during Dec. 2010	21,800
Works cost for the month (after adjusting work-in-progress)	48,400
Cost of production of goods sold	53,200
Purchase of raw materials	21,900
Carriage on purchases	1,100
Sale of finished goods	72,300
Direct wages	17,200
Direct expenses	1,200
Factory overheads	9,100
Administration overheads	3,200
Selling and distribution overheads	4,200

17. From the following particulars, prepare stores ledger by adopting simple average method of pricing of material issues.

Contd…

Date	Receipts	Issues
2010 Jan.1	300 units at Rs. 10 per unit	
10	200 unit at Rs. 12 per unit	
12	400 units at Rs. 11 per unit	
15		250 units
16		150 units
18	200 units at Rs. 14 per unit	
20		300 units
22	300 units at Rs. 15 per unit	
25	100 units at Rs. 16 per unit	
27		200 units
31		100 units

18. The production section of a factory working on the job order system pays their workers under the Rowan Premium Bonus Scheme. Workers are also entitled to a dearness allowance of Rs.24 per week of 48 hours. A worker's basic wage is Rs.4 per day of 8 hours and his time sheet for a week is summarised below:

Job No.	Time allowed	Time taken
1	25 hours	20 hours
2	30 hours	20 hours
Idle time (waiting)	_ _ _	8 hours
		48 hours

Calculate the gross wages he has earned for the week.

19. Ganesh Builders undertook a building contract for Rs. 3,00,000 on 1st April 2007. The following are the particulars relating to the contract.

Materials issued Rs. 60,000; Plant sent to site Rs. 15,000

Wages incurred Rs. 80,000; Other expenses incurred Rs. 6000

Cash received on account upto 31st March 2008 amounted to Rs. 1.28.000 being 80% of the work certified. Plant costing Rs. 3,000 and materials costing Rs. 2,500 were lost. On 31st March 2008, plant which cost Rs.2,000 was returned to store. Cost of uncertified work was Rs. 10,000. Materials costing Rs. 2,300 were in site on 31st March 2008. Charge 15% depreciation on plant.

Prepare Contract Account, Contractee's Account and Balance Sheet.

Contd…

20. The product of a company passes through two processes, called respectively I and II. From past experience the percentage of loss, which is computed on the number of units entering the process concerned, is ascertained as Process I-2% and II-5%

The loss of each process possesses a scrap value. The loss of process I is sold at Rs. 10 per 100 units and that of process II at Rs. 20 per 100 units.

The following information is available for the year ended December 31, 19x7. 40,000 units of crude materials were introduced in process I at a cost of Rs. 16,000.

	Process I	Process II
	Rs.	Rs.
	8,000	2,800
Material consumed	12,200	14,000
Direct Labour	3,080	1,000
Manufacturing expenses	Units	Units
	39,000	38,500
Finished Products		
Finished Stock :		
January 1	4,000	6,000
December 31	3,000	8,000
Stock valuation at Jan. 1 (per unit)	Re. 0.90	Rs. 1.47

Stock at December 31 are to be valued at the cost as shown by the year's Process accounts. Prepare process and process stock accounts.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., / B&I / BCM **COURSE CODE : 17U3KMC8**

COURSE TITLE : Partnership Accounts **QN.NO : 7813**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Interest on Capital should be treated as
   a. a charge against profits b) an appropriation of profit
   b. a charge when profit are not available d) All of these

2. Profit and loss appropriation account shows
   a) all expenses
   b) agreed amount of interest on capital and drawings and salaries to partness.
   c) liability of the firm d) None of the above

3. Joint life policy account is
   a) a nominal a/c b) a personal a/c c) an asset a/c d) real a/c

4. Revaluation account is a
   a) nominal a/c b) real a/c c) personal a/c d) asset a/c

5. All accumulated losses are transferred to the capital a/c of the partners in
   a) New profit sharing ratio b) Old profit sharing ratio
   c) capital ratio d) agreement

6. A retiring partner is entitled to his share in the goodwill of the firm as per the
   a) agreement between the partners b) Profit sharing ratio
   c) new profit ratio d) All of the above

7. A firm unable to pay its debts when
   a. a partner is insolvent b. a partner has debit balance
   c. the firm is insolvent d. None of the above

8. The ruling in Garner Vs Murray is applicable to
   a. Death of a Partner b. Dissolution of a partnership
   c. insolvency of a partner d. All of these.

9. Proportionate capital method is otherwise called.
   a. relative capital method b. maximum loss method
   c. Balance method d. good will method

10. Realisation made in parts is called
    a. Distribution of capital b. Piece – meal distribution
    c. Equal Share d. All of the above.

Contd...

PART – B

(5x 7=35)

Answer all questions by choosing either (a) or (b)

11.a. What are the essential features of partnership?

(or)

b. X and Y are two partners sharing profits equally. X draw regularly Rs.200 at the end of every month and Y draw regularly Rs.200 at the beginning of every month for the six months ending 30th June, 2016. Calculate interest on drawings at 5% p.a.

12.a) A and B were Partners sharing profit in the ratio of 7:3. 'C' was admitted on 3/7 share in the profits. Calculate new profit sharing ratio of the partners.

(or)

b. Give the format of Revaluation a/c.

13.a. Explain the accounting treatment of Joint life policy?

(or)

b. P, Q and R sharing profit in the ratio of 3:2:1 respectively an R retires. Nothing is mentioned regarding new ratio. Find out New ratio and Gaining ratio.

14.a. Distinguish between revaluation account and realisation account.

(or)

b. Explain the accounting procedures involved in case of dissolution of a firm.

15.a. Explain Maximum loss method of distribution of cash.

(or)

b. From the following, distribute cash under proportionate capital method, capital of Partners; Muthu Rs.20,000; Mani- Rs.10,000

Profit sharing ratio : 3:2

I Installment (Cash) Rs.5,000

II Installment (Cash) Rs.4,000

III Installment (Cash) Rs.2,000

Contd...

PART – C

(3 x 10 = 30)

Answer any THREE questions.

16. Explain the various kinds of partners.

17. X and Y are partners sharing profit and Loss in the ratio of 3:2 their balance sheet as at 31st December 2017 is as follows:

Liabilities	Rs.	Assets		Rs.
Bills payable	4,000	Sundry Debtory	90,000	
Reserve	10,000	Less:		
Capitals		Provision for		
X- 60,000		Bad debts	2,000	88,000
Y- 50,000	1,10,000	Stock		40,000
		Furniture		12,000
	1,60,000			1,60,000

They agree to admit Z into the partnership with effect from 1.1.2018 on the following terms:

i. The provision for doubtful debts be increased to Rs.3,600

ii. The unrecorded investments valued at Rs.8000 brought into the books

iii. The goodwill of the firm be valued at Rs.50,000

iv. The profit sharing ratio of X,Y and Z be 5:3:2

v. Z shall bring in Rs.50,000 as his capital.

18. The A,B and C were partners sharing profit in the proportion of 4:3:2 respectively their balance sheet as at 31st March 2019 respectively

Liabilities	Rs.	Assets	Rs.
Capital		Goodwill	24,000
A	1,20,000	Other assets	3,76,000
B	1,00,000		
C	80,000		
Other liabilities	1,00,000		
	4,00,000		4,00,000

A retired on 1.4.2019 on which date the goodwill of the firm was estimated at Rs.42,000. How will you deal with it in the books of the firm.

Contd...

19. Raja, Mani & Sundar are in partnership sharing profits and losses in the ratio of 4:3:2 respectively. Their Balance sheet as on 31.12.2016 stood as follows:

Liabilities	Rs.	Assets	Rs.
Creditors	14,000	Cash	6,000
Capital Accounts		Debtors	4,000
P - 16,000			8,000
Q - 8,000			
R - 2,000	26,000	Buildings	
			22,000
	40,000		**40,000**

The firm was dissolved on the date. Raja agreed to take over the stock at an agreed value of Rs.6,000 and debtors as Rs.2,800.

The building was sold at action for Rs.10,800. Pass necessary journal entries and prepare necessary ledger accounts to close the books of the firm.

20. Who is an insolvent? How is the deficiency of an insolvent partner dealt with?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., / B&I / BCM **COURSE CODE : 17U3KAC2**

COURSE TITLE : Company Law & Practice **QN.NO : 7814**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The overall managerial remuneration paid by a public company cannot exceed - _____percent of the company.

(a) 5 (b)10 (c)11 (d)25

2. The person who does the necessary work incidental to the formation of the company is known as

(a)Registrar (b)Promoter (c)Director (d)secretary

3. Issue of shares by the company to be kept open for a minimum of ____days.

(a)one (b)two (c)three (d) seven

4. ___ transfer is null and void.

(a) Forged (b) blank (c) Transmission (d) Valid

5. The interval between two subsequent annual general meetings must not exceed____ months.

(a)12 (b)18 (c)15 (d)7

6. Minimum number of member required to constitute a valid meeting and to transact business therein is called___

(a)Quorum (b)Proxy (c)Meeting (d) Notice

7. An Independent Director shall hold office for a term upto ___consecutive years.

(a)5 (b) 3 (c)2 (d)6

8.____ provides adequate safeguards against victimization of employees and directors.

(a)Audit committees (b)Vigil mechanism (c)Tribunal (d)SEBI

Contd...

9. A person appointed to conduct the proceedings of winding up is called____

(a)Executor (b)Registrar (c)Liquidator (d)Vendor

10. Declaration of solvency is prepared and verified by an affidavit by___

(a)Board of Directors (b)Secretary (c) Registrar (d)Liquidator

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11a. What are the characteristics of a company?

(or)

11b. Distinguish between public company and private company.

12a. How does a stock differ form shares.

(or)

12b. What are the provisions of act relating to transfer of shares?

13a. Write a short note on annual general meeting

(or)

13b. What are the different kinds of resolution?

14a. Can the directors of a company be removed during their term of office?

(or)

14b. What are the rules regarding director's remunerations?

15a. When can a company be wound up by a court?

(or)

15b. Write a short note on creditor's voluntary winding up.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain the contents of Memorandum of Association.

17. Explain the different types of preference shares issued by a company.

18. What are the requisites of a valid meeting?

19. Explain the functions of a company secretary.

20. Explain the duties of a liquidator.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 17U3KAC3**

COURSE TITLE : Practical Banking **QN.NO : 7815**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The word bank is derived from
   a) Latin b) French c) Greek d) English
2. Contracts by lunatics in India is
   a) Always void b) always valid
   c) always voidable d) at times voidable
3. The minimum period for which a fixed deposit can be accepted is _____
   a) 45 days b) 60 days c) 15 days d) 20 days
4. The best suited deposit for a trading community is _____
   a) Saving deposit b) Fixed deposit
   c) Current deposit d) Recurring deposit
5. An order cheque can be converted into a bearer cheque by the means of
   a) sans recourse endorsement b) special endorsement
   c) blank endorsement d) sans Frais endorsement
6. Negotiability gives to the transferee _____ title of the transferor.
   a) The same title b) No title
   c) No better title d) Better title
7. Section 6 of the Negotiable Instruments Act defines
   a) Cheque b) Bill of Exchange
   c) Promissory Notes d) Dishonour by non-payment
8. If a Minor draw indorses, deliver and negotiate Negotiable Instruments, it binds _____
   a) All the parties except minor b) All the parties including minor
   c) Minor Only d) Minor and only Drawer
9. The biggest constraint in E-banking is
   a) Start up cost b) Maintenance cost
   c) Training cost d) Security cost
10. How many types of ATMs are there
    a) 6 b) 5 c) 3 d) 2

Contd…

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) What are the duties of banker to customer?

(OR)

b) Explain the obligation to honour of cheque

12. a) How to open a bank account?

(OR)

b) What are the features of fixed deposit account?

13.a) What do you mean by negotiable instrument? Give its features.

(OR)

b) What is crossing? Give its significance.

14. a) What are the duties of paying banker?

(OR)

b) Differentiate payment in due course and holder in due course

15. a) What are the uses of debit card and credit card?

(OR)

b) State various M-Banking services.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16.Discuss the relationship between banker and customer

17.What are the different types of customers?

18.What is endorsement? What are rules to be followed at the time of endorsement?

19.Explain the rights and duties of collecting banker

20.Analyse the various issues involved in E- banking and suggest measures to overcome them.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 17U3KSM3**

COURSE TITLE : Logistics and Supply Chain Management **QN.NO : 7816**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Place utility is created in
   a) Operative function b) Logistics
   c) Distribution function d) Production function
2. Packaging performs two functions namely _____ and Logistics.
   a) Distribution b) Store keeping
   c) Material handling d) Marketing
3. The process of sorting and grouping products into unique combinations is referred to as
   a) Assembling b) Customisation
   c) Storing d) Grading
4. The final assortment step is,
   a) dispersion b) Transportation
   c) standardisation d) Labelling
5. The warehouse located near the port is
   a) Field warehouse b) Buffer storage warehouse
   c) Bonded ware house d) Export and Import ware house
6. The receipt used for warehouse is
   a) Inventory receipt b) Dock receipt
   c) EDI Receipt d) Goods receipt
7. Rail Truck is referred to as
   a) TOFC b) CONCOR c) Piggy back or TOFC d) IWAI
8. The movement of the product from one location to another
   a) storage b) Material handling
   c) Packaging d) Transportation
9. TQM Mean
   a) Total quality management b) Transport quality management
   c) Terminal quantity management d) Total quantity management
10. UPC Means
    a) Universal product code b) United product code
    c) universal price code d) United price code

Contd…

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) What are the importance of supply chain management?

(OR)

b) What are the objectives of business logistics?

12. a) What are the different types of logistics services?

(OR)

b) State the various examples of strategic alliance

13. a) Explain the benefits of strategic storage

(OR)

b) Explain private warehouse and public warehouse

14. a) What are the defects in air transportation?

(OR)

b) Differentiate COFC and TOFC

15. a) What are the features of EDI?

(OR)

b) What are the advantages of Bar Coding systems?

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Discuss the various functions of logistics management.

17. What are the various types of supply chain relationship?

18. What are the various documents used in public warehouse?

19. What are the advantages offered by logistic services of CONCOR?

20. What are the principles of logistics information?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Commerce **COURSE CODE : 17U3KNM1**

COURSE TITLE : Basics of Accounting **QN.NO : 7817**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Business is distinct from the owner. This concept is called
   a. Business entity b. Going concern
   c. Money measurement d. Money Measurement
2. Accounting does not record non-financial transaction because of
   a. Entity concept b. Accrual concept
   c. Money measurement concept d. None of these
3. Interest on drawing is
   a. Expenditure for the business b. Income to proprietor
   c. Gain on Business d. None of the above
4. Purchase Book makes a record of
   a. All Purchases b. Cash purchases
   c. Credit Purchases d. Total purchases
5. A trial balance is
   a. A real account b. A Nominal A/c
   c. None of these d. Personal a/c
6. Transferring information from journal to ledger is known as:
   a. Transferring b. Posting
   c. Balancing d. Journalsing
7. An estimate of the assets and liabilities as on the date is called
   a. balance sheet b. statement of affairs
   c. trail balance d. statement of capital
8. Stock can be classified as:
   a. fixed asset b. intangible asset
   c. current asset d. none of the above
9. Liquid asset means-------
   a. Long term convertible asset b.Short term convertible asset
   c.Intangible asset d. None of these
10. Debenture is a
    a. Long term Asset b. Short term asset
    c. Long term liability d. Fictitious asset

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Explain about the any Five Basic Features of Accounting System?

(OR)

b) write about the Principles of Accounting?

12. a) Explain about the Journal & its types?

(OR)

b) write about the brief notes of Cash Books?

13. a) Explain about the Trail Balance & its Features?

(OR)

b) write about the Objectifies & Limitations of Trial Balance?

14. a) Explain about the three important sections of balance Sheet?

(OR)

b) Differences between Trading Account & Profit and Loss Account?

15. a) Explain about the Importance of Balance Sheet?

(OR)

b) write about the Steps of Preparation of Balance Sheet?

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain the details about the meaning, Definition and its importance of the Accounting?
17. Detailed about the Subsidiary books & its Types?
18. Explained the details about the Ledger & Journal
19. Discuss about the detailed of Trail Balance forms & its Types?
20. Details about the problems of Balance Sheet & its mistakes of prevent balance sheet?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., / B.Com (PA) **COURSE CODE : 17U4KMC9**

COURSE TITLE : Insurance & Risk Management **QN.NO : 7818**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Direct losses refers to
   a) Dynamic risk b) Property risk
   c) Particular risk d) pure risk
2. Risk insured against death is a contract of
   a) Assurance b) Agreement
   c) Indemnity d) All of the above
3. The person who agrees to compensate the loss arising from the risk is called the _____
   a) Insurer b) Assurer
   c) Underwriter d) All of the above.
4. When the amount for which a subject matter is more than its actual value is _____
   a) Double Insurance b) External Insurance
   c) Re-Insurance d) Over Insurance
5. Life Insurance Company was nationalised in
   a)1951 b)1952
   c)1954 d)1956
6. With profit policy is also termed as
   a) Multiple life policy b) Participating policy
   c) Level premium policy d) Lump sum policy
7. The term 'run-off' or 'fully declared' refers to
   a) Floating policy b) Wagering policy
   c) Business risk policy d) Open cover policy
8. Which one of the following is also known as "all in one" combined policy
   a) Schedule policy b) Comprehensive policy
   c) Floating policy d) None of these
9. The principle of indemnity does not apply to
   a) Burglary Insurance b) Fire Insurance
   c) Marine Insurance d) Life and personal accident Insurance
10. Except Life Insurance the maximum term of the other Insurance is
    a) 12 months b) 18 months
    c) 24 months d) 36 months

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Explain the types of risk?

(OR)

b) What are the objectives of Risk Management?

12. a) What are the characteristics of Insurance?

(OR)

b) Write a short notes on "Insurable Interest".

13. a) Write a short notes on Endowment policies.

(OR)

b) Explain the different types of Annuities.

14. a) What are the different kinds of marine losses?

(OR)

b) Differentiate between fire insurance and marine insurance.

15. a) Write a short notes on Aviation Insurance.

(OR)

b) Explain: **i)** Burglary Insurance **ii)** Industrial all risk insurance

PART – C **(3 x10 = 30)**

Answer any THREE questions.

16. Describe the steps in the process of Risk management .
17. Distinguish between Life insurance and General insurance.
18. Discuss in brief the various Life policy conditions.
19. Describe the procedure to be followed in settlement of claim in fire insurance.
20. State the conditions to be complied in motor insurance policies .

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 17U4KMC10**

COURSE TITLE : Business Finance **QN.NO : 7819**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Objective of Financial Management is
   a) Management of Liquidity b) Maximization of Profit
   c) Maximization of Shareholders' wealth d) Management of Fixed assets
2. Market value of the firm is a result of
   a) Investment decision b) Financing decision
   c) Working capital management d) Risk return trade off
3. Cost of capital refers to
   a) Flotation cost b) Dividend
   c) Required rate of return d) None of the above
4. Financial leverage is zero if
   a) EBIT = Interest b) EBIT = Zero
   c) EBIT = Fixed cost d) EBIT = Preference dividend
5. Capital budgeting decisions are
   a) Reversible b) Irreversible
   c) Unimportant d) All of the above
6. Profitability index method is an extension of
   a) Net present value b) Internal rate of return
   c) Payback method d) Accounting rate of return
7. Gross working capital is equal to
   a) Total assets b) Total liabilities
   c) Total current assets d) Total current liabilities
8. Operating cycle is a technique of
   a) Working capital management b) Receivable management
   c) Inventory management d) Creditors management
9. Walter's Model suggests for 100% DP Ratio when:
   a) $k_e = r$ b) $k_e < r$ c) $k_e > r$ d) $k_e = 0$
10. MM Model of Dividend irrelevance uses arbitrage between:
    a) Dividend and Bonus b) Dividend and Capital Issue
    c) Profit and Investment d) None of the above

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11.a) Explain the scope of financial management.

(OR)

b) Attempt a short note on the responsibility of finance manager.

Contd…

12.a) A firm has the following capital structure and after tax costs for the different sources of funds used:

Sources of funds	Amount (Rs.)	Proportion %	After-tax cost %
Debt	15,00,000	25	5
Preference shares	12,00,000	20	10
Equity shares	18,00,000	30	12
Retained earnings	15,00,000	25	11
Total	**60,00,000**	**100**	

You are required to compute the weighted average cost of capital.

(OR)

b) From the following data calculate operating leverage and financial leverage:
Sales 1,00,000 units at Rs. 2 per unit
Variable cost per unit @ Re. 0.70
Fixed cost Rs. 1,00,000
Interest charges Rs. 3,600

13.a) Determine the pay-back period for a project which requires a cash outlay of Rs. 10,000 and generates cash inflows of Rs. 2,000; Rs. 4,000; Rs. 3,000; Rs. 2,000 in the first, second, third and fourth year respectively.

(OR)

b) An investment of Rs. 10,000 having scrap value of Rs. 500 yields the following returns:

Year	1	2	3	4	5
CFAT	4,000	4,000	3,000	3,000	2,000

The cost of capital is 10%. Is the investment desirable? Discuss it according to NPV method assuming the P.V. factors for 1st, 2nd, 3rd, 4th and 5th year: 0.909, 0.826, 0.751, 0.683 and 0.620 respectively.

14.a) Describe the short term and long term sources of working capital.

(OR)

b) Explain the factors influencing the working capital.

15.a) Identify the different types of dividend.

(OR)

b) State the various factors which influence the dividend decision of a firm.

PART – C (3 x10 = 30)

Answer any THREE questions

16. Examine the various sources of finance.

17. a) A company expects a net income of Rs. 80,000. It has Rs. 2,00,000 8% debentures. The equity capitalization rate of the company is 10%. Calculate the value of the firm and overall capitalization rate according to the Net Income approach (ignore income tax).

b) If the debenture debt is increased to Rs. 3,00,000, what shall be the value of the firm and the overall capitalization rate?

Contd…

18. A company is considering to purchase a machine. Two machines A and B are available each costing Rs.5,00,000. In comparing the profitability if machine, a discount rate of 10% is to be used.
Earnings after taxation are expected to be as follows:

Year	Cash Flows (Rs.)	
	Machine A	Machine B
1	1,50,000	50,000
2	2,00,000	1,50,000
3	2,50,000	2,00,000
4	1,50,000	3,00,000
5	1,00,000	2,00,000

Discount Factor at 10% is:

Year	1	2	3	4	5
PV Re. 1	0.9091	0.8264	0.7513	0.6830	0.6209

You are required to indicate which of the machines would be profitable using the following methods of ranking investment proposals:

i. Pay-back method
ii. Net Present Value Method
iii. Return on Investment Method.

19. From the following estimates of RLG Ltd., you are required to prepare a forecast of working capital requirements.

i. Expected level of production for the year 15,600 units
ii. Cost p.u. Raw materials Rs. 90, Direct Labour Rs. 40, Overheads Rs. 75
iii. Selling price p.u. Rs. 265
iv. Raw materials in stock on an average for one month
v. Materials are in process on an average 2 weeks
vi. Finished goods in stock on an average for one month
vii. Credit allowed by suppliers is one month
viii. Time lag in payment from debtors is 2 months
ix. Lag in payment of wages 1 ½ weeks
x. Lag in payment of overheads is one month. All sales are not on credit.
xi. Cash in hand and at bank is expected to be Rs. 60,000

It is assumed that production is carried on evenly throughout the year. Wages and overheads accrued evenly and a period of 4 weeks is equivalent to a month.

20. The following information is available in respect of a firm.

Capitalization rate = 10%; Earning per share Rs. 40
Assumed rate of return on investments: i) 12% ii) 10% iii) 8%

Show the effect of dividend policy on market price of shares applying Walter's formula when dividend payout ratio is a) 0% b) 50% c) 100%.

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RE-ACCREDITED (3rd Cycle) WITH "A" GRADE BY NAAC

No of Pages	5

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., / B & I / BCM **COURSE CODE : 17U4KMC11**

COURSE TITLE : Special Accounts **QN.NO : 7820**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Under the stock and debtor system, Branch A/c is treated as
   a) Joint a/c b) Nominal a/c c) Personal a/c d) Real a/c
2. Branch which does not maintain its own set of books is_____.
   a) Dependent branch b) Independent branch
   c) Foreign branch d) Local branch
3. Hire Purchase Act is passed in the year
   a) 1932 b) 1956 c) 1972 d) 1872
4. The difference between hire purchase price and the cash price is called _____
   a) Hire charges b) Cost of the asset
   c) Installment price d) Cash price
5. Indian Banks are Supervised by
   a) State Bank of India b) Imperial Bank
   c) Central Bank d) Reserve Bank of India
6. Schedule 4 relates to _____
   a) Deposits b) advances c) other assets d) Borrowings
7. Insurance business in India is regulated by
   a) Insurance Companies Act b) IDRA ACT
   c) Banking Regulation Act d) Companies Act
8. Bonus in reduction of premium is shown as a _____ in the revenue account.
   a) Surplus. b) Premium.
   c) Expense and Income. d) None of the above.
9. Voyage Account is prepared
   a) Annually b) Quarterly c) For each Voyage d) Monthly
10. Port charges are paid for
    a) entering into port b) parking the ship
    c) loading and unloading d) all the above

Contd….

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) From the following particulars relating to Hyderabad branch for the year ended 31.12.2018, Prepare Branch A/c in the head office books:

	Rs.		Rs.
Petty cash at Branch 1.1.18	300	Cheque sent to branch for:	
Stock at branch on 1.1.18	15,000	salaries	9,000
Debtors at the branch on 1.1.18	30,000	Rent & rates	1,500
Goods sent to branch during 2018	2,52,000	Petty cash	1,100
Cash sales 2018	60,000	Stock at branch on 31.12.2018	23,000
Received from debtors 2018	2,10,000	Petty cash 31.12.2018	200
Credit sales during 2018	2,28,000	Debtors on 31.12.2018	48,000
Goods returned by branch	2,000		

(OR)

b) Show what entries would be passed by head office to record the following transactions in the books on 31st December, the date of annual closing?

i. Goods amounting Rs. 1,500 transferred from Chennai branch to Trichy branch under instructions from head office.

ii. Depreciation of Rs.1,000 on Chennai branch fixed assets when such accounts are opened in the head office books.

iii. A remittance of Rs. Rs.9,000 made by the Trichy branch to head office on 26th December and received by the head office on 4th January.

iv. Goods amounting to Rs.15,000 sent by head office to Trichy branch on 20th December and received by the latter on 15th January.

12. a) Distinguish between Hire Purchase and instalment system.

(OR)

b) Define Hire Purchase system. Explain the features of Hire Purchase system.

13. a) From the following information, find out the amount of provision to be shown in the in the books of Lakshmi Bank Ltd.

Particulars	Rs. In lakhs
Standard assets	8,000
Sub-standard assets (60% secured)	6,000
Doubtful:	
Upto one year (secured)	1,000
Upto three years	750
More than 3 years	400
Loss assets	1,500

(OR)

b) The trail balance of Kuber Bank Ltd., as on 31st March, 2016 shows the following balances:

1. Interest earned (including discount on bills) 45,40,600
2. Rebate on bills discounted on 1.4.2015 4,750
3. The amount of unexpired discount as on 31st March, 2016 5,560

You are required to

Contd….

i. pass necessary journal entries and
ii. show the ledger account of 'Interest And Discount'

14. a) The life assurance fund of Indus Life Assurance Company Ltd. as on 31st March, 2014 stood at Rs.45,00,000. The net liability as per actuaries valuation as on 31st March 2014 was Rs.32,50,000. The company has paid interim bonus to policyholders of Rs.1,00,000. The company proposes to carry forward Rs.1,50,000. You are required to prepare the
    a) valuation balance sheet
    b) net profit for the valuation period and
    c) distribution of the surplus

(OR)

b) The life assurance fund of an MR Insurance Company Ltd. on 31st March, 2016 showed a balance of Rs.76,87,500. It was later found that the following were not taken into account:
i. Dividend from investment Rs. 3,50,000
ii. Income tax on above Rs.32,000
iii. Bonus in reduction of premium Rs.4,85,000 (not taken as an expense)
iv. Claims covered under Re-insurance Rs.3,25,000
v. Claims intimated, but not accepted by the company Rs.8,07,000

Ascertain the correct balance of the fund.

15. a) on 31st January, 2015, X purchased for cash from Y four 6% Rs.100 debentures of the Mehta Ltd. at Rs.110 ½ % ex-interest; interest being payable on 1st June and 1st December each year. How will you record the transaction in the books of X and Y if each party had to pay bank commission of 25paise percent on face value?

(OR)

b) On 1.1.2011, 6% 200 debentures of Rs.100 each in Y Ltd., were held as investments by X Ltd. at a cost of Rs.18,200. Interest is payable on 31st December. On 1.4.2011 Rs.4,000 of such debentures were purchased by X Ltd. @ Rs.98 and on 1.9.2011 Rs.6,000 debentures were sold at Rs.96 ex-interest. On 1.12.2011 Rs.8,000 debentures were sold @ 99 cum-interest. On 31.12.2011 X Ltd. sold Rs.10,000 debentures @Rs.95 ex-interest. Prepare Investment Account for 6% Debentures of Y Ltd. in the books of X Ltd. Ignore Income Tax.

PART – C (3 x10 = 30)

Answer any THREE questions.

16. A firm had two departments, cloth and readymade garments. The garments were made by the firm itself out of cloth supplied by the cloth department at its usual selling price. From the following figures, prepare departmental trading and profit and loss account for the year ended 31.3.2014.

Contd….

	Departments	
	Cloth (Rs.)	Readymade(Rs.)
Stock (1st April,2013)	3,00,000	50,000
Purchases	20,00,000	15,000
Sales	22,00,000	4,50,000
Transfer to readymade garments dept.	3,00,000	--
Expenses – manufacturing	--	60,000
- selling	20,000	6,000
Stock 31.3.2014	**2,00,000**	**60,000**

The stock in the readymade garments department may be considered as consisting of 75% cloth and 25% other expenses. The cloth department earned gross profit @ 15% in 2012-13. General expenses of the business as a whole came to Rs.1,10,000

17. Knight purchased a truck for Rs.1,60,000 from S. Waugh on 1.1.2013 payment to be made Rs.40,000 down and Rs.46,000 at the end of first year, Rs.44,000 at the end of second year and Rs.42,000 at the end of third year. Interest was charged at 5%. Knight depreciates the truck at 10% per annum on written down value method.
Knight after having paid down payment and first instalment at the end of the first year, could not pay second instalment. The seller took possession of the truck, and after spending Rs.4,000 on repairs of the asset, sold it away for Rs.91,500. You are required to show ledger accounts in the books of Knight and S.Waugh.
18. On 31st March, 2016 the following balances stood in the books of Asian Bank Ltd. after preparation of its Profit and Loss Account.

	Rs. '000		**Rs. '000**
Share capital: issued and subscribed	4,000	Cash with RBI	10,000
Reserve fund (u/s. 17)	6,200	Cash with other banks	6,000
Fixed deposits	42,600	Bills discounted and purchased	3,800
Savings bank deposits	19,000	Loans, cash credit and overdraft	51,000
Current accounts	23,200	Bills payable	70
Money at call & short notice	1,800	Unclaimed dividend	60
Investments	25,000	Rebate on bills discounted	50
Profit and loss a/c (cr.) on 1.4.2015	1,350	Short loans (borrowings from other banks)	4,750
Dividend for 2014-15	400	Furniture	1,164
Premises	2,950	Other assets	336
Cash in hand	380	Net profit for 2015-16	1.550

Prepare balance sheet of the bank for the year ending 31st March 2016

Contd….

19. After the valuation on March 31, 2016 in the books of Life Assurance Company Ltd. the actuary's certificate disclosed the net liability on policies and annuities at Rs.50,40,000.

From the following information prepare the Revenue Account and ascertain profit and loss made by the company. It was further decided by the directors to transfer a sum of Rs.1,00,000 to the Investment Fluctuation Fund which stood at Rs.2,00,000 on that date to write down investments from Rs.49,00,000 to Rs.46,00,000 if the valuation revealed a surplus:

	Rs.		**Rs.**
Bonus in cash	1,00,000	Expenses of management	2,50,000
Bonus in reduction of premiums	10,000	Commission	1,00,000
Surrenders	2,00,000	Annuities	8,00,000
premiums	35,00,000	Consideration for annuities granted	12,00,000
Interests, dividends & Rents (net)	12,00,000	Life Assurance Fund on 1.4.15	40,00,000
Claims	22,00,000	Interim bonus paid for valuation period	1,50,000

As a result of valuation it was decided that a reversionary bonus of Rs.150 per Rs.10,000 be granted and the company gave the policy holders the option to get bonus in cash @ Rs.60 per Rs.10,000. The total business in force was Rs.9 crores. One third of the policy holders in value decided to get the bonus in cash. Draft the journal entries for the above decisions, giving effect to utilization of the surplus; show how much the policy holders can get by way of share in profit (ignore taxation)

20. The S.S. Odyssey undertook a Voyage from Athens to Kolkata starting on 1st January, 2011 and reaching on 31st March 2011. The cargo consisted of 900 tons of food grains and 100 tons of engineering goods. The freight charges were Rs.150 per ton for food grains and Rs.100 per ton for engineering goods. In addition primage was 10%. Brokerage was payable at 5%. The expenses were:

	Athens	**Kolkata**
Coal and diesel	20,000	--
Port charges	9,000	2,000
Harbor wages	3,000	1,000
Loading charges	2,000	--
Other expenses were:		
Stores	10,000	
Discharging expenses	2,000	
Postage	1,000	
Salaries of crew	10,000	

The ship was insured for Rs.10,00,000 at 1% for Voyage Policy of Hull. The freight was insured @ 1/2 %. Depreciation is charged on the written down value of the ship at 5% per annum. The value as on 1st January, 2011 was Rs.8,00,000. Prepare Voyage Account.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 17U4KAC4**

COURSE TITLE : Entrepreneurship Development and Start UPS **QN.NO : 7821**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The word "Entrepreneur" is derived from _____
   a) French b) Latin c) English d) American
2. The plans for an enterprise are prepared by _____
   a) Manager b) Entrepreneur c) Intrapreneur d) Ontrepreneur
3. Entrepreneurship refers to _____
   a) Person b) Function
   c) Both person and function d) Technology
4. In initial phase of entrepreneurship development _____ is provided to entrepreneurs
   a) Awareness b) Training
   c) Financial assistance d) Counseling
5. The women entrepreneurs trained through specialised training programme are called _____
   a) Natural entrepreneurs b) Forced entrepreneurs
   c) Created entrepreneurs d) Benami entrepreneurs
6. The minimum financial interest by women to constitute women entrepreneurs is _____
   a) 50% b) 51% c) 25% d) 75%
7. SSI registration certificate is to be obtained from _____
   a) DIC b) SIPCOT
   c) Dept. of Industry & Commerce d) Municipality
8. All the services and support required by small-scale industries are provided under one roof _____
   a) SIDCO b) NSIC c) DIC d) SISI
9. The main objective of preparing a project report is _____
   a) To appraise a project and lend
   b) To anticipate future problems and solve them
   c) To assess the cost and source and source of finance
   d) All the above
10. The project appraisal is generally done by _____
    a) Prospective entrepreneurs b) Concerned state governments
    c) Financial institutions d) All the above

Contd….

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) What are the characteristics of an entrepreneur?

(OR)

b) What are the types of entrepreneur?

12. a) What do you mean by entrepreneurship? Define the term entrepreneurship.

(OR)

b) Explain the importance of entrepreneurship.

13. a) What are the types of women entrepreneur ?

(OR)

b) Explain the steps to be taken to promote women entrepreneurs in India.

14. a) What are the sources of business ideas?

(OR)

b) Describe the Business Startup Strategy.

15. a) Explore the contents of Project Report.

(OR)

b) What are the sources of finance to start a business?

PART – C (3 x10 = 30)

Answer any THREE questions.

16. Explain the role of entrepreneur in economic development.
17. Describe the David McClelland's Entrepreneurship theory.
18. What are the problems faced by women entrepreneur in India? Explain.
19. Discuss the strategies for success of Start Ups.
20. List out the various steps to prepare a model project report.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 17U4KAC5**

COURSE TITLE : Business Legislation – I **QN.NO : 7822**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Implied contract is made by
   a) By spoken words
   b) By written words
   c) Otherwise than by words spoken or written d) Both a &b
2. Which of the following relationships raise the presumption of undue influence?
   a) Doctor-Patient b) Husband –Wife
   c) Landlord –Tenant d) Creditor-Debtor
3. A offers to supply100 books to B if he receives 200 books. It is a _____
   a) Contract b) Wagering contract c) Contingent contract d) Tender
4. A quasi contract _____
   a) is a contract b) is an agreement
   c) Creates only a legal obligation d) None of the above
5. In a contract of guarantee there are _____ contracts.
   a) One b) Two c) Three d) four
6. The liability of a hotel keeper or an inn-keeper in respect of goods belonging to a guest is that of _____
   a) bailor b) bailee c) seller d) buyer
7. The sale of Goods Act 1930 deals with the _____
   a) Movable goods b) Immovable Property
   c) Both A & B d) all except stocks & shares
8. The first right of the buyer is_____
   a) the right to have delivery as per the terms of contract
   b) right to sue
   c) right to repudiate the contract d) right to sue for interest
9. The total number of rights given to consumers as per the Consumer Protection Act 1986 is _____
   a) 5 b) 4 c) 6 d) 8
10. The amount of penalty for making a false statement to the commission by a person who is a party to a combination shall be between:
    a) 10 lakhs to 20 lakhs b) 20 lakhs to 50 lakhs
    c) 50 lakhs to1 crore d) 5 lakhs to 10 lakhs

Contd….

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11.a) Distinction between Void and Voidable contract.

(OR)

b) Define the term offer. State the different kinds of an offer.

12.a) Difference between a Wagering Agreement and a Contingent Contract.

(OR)

b) Explain the remedies for a breach of contract.

13.a) Write the rights of indemnity holder.

(OR)

b) Distinguish between bailment and pledge.

14.a) Bring out clearly the distinction between sale and an agreement to sell.

(OR)

b) Difference between a condition and a warranty.

15.a) What are the rights of consumer?

(OR)

b) Explain the powers and functions of Competition Commission of India (CCI).

PART – C **(3 x10 = 30)**

Answer any THREE questions.

16. What are the legal rules regarding consideration? Explain.

17. Explain the rules regarding the performance of the contingent contracts.

18. Explain the duties of ‘bailor’ and ‘bailee’.

19. Discuss the rights of ‘buyer’ and ‘seller’.

20. Why was Consumer Protection Act, 1986 introduced? State its salient features.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., / B.Com., (B&I) **COURSE CODE : 17U4KSM4**

COURSE TITLE : E-Commerce Applications **QN.NO : 7823**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Electronic communication technology includes _____
   a) Internet b) Extranet c) Email d) All the above
2. A _____ is the set of planned activities designed to result in a profit in a market place.
   a) Business Model b) Profit Model
   c) Business Plan d) Revenue Model
3. Differential price structure is dependent upon the volume and loyalty discount, under _____
   a) supplier-centric model b) Buyer-centric model
   c) Intermediary-centric model d) none of the above
4. Electronic newspapers do not have to incur any _____ cost.
   a) Distribution b) Administration
   c) office d) selling
5. Which of the following is not related to security mechanism?
   a) Encryption b) Decryption
   c) E-Cash d) cryptography
6. The study of encryption is called _____
   a) Decryption b) Cryptography
   c) Firewall d) Protocol
7. Mobile commerce cannot be seen in _____
   a) Finance b) Retail c) Telecommunication d) Medicine
8. WAP stands for _____
   a) Wired Application Protocol b) Wireless Application Protocol
   c) Wired Application Process d) Wireless Application Process
9. Which form of e-market place brings buyers and sellers from the same industry?
   a) Horizontal b) Verhicol
   c) Inteprated d) Inclined
10. Delivering products and services that push is called _____
    a) Service Excellence b) Operational Excellence
    c) Continues Excellence d) Informational Excellence

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) What are the need for E-Business ?

(OR)

b) Explain the limitations of E-Commerce.

12. a) Give any six differences between Internet Banking and Traditional Banking.

(OR)

b) What is C2B E-Commerce ?

13. a) Discuss about digital signature.

(OR)

b) Describe the Electronic Fund Transfer.

14. a) What is WAP ?

(OR)

b) Differenciate between E-Commerce and M.Commerce.

15. a) What is E-CRM ?

(OR)

b) What are the features of E-CRM ?

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. State the differentiate between E-Commerce and Traditional commerce.

17. What is B2B E-Commerce ? Explain the various methods of B2B E-Commerce.

18. Explain the key security schemes.

19. Describe the applications of M.Commerce.

20. Explain the various phases of E-CRM.

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No of Pages	2

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Commerce **COURSE CODE : 17U4KNM2**

COURSE TITLE : Marketing and Salesmanship **QN.NO : 7824**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Marketing is a process which aims at
   a) Production b) Profit making
   c) Satisfaction of customer needs d) Selling products
2. The concept of Marketing Mix was developed by___
   a) N.H.Borden b) Philip Kotler c) Stanton d) W. Anderson
3. ABC cigarette company offers a packet of 10 cigarettes against 10 empty covers is an example of
   a) Direct Premium b) Price off Offer
   c) Self-Liquidating Premium d) Free in mail Premium
4. A consumer contest is an example of _____
   a) Advertising b) Indirect Selling
   c) Personal Selling d) Sales Promotion
5. Advertising in Newspaper is an example of
   a) Press Media b) Mural
   c) Direct Advertising d) Promotional Advertising
6. Sky advertising is an example of
   a) Indoor Advertising b) Outdoor Advertising
   c) Direct Advertising d) Indirect Advertising
7. Kind of sales people who travel to call all customers in field is classified as
   a) Inside sales force b) Outside sales force
   c) Channel intermediaries d) Nominal sales force
8. If the prospective customer is kindled to develop a strong desire for the product, then it leads to
   a) Attention getting b) Interest creating
   c) Desire stimulating d) Action inducing
9. The type of marketing in which companies write and distribute short articles to a range of outlets is called
   a) Article Marketing b) Affiliate Marketing
   c) Viral Marketing d) Blogging
10. The term 'Blogging' was derived from the word
    a) Internet Log b) Web Log c) Email Log d) Network Log

Contd….

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Explain the components of Marketing Mix.

(OR)

b) State the salient features of marketing.

12. a) Describe the techniques for sales promotion.

(OR)

b) Explain various factors influencing sales promotional activities.

13. a) What is an advertisement copy? Describe its elements.

(OR)

b) What are the various functions are performed by an advertising agency?

14. a) Explain the essential qualities of a successful salesman.

(OR)

b) Explain AIDAS model of selling

15. a) What is meant by affiliate marketing? State its merits and demerits.

(OR)

b) What is E- marketing? What are different types of e-markets?

PART – C (3 x10 = 30)

Answer any THREE questions.

16. Elaborate the various classifications of market.
17. Explain the scope & different methods of sales promotion.
18. Define: 'Personal Selling'. Discuss its features and importance.
19. What are the different major media types? Explain their merits and demerits.
20. Write short notes on: a) Blogging b)Article marketing
    c) Video Marketing d) E- Mail Marketing e) Tele Marketing.

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THE MADURA COLLEGE (Autonomous), MADURAI – 625 011

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RE-ACCREDITED (3rd Cycle) WITH "A" GRADE BY NAAC

No of Pages	2

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., / Com (PA) **COURSE CODE : 17U5KME3**

COURSE TITLE :Auditing and Assurance **QN.NO : 7829**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which of the following is not a kind of audit?
   a) Statutory and private b) Government and continuous audit
   c) Interim audit d) None of these
2. This kind of audit is conducted generally between two annual audits.
   a) Internal audit b) Interim audit c) Final audit d) Continuous audit.
3. _____ is the medium through which an auditor expresses his opinion on the state of affairs of the client's business.
   a) Audit report b) Audit certificate
   c) Audit programme d) Audit planning
4. _____ is the specific guidelines and directions for efficient and effective completion of the audit work on timely and daily basis, so as to minimize audit risk.
   a) Audit planning b) Audit report
   c) Audit programme d) Audit certificate
5. Internal auditor is appointed by_____
   a) Management b) Shareholders c) Government d) Statutory body
6. Internal check is a part of
   a) Internal audit b) Internal accounting
   c) External audit d) Internal control
7. _____ is a type of voucher.
   a) Template voucher b) Adjustment voucher
   c) Reversal voucher d) All of the above
8. What are the techniques of verification?
   a) Inspection b) Observation c) Confirmation d) All of the above
9. Auditor's report is the expert's opinion expressed by the auditor as to the fairness of_____
   a) financial position b) General position
   c) Financial statements d) Balance sheet and profit and loss account
10. Auditor has to report to_____
    a) Management b) Owners
    c) Government d) Appointing Authority

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) What are the objectives of Auditing.

(OR)

b) Describe the difference types of Audits and levels of Assurance.

12. a) Explain the Kids of Audit Procedures?

(OR)

b) Describe the Importance Delegation and supervision of Audit Work.

13. a) What are the Features of good internal control system.

(OR)

b) Discuss about the internal of Audit Report.

14. a) What are the importance of Vouching.

(OR)

b) Enumerate the difference between Freehold and leasehold property.

15. a) Describe in detail the elements of Audit Report.

(OR)

b) Discuss about Liability for unaudited Accounts.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Elaborate in detail Qualities of an Auditor.

17. Describe the Various Steps to perform Audit Planning.

18. What does a system of internal check implies in reference to accounting?

    Also list down essential of a goods system of internal Check.

19. Explain the difference between vouching and Verification?

20. Describe about the Liabilities of an Auditor under Companies Act, 2013.

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No of Pages	5

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., / Com (PA)/ Com (B&I) **COURSE CODE : 17U6KMC14**

COURSE TITLE : Management Accounting **QN.NO : 7831**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Management accounting suitable for
   a) Small businesses b) Cooperative societies
   c) Non-profit organisations d) Large Industrial and Trading Concerns
2. The term financial analysis includes
   a) Analysis b) Comparison c) Interpretation d) All of these
3. Which of the following will result in application of funds?
   a) Sale of plant b) Purchase of land
   c) Issue of share capital d) Payment to creditors
4. Cash flow include
   a) Cash payments only b) Cash receipts only
   c) Cash receipts and payments d) Cash non-cash incomes and expenses
5. Breakeven point is
   a) Sales at which profit is high b) Sales at which there is loss
   c) Sales at which there is no profit or loss
   d) None of the above.
6. One of the primary differences between marginal costing and absorption costing is regarding the treatment of
   a) Prime cost b) Fixed overhead
   c) Variable overheads d) Direct materials
7. The difference between actual cost and standard cost is known as
   a) Loss b) Profit c) Differentiated Cost d) Variance
8. Which standard is ideal for fixed expenses
   a) Basic standard b) Ideal standard
   c) Normal standard d) Expected standard
9. Key factor is also known as _____
   a) Limiting factor b) governing factor
   c) Principal factor d) all the above
10. On the basis of period, budgets may be classified into _____ groups
    a) Five b) Four c) Three d) Two

Contd….

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Draw a comparison between financial accounting and management accounting.

(OR)

b) Discuss the objectives of financial statement analysis.

12. a) From the following two balance sheets on December 31, 2018 and December 31, 2019 prepare a schedule of changes in working capital.

Liabilities	31st December		Assets	31st December	
	2018	2019		2018	2019
Share Capital	5,25,000	5,00,000	Land & Building	5,00,000	4,00,000
Profit & Loss a/c	1,20,000	1,00,000	machinery	1,00,000	1,60,000
Trade Creditors	98,000	75,000	Stock in trade	1,10,000	80,000
Outstanding Crs.	2,000	5,000	debtors	30,000	36,000
			Cash	5,000	4,000
	7,45,000	**6,80,000**		**7,45,000**	**6,80,000**

(OR)

b) XYZ Ltd presents the following information and you are required to calculate fund from operations.

Profit & Loss a/c

To Operation expenses	1,00,000	By Gross profit	2,00,000
To Depreciation	40,000	By Gain on sale of Plant	20,000
To Loss on sale of Building	10,000		
To advertisement suspense a/c	5,000		
To Discount allowed	500		
To Discount on issue of shares written off	500		
To Goodwill written off	12,000		
To Net Profit	52,000		
	2,20,000		**2,20,000**

13. a) Reliable Battery Co. furnishes you the following income information for the current year divided in to two sub parts:

	First half (Rs.)	Second half (Rs.)
Sales	8,10,000	10,26,000
Profit	21,600	64,800

From the above you are required to compute the following, assuming that the fixed cost remains the same in both the periods.

i) P/V Ratio ii) Fixed cost

iii) The amount of profit or loss where sales are Rs. 6,48,000

iv) The amount of sales to earn a profit of Rs. 1,08,000

(OR)

Contd….

b) A company has prepared the following budget estimates for the year 2016-17.

Sales	15,000 units
Fixed Expenses	Rs. 34,000
Sales	Rs. 1,50,000
Variable costs	Rs. 6 per unit

You are required to:

i. Find the P/V ratio, break-even point and margin of safety

ii. Calculate the revised P/V ratio, breakeven point and margin of safety if selling price is reduced by 10%.

14. a) From the following particulars Calculate:

i) Labour Cost Variance ii) Labour Rate Variance

iii) labour efficiency variance

Standard hours	: 5,000
Standard wage rate	: Rs. 4 per hour
Actual hours	: 6,000
Actual wage rate	: Rs. 3.50 per hour.

Time lost on account of machinery break down : 300 hours

(OR)

b) From the data given below, calculate the material cost variance, the material price variance and material usage variance

Material	Standard Quantity (Kg.)	Standard Price (Rs.)	Actual Quantity (Kg.)	Actual Price (Rs.)
X	20	5	24	4.00
Y	16	4	14	4.50
Z	12	3	10	3.25
	48		48	

15. a) Draw up a flexible budget for overhead expenses on the basis of the following data and determine the overhead rates at 70%, 80% and 90% capacity.

Particulars	At 80% capacity (Rs.)
Variable Overheads:	
Indirect Labour	12,000
Stores including spares	4,000
Semi – Variable overheads	
Power (30% fixed, 70% variable)	20,000
Repairs and maintenance (60% fixed, 40% variable)	2,000
Fixed Overheads	
Depreciation	11,000
Insurance	3,000
Salaries	10,000
Total Overheads	**62,000**

Estimated direct labour hours: 1,24,000

(OR)

b) From the following figures, prepare Raw materials Purchase Budget for January 2017:

Contd….

Particulars	Materials (in Units)		
	A	B	C
Estimated Opening Stock	16,000	6,000	24,000
Estimated Closing Stock	20,000	8,000	28,000
Estimated Consumption	1,20,000	44,000	1,32,000
Standard price per unit	Re. 1	Rs. 1.50	Rs. 2.00

PART – C (3 x10 = 30)

Answer any THREE questions

16.From the following particulars calculate

a) Current ratio b) liquid ratio c) Proprietary ratio

d) Debt – equity ratio e) Capital gearing ratio.

Liabilities	Rs.	Assets	Rs.
5,000 equity shares of Rs. 100 each	5,00,000	Land & Building	6,00,000
		Plant & machinery	5,00,000
2,000- 8% preference shares of Rs. 100 each	2,00,000	Stock	2,40,000
		Debtors	2,00,000
4,000 – 9% debentures of Rs.100 each	4,00,000	Cash and Bank	55,000
		Pre – paid expenses	5,000
Reserves	3,00,000		
Creditors	1,50,000		
Bank O.D.	50,000		
	16,00,000		**16,00,000**

17.The Balance Sheet of ABC ltd as on 21.03.2015 and 31.03.2016 as given below:

Particulars	2015	2016
I. EQUITY AND LIABILITIES		
1. Shareholder's fund		
a) Share capital	2,00,000	2,60,000
b) Reserve and surplus	70,250	85,300
2. Share Application Money		
3. Non – Current Liabilities		
a) 6% Debentures	50,000	Nil
4. Current Liabilities		
a) Trade payable	28,000	48,000
Total	**3,48,250**	**3,93,300**

II. ASSETS		
1. Non – Current Assets		
a) Fixed Assets		
i) Tangible Assets	1,92,000	2,60,000
2. Current Assets		
a) Current Investments	Nil	Nil
b) Inventories	93,400	89,200
c) Trade receivable	30,800	21,100
d) Cash and Cash equivalents	28,100	20,000
e) Advances	3,950	3,000
Total	**3,48,250**	**3,93,300**

Contd….

The following additional information for the year ended 31st March 2016 are also given below:

i) Net profit before tax and extraordinary items Rs. 27,050
ii) Cash dividend declared during the period Rs. 12,000
iii) An addition to the Tangible Assets was made during the year at a cost of Rs. 78,000 Prepare a cash flow statement

18.From the following particulars explain which sales mix should be selected:

	Product	
	A	**B**
Direct Materials	100	90
Direct Labour	30	20
Variable expenses	30	20
Selling price	200	150

Fixed expenses – Rs. 8000

Sales Mixtures:

a) A – 100 units and B – 200 units
b) A – 150 units and B – 150 units
c) A – 200 units and B – 100 units

19. Discuss the advantages and disadvantages of standard costing.

20. A company expects to have Rs. 37,500 cash in hand on 1st April, 2014 and requires you to prepare an estimate of cash position during the three months April to June 2014. The following information is supplied to you.

Month	**Sales**	**Purchases**	**Wages**	**Factory Expenses**	**Office Expenses**	**Selling Expenses**
February	75,000	45,000	9,000	7,500	6,000	4,500
March	84,000	48,000	9,750	8,250	6,000	4,500
April	90,000	52,500	10,500	9,000	6,000	5,250
May	1,20,000	60,000	13,500	11,250	6,000	6,570
June	1,35,000	60,000	14,250	14,000	7,000	7,000

Other information's:

i) Period of credit allowed by suppliers – 2 months.
ii) 20% of sales is for cash and period of credit allowed to customers for credit sales is one month.
iii) Delay in payment of all expenses – 1 month.
iv) Income – tax of Rs. 57,500 is due to be paid on June 15, 2014.
v) The company is to pay dividends to shareholders and bonus to workers of Rs.15,000 and Rs. 22,500 respectively in the month of April.
vi) Plant has been ordered and is expected to be received and paid in May. It will cost Rs. 1,20,000.

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No of Pages	2

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., / B.Com., (B&I) **COURSE CODE : 17U6KMC15**

COURSE TITLE : Investment Management **QN.NO : 7832**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Investors buy _____ securities.
   a) High grade secruities b) Low grade securities
   c) Securities for short-term purposes d) None of the above
2. Investment in gold and silver is considered as _____
   a) Real investment b) Financial investment
   c) Non-financial investment d) None of the above
3. _____ investors investing for short term or long term goals.
   a) Institutional b) Individual
   c) Foreign d) None of these
4. A bond is a _____ obligation.
   a) Debt b) Credit c) Mutual d) All the above
5. The factors causing risks in investment are
   a) principle b) price and interest
   c) only interest d) only price
6. Purchasing power risk is also known as
   a) Inflation risk b) Deflation risk c) External risk d) None of the above
7. _____ consists of homogeneous group of firms engages in similar kinds of activities.
   a) Economic analysis b) Technical analysis
   c) Industry analysis d) Fundamental analysis
8. _____ means having cash, bank balance and other assets which are easily convertible into cash
   a) Leverage b) Profitability c) Liquidity d) None of the above
9. _____ means a combination of financial assets and physical assets.
   a) portfolio b) portfolio management
   c) Investment d) None of the above
10. _____ is concerned with assessing the performance of the portfolio over a selected period of time.
    a) Security analysis b) portfolio execution
    c) performance evaluation d) portfolio revision.

Contd….

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Write a note on investment process.

(OR)

b) Distinguish between investment and speculation.

12. a) What is a convertible bond? Discuss its advantages.

(OR)

b) What are the features of an equity share?

13. a) A stock selling for Rs.36. earns Rs. 3 annually. What are its earnings to price percentage and what is its price to earnings ratio?

(OR)

b) What is business risk? Discuss the eternal risk factors.

14. a) Explain the broad forces within which the factors of investment operate.

(OR)

b) Technical Analysis is based on Dow Jones Theory. Elucidate.

15. a) What are the different types of portfolio management?

(OR)

b) What are the features of mutual funds in India?

PART – C (3 x10 = 30)

Answer any THREE questions.

16. What are the factors favorable for making investment in an economy?
17. Discuss the different types of preference shares.
18. What is risk? Discuss systematic and unsystematic risk.
19. What are charts? How are they interpreted in technical analysis?
20. Explain the steps involved in portfolio management process.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., / PA/ B&I / BCM **COURSE CODE : 17U6KME4**

COURSE TITLE : Income Tax - II **QN.NO : 7833**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which of the following income from other sources is not taxable ?
   a) Dividend from Co-operative society b) Dividend from foreign company
   c) Dividend from domestic company d) Winning from lottery
2. Rate of T.D.S for listed securities, is
   a) 10% b) 15.3% c) 20.3% d) 30.3%
3. Business loss cannot be set-off against
   a) House property income b) Business income
   c) Capital gain d) Salary income
4. Income of minor child is clubbed in the hands mother or father whose income is
   a) Higher b) Lower c) Taxable d) Exempted
5. Donation to Clean Ganga fund is allowed as deduction at the rate of
   a) 10% b) 50% c) 100% d) 25%
6. Deduction in respect of interest on loan taken for higher education of self or spouse or children is fully deductible under
   a) Section 88 b) Section 92 c) Section 80E d) Section 16B
7. Surcharge for individual is chargeable at the rate of 15% of income tax, if total income
   a) Below ₹ 10,00,000
   b) Below ₹ 50,00,000
   c) Exceeds ₹ 50 lakhs but does not exceed ₹ 1 crore
   d) Exceeds ₹ 1 crore
8. Rebate u/s 87A for individual having total taxable amount not exceeding
   a) ₹ 2,50,000 b) ₹ 3,00,000 c) ₹ 3,50,000 d) ₹ 5,00,000
9. The due date for filing return by a company
   a) 31st July b) 30th September
   c) 30th November d) 30th June
10. Advance tax should be paid during a financial year if such advance tax payable by the assessee exceeds
    a) ₹ 50,000 b) ₹ 10,000 c) ₹ 20,000 d) ₹ 100,000

Contd….

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Compute income from other sources from the particulars given below:

	₹
Interest on deposits with a company	10,000
University remuneration on working as examiner	6,000
Royalty for writing books He claims to have spent ₹ 20,000 on writing these books	60,000
Dividend declared by R.Co. on 1-3-2019 but paid on 1-5-2019	6,000
Stake money on race horses Horses are maintained by him and expenses on maintenance of these horses are	1,50,000 2,40,000
Family pension received	36,000

(OR)

b) Mr. Smith is an M.P. from Ahmedabad. He has submitted the following particulars of income for the year ending 31.3.2020.

Agricultural income from land in Pakistan ₹ 15,000.
Daily allowance as M.P. ₹ 15,000.
Salary as an M.P. ₹ 36,000.
Royalty from a coalmine ₹ 20,000 and spent ₹ 3,000 for collecting royalty income.
His residential house has been taken on a rent of ₹ 1,000 p.m., half of which he has sub-let at ₹ 1,200 p.m.
Dividends from a Co-operative society ₹ 5,000. Collecting charges ₹ 100.

Calculate his income from other sources.

12. a) Following are the particulars submitted by Mr. K for the year ending 31st March, 2020. Compute his total income:

		₹
Income from house property:		
(a)	Income from house 'A'	60,000
(b)	Loss from house 'B' (Both houses are let-out)	20,000
Income from business or profession:		
(a)	Income from cloth business	30,000
(b)	Loss from hardware business	60,000
(c)	Loss from speculation business	10,000
Income from other sources:		
(a)	Income from Lottery	25,000
(b)	Loss from maintenance of race horses	7,000
(c)	Interest on Securities	10,000
Gross Salary		2,06,000

(OR)

b) Master Vijay (Age 16 years) has the following incomes during 2019-20:

Contd…

	₹
Interest on bank fixed deposits	75,000
Interest of Govt. Securities	80,000
Interest on debentures	40,000
Income by acting in a film	2,00,000
Income by a singing concert held by him	50,000
(a) His father's total income	5,09,000
(b) His mother's total income	5,09,100

Decide about the person in whose hands the above incomes shall be taxable and the amount of income to be taxed.

13. a) Shri. Subramanian, a salaried employee, provides the following details of his income for the previous year 2019-20. Determine his Gross Total Income.

	₹
Basic Salary	90,000
Dearness allowance (Forming part of salary)	7,000
Special allowance	8,000
Conveyance allowance	5,000
Interest on debentures of a Ltd. Company	10,000
Interest on Co-operative debentures	6,000
Dividends from Co-operative society	4,000
Interest on Govt. Securities	5,000
Income from house property	3,00,000

(OR)

b) Shri Anil earned gross total income of ₹ 5,00,000 in the previous year 2019-20 and made the following donations during the year :

i) ₹ 10,000 to Chief Minister's Earthquake Relief Fund Gujarat.
ii) ₹ 15,000 to National foundation for Communal Harmony.
iii) ₹ 20,000 to Municipal Corporation approved for promotion of family planning.
iv) ₹ 45,000 to approved institutions.
v) ₹ 20,000 to Swachh Bharat Kosh

Compute the amount of deduction admissible to him u/s 80G for the P.Y. 2019-20.

14. a) From the following information compute the taxable income and net tax liability of a Hindu Undivided Family for the previous Year 2019-20:

	₹
Rent received from House Property	6,000 p.m.
Municipal valuation	50,000
Local taxes (10%)	
Income from business	2,90,000
Short-term capital gain	15,000
Long-term capital gain	30,000
Dividend received from U.T.I.	10,000
Income from lottery (Gross)	50,000

(OR)

Contd…

b) A, B and C are partners of a firm with equal shares. The profit and loss account for the year ended 31.3.2020 shows a net profit of ₹ 1,99,500 after debiting the following as per deed :

i) Salaries of ₹ 40,000 and ₹ 30,000 to A and B respectively.

ii) Bonus to C ₹ 30,000.

iii) ₹ 10,000 for interest on capital to 'A' calculated @ 20%

iv) ₹ 10,000 for rent of business premises paid to 'B'.

v) Commission of ₹ 10,000 to 'C'.

Compute Book Profit and the Total Income of the firm for the previous year 2019-20 assuming that it is a professional firm and all are working partners.

15. a) Write down the steps for E-filing of Income Tax Return.

(OR)

b) What do you understand by Reassessment? State the provisions of the act relating to Reassessment.

PART – C (3 x10 = 30)

Answer any THREE questions

16. Following incomes are received by Mrs. Annapurna during the financial year 2019-20:

	₹
Honorarium received for writing articles in magazines	1,000
Income from agriculture in Sri Lanka	2,500
Ground rent from land in Gwalior	5,000
Interest on P.O.S.B. A/c	1,000
Interest on deposits with Industrial Finance Corporation	250
Dividend from Foreign Company	350
Rent from letting of building along with plant Repairs to above said plant	2,000 100
Winnings from Horse Race	2,000
Interest on ₹ 72,000, 10% Tax-free Debentures (listed) of Arvind Co.	

You are required to compute "Income from Other Sources" of Mrs. Annapurna for the Assessment Year 2020-21.

17. Shri Sanjay furnishes the following particulars of incomes and losses for the Assessment Year 2020-21:

		₹
1.	Taxable Income from salary	1,50,000
2.	Income from house property	16,000
3.	Profit from readymade garments business	1,40,000
4.	Speculation profits	10,000
5.	Long-term capital gains	24,000
6.	Short-term capital gains	8,000
7.	Share of profit from a partnership firm	7,800
8.	Current year's depreciation	4,500

Contd…

The following items are brought forward from the assessment year 2018-19:		
1.	Unabsorbed depreciation	5,000
2.	Speculative loss	15,000
3.	Long-term capital loss	15,000
4.	Short-term capital loss	6,000

Compute gross total income for the Assessment Year 2020-21.

18. From the following particulars given below, compute total income of Mr. Giri, a physically handicapped person, for the assessment year 2020-21:

(a) Salary received from employer ₹ 2,50,000.
(b) Annual value of let out house ₹ 15,000.
(c) Interest on loan to purchase another house which is self-occupied ₹ 20,000.
(d) He had sold another residential house on 1.4.2019 for ₹ 24,00,000. Its fair market value on 1.4.2001was ₹ 6,50,000. Out of capital gain of the house he invested ₹ 5,00,000 in bonds of NHAI notified u/s 54EC. (CII for 2019-20 is 289).
(e) He won ₹ 40,000 in race course betting and ₹ 2,000 in a lottery.
(f) He paid ₹ 6,000 by cheque as premium to secure the health insurance policy of GIC for his family.
(g) His mother who is dependent on him is suffering from Cancer and he spent ₹ 46,500 on her treatment.
(h) His minor son is mentally retarded on whose special education he spent ₹ 15,000 during the year.

19. Kwality Electronics Ltd. is a domestic company in which public are substantially interested. The following are the particulars of income in respect of the Previous Year 2019-20:

		₹
i	Interest on Govt. securities	20,000
ii	Income from business	5,00,000
iii	Short-term capital gain	15,000
iv	Long-term capital gain	33,000
v	Dividend from an Indian Co.	10,000
vi	Dividend from a Foreign Co.	10,000
vii	Book profits u/s 115-JB	9,00,000

Compute company's total income and its tax liability.

20. What is meant by Advance Payment of Tax? Enumerate the instalments of advance tax along with the respective due dates.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE : 17U6KME5**

COURSE TITLE : Business Management **QN.NO : 7834**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Management is..... function.
   a) dynamic b) controlling c) directing d) planning
2. The production manager is involved in
   a) Top level management b) Middle level management
   c) Lower level management
   d) Middle and lower level management
3. MBO was invented by _____.
   a) Peter Drucker b) Koontz & O 'Donell
   c) Henry Fayol d) None of the above
4. Delphi technique is associated with
   a) Planning b) Decision making
   c) Coordination d) Leadership
5. The structure that may be followed when an organization has more number of small projects is
   a) Matrix Organizational b) Project Organizational
   c) Product Organizational d) Functional Organizational
6. Delegation of authority reduces
   a) The power of superior b) The superiority of superior
   c) The importance of superior d) The work burden of superior
7. Mr.X is a post graduate in commerce sends his application through mail, for a suitable Job in Z Company Ltd., This is an example for
   a) Recommendation b) Unsolicited applications
   c) Field trips d) Gate applicants
8. Performance appraisal serves as a basis for ---------
   a) Training b) Promotion c) Performance d) Staffing
9. Which of the following is the Hygiene factor?
   a) Authority b) Work c) Salary d) Growth
10. Under which style of leadership the leader completely delegate the authority to the subordinates?
    a) Free rein leadership b) Paternalistic leadership
    c) Participative leadership d) Authoritarian leadership

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Discuss the importance of management in the present day.

(OR)

b) Define Management. Describe the role of a manger.

12.a) What is planning? State its objectives.

(OR)

b) Explain the Problems and limitations of MBO.

13.a) State the different types of delegation.

(OR)

b) Critically examine the bases for departmentation in a business organization.

14.a) Narrate the various methods of training.

(OR)

b) What is meant by job evaluation? Discuss the methods of job evaluation.

15.a) Write a note on Maslow's need hierarchy theory.

(OR)

b) "A leader should have some leadership qualities in order to provide effective leadership." – Discuss.

PART – C (3 x10 = 30)

Answer any THREE questions.

16. State the principles of management on the basis of the own experience of Henry fayol in the mining company.
17. Narrate the decision making process.
18. Draw a comparison between formal and informal organization.
19. Describe the various sources of recruitment.
20. Discuss in detail about the principles of direction.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., /Com., (PA)/ Com., (B&I)/ BCM **COURSE CODE : 17U6KME6**

COURSE TITLE : Indirect Tax **QN.NO : 7835**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Indirect tax also includes _____
   a) property tax b) water tax
   c) expenditure tax d) entertainment tax
2. _____ are charged on commodities of general consumption
   a) Direct taxes b) Indirect taxes c) Cess d) Surcharge
3. Who is not an adjudicating authority under Customs Act, 1962?
   a) Commissioner of Customs b) Principal Commissioner of Customs
   c) Commissioner (Appeals)
   d) Assistant Commissioner of Customs & Tribunal
4. As per Section 14(1) of Customs Act, transaction value means
   a) Price paid to the seller of imported goods
   b) Price paid by the buyer of export goods
   c) Both a & b above
   d) Price actually paid or payable for goods
5. Which of the following taxes is applicable in the case of supply of goods from Gujarat to Assam?
   a) CGST b) SGST c) UTGST d) IGST
6. Which of the following commodities is not kept outside the purview of GST?
   a) High speed diesel b) Natural gas
   c) Supply of liquor for human consumption
   d) Aviation turbine fuel
7. Input tax credit is not available in respect of
   a) Services on which tax has been paid under composition levy
   b) Free samples
   c) Goods used for personal consumption
   d) All of the above
8. Credit on inputs should be availed based on
   a) Receipt of goods b) Receipt of documents
   c) Both
   d) Either receipt of documents or receipt of goods
9. Tax issue must be issued by
   a) Every supplier b) Every taxable person
   c) Registered persons not paying tax under composition scheme
   d) All of the above

Contd…

10. A credit note is issued by _____ and it is a document accepted for GST purposes
    a) Supplier, for reducing the tax/taxable value
    b) Recipient, for reducing the tax/taxable value
    c) Supplier, for increasing the tax/taxable value
    d) Recipient, for increasing the tax/taxable value

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Describe the types of indirect tax.

(OR)

b) Point out the canons of taxation.

12. a) What are the types of customs duty?

(OR)

b) An importer imported some goods for subsequent sale in India at $10,000 on assessable value basis. Relevant exchange rate and rate of duty are as follows:

Particulars	Date	Exchange rate declared by the CBIC	Rate of basic customs duty
Date of submission of bill of entry	25.2.2018	Rs. 58/USD	10%
Date of entry inwards granted to the vessel	5.3.2018	Rs. 58.75/USD	12%

Calculate assessable value and customs duty in Indian rupees?

13. a) State the salient features of Goods and service tax.

(OR)

b) A registered dealer, based in Chandigarh, makes supply to another registered dealer located in Chandigarh, valuing Rs 120,000. Applicable rate of GST is 12%. Calculate the amount of tax payable under GST.

14. a) Narrate the composition scheme of reverse charge mechanism.

(OR)

b) Write short notes on job work under GST.

15. a) What are the process of filing of returns under GST?

(OR)

b) Make a note on 'Anti Profiteering' under CGST.

PART – C **(3 x10 = 30)**

Answer any THREE questions.

16. Distinguish between direct taxes and indirect taxes.
17. Discuss the procedures of export and import of goods under Customs Duty Act, 1962.
18. Explain the principles to determine a supply as an inter - state supply.
19. Explain the term input tax credit under GST.
20. Give a format of E-way bill.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., /PA/ B&I/ BCM **COURSE CODE : 17U6KSM6**

COURSE TITLE : Soft Skills **QN.NO : 7836**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. _____ are very important in business.
   a) Hard skills b) Soft skills c) Both d) None of the above
2. Soft skills-thinking includes_____
   a) Etiquette b) Teamwork c) Creativity d) All the above
3. To work effectively in a team you have to acquire good _____
   a) Communication skills b) Respecting
   c) Listening d) Sharing
4. In group discussion, time allowed for preparation is _____
   a) 5 minutes b) 10 minutes c) 20 minutes d) 30 minutes
5. Attentive body language shows
   a) Physical threat b) Haptics c) Real interest d) All the above
6. Which is particularly important in group communication
   a) Body talk b) Body language c) Eye contact d) All the above
7. Bio data is the short form for _____
   a) Biographical data b) Resume c) CV d) None of the above
8. Non-technical factors includes
   a) Body language b) Gestures c) Manners d) All the above
9. Time management is a _____
   a) Myth b) Fact c) Oath d) Constancy
10. Which of the following are the kinds of stress
    a) Physical stress b) Good and bad stress
    c) Mental stress d) Psychological stress

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) What are the importance of Soft Skills?

(OR)

b) What are the processes of knowing yourself?

12.a) What are the types of group discussion?

(OR)

b) What is an Informal Group?

13.a) What is voluntary and involuntary body language?

(OR)

b) What are the types of body language?

14.a) What are the needs of interview?

(OR)

b) Explain the dos and don'ts in resume writing.

15.a) Explain the time management matrix.

(OR)

b) Explain the sources of stress.

PART – C (3 x10 = 30)

Answer any THREE questions.

16. Soft skills cannot be taught it has to be caught - comment.
17. Explain the Do's and Dont's in a G.D.
18. State the role of manners as work place.
19. Differenciate between biodata, CV and resume.
20. List out the behavioral symptoms of stress.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Com.,(Capital Markets) **COURSE CODE : 18U1XMC2**

COURSE TITLE : Introduction to Financial Market & Capital Market Operations **QN.NO : 7851**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. How can an investor acquire equity share?
   a) Primary Market only b) Secondary Market only
   c) Through money Market d) Through primary or secondary market
2. Which of the following is most suitable option for an investor with low-risk appetite?
   a) Equity b) Junk Bond c) Fixed Deposit d) Derivatives
3. Who is/ are the market Participants in derivatives market?
   a) Hedger b) Arbitrageur c) Speculator d) All of the above
4. A balance sheet of a firm provides information about_____.
   a) Financial position of a firm for a period
   b) Financial position of a firm at a particular point of time
   c) Operational position of a firm at a particular point of time
   d) Operational position of a firm for a period.
5. An order which is valid for a single day on which it is entered is _____
   a) GTD Order b) Day Order c) IOC Order d) GTC Order
6. What is the expiry day for NIFTY Futures contract in NSE?
   a) Last day of the Month
   b) Last working day of the month
   c) Last Thursday of the contract month
   d) Last Friday of the contract month
7. A Contract note shall be issued to a client within _____hours of execution of trading day.
   a) 48 b) 24 c) 36 d) No time limit
8. Securities and funds payin take place on _____ working days after the trade date.
   a) T+1 b) T+2 c) T+3 d) Within 24 hours.
9. SEBI?
   a) Securities Board of International
   b) Securities Exchange Board of Investment
   c) Stock Exchange Board of India
   d) Securities and Exchange Board of India
10. To find the present value of a future cash flow, we will
   a) Compound the future cash flow
   b) Discount the future cash flow
   c) Multiply the future cash flow with the interest rate
   d) Add all the future cash flows

Contd…

PART – B **(5 x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a). What is primary market? Explain the types of issues in primary market.

(OR)

b). Explain the different types of markets and participants in financial system.

12 .a). Differentiate Forwards Vs Futures.

(OR)

b) What is Annual Report? Explain any 2 ratios used in financial statement analysis.

13. a). What are the key indicators in Securities market?

(OR)

b). What are the reforms in Indian Securities Market?

14.a). List and explain the types of order can be placed in Equity market.

(OR)

b). Explain the different types of risks in Securities clearing and settlement.

15. a). Explain the roles of SEBI in Equity market?

(OR)

b). Mr. A would like to invest Rs. 25000 in securities market. He is expecting an average return of 12% p.a . How much he will get at the end of 25 years?

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. List and explain the different types of Investment options for short term and long-term investments.

17 (a) Explain about Futures & Options.

(b)Describe the components of Balance Sheet.

18. Explain in detail about the relationship between the stock broker and a client.

19. (a) What are key terminologies used in clearing and settlement process?

(b) List and describe the function of market participants in clearing and settlement.

20. Elicit the rules and regulations governing the securities market.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., (Capital Markets) **COURSE CODE : 18U4XMC9**

COURSE TITLE : Back Office, Depository Operations, Clearing, Settlement & Risk Management **QN.NO : 7857**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. In which of the following is PAN card not required?
   a) UN entities/ multilateral agencies which are exempt from paying taxes/ filling tax returns in India
   b) Residents of Andaman & Nicobar islands
   c) Both the above d) None of the above
2. ASBA is available for
   a) IPO b) IPO and FPO c) Rights d) All the above
3. When an investor moves money from one scheme to another, it is called
   a) SIP b) STP c) SWP d) Switch
4. SEBI stands for
   a) Securities & Exchange Board Institute
   b) Securities & Exchanges Board of India
   c) Securities & Exchange Board of India
   d) Securities & Exchanges Board of Institute
5. Trading members of the NSE can appoint authorized persons in -
   a) F&O b) CDS c) Both the above d) None of the above
6. A stockbroker means a member of _____.
   a) SEBI b) Any exchange
   c) A recognized stock exchange d) any stock exchange
7. In the context of dividend distribution, what is the full form of ECS?
   a) Electronic Credit System. b) Extended Clearing System.
   c) Electronic Clearing System. d) Extended Credit System
8. Amendments to NSDL Bye-Laws require _____
   a) No approvals.
   b) The approval of both, the Board of Directors of NSDL and that of SEBI.
   c) The approval of the Board of Directors of NSDL only.
   d) The approval of SEBI only.
9. Premium Margin is levied at _____ level.
   a) Client b) Clearing member c) Broker d) Trading member
10. An equity index comprises of _____.
   a) basket of stocks b) basket of bonds and stocks
   c) basket of tradable debentures d) None of the above

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11.a) Discuss about the process of Client Registration.

(OR)

b) Differentiate between primary market and Secondary market.

12.a) Explain the term Equity and Debt schemes in Mutual funds.

(OR)

b) Discuss about Mutual Fund Transactions through NSE.

13.a) Discuss in detail about transactions of depositary operations.

(OR)

b) Write Short Notes on: i) Corporate Action ii) Dematerialization iii) Trading Settlement

14.a) Discuss about the Trading and settlement process in cash market operations.

(OR)

b) Explain the role of clearing members.

15.a) Discuss about the equity derivatives segment in NSE.

(OR)

b) Discuss about the term settlement schedule.

PART – C **(3 x10 = 30)**

Answer any THREE questions.

16. Briefly discuss about the Screen based Trading System (SBTS).

17. Emerging trends in Mutual funds in India- Detail discussed.

18. Briefly discuss about the functions of National Securities Depositary Limited (NSDL).

19. Identify and explain the process Transaction cycle.

20. Describe about the Margin requirements for trading in derivative segment.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., (Capital Markets) **COURSE CODE : 18U4XMC10**

COURSE TITLE : Foreign Exchange & Currency Markets **QN.NO : 7858**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Assume you are an exporter and you want to sell USD that you have received as export remittance. The bank quotes a price of 72.10 / 72.12 for USDINR. At what price can you sell one unit of USD?
   a) 72.12 b) 72.11 c) 72.08 d) 72.10
2. Which term best describes INR currency?
   a) Managed float b) Pegged to USD c) Pegged to gold d) Free floating
3. As a trader you believe GBPUSD will move from 1.30 to 1.35 in next 2 months. Which of the following would you do to execute this view using currency futures contract of GBPINR and USDINR?
   a) Long GBPINR b) Long GBPINR, Short USDINR
   c) Short GBPINR, Long USDINR d) Short GBPINR
4. One year interest rate is 4% in US and 1% in Euro zone. If current EURUSD spot rate is 1.10, which of the following could be closest to one year future rate of EURUSD?
   a) 1.5446 b) 1.6005 c) 1.7325 d) 1.6500
5. A trader executes following currency futures trade: buys one lot of USD/INR, sells one lot of JPY/INR. What view has he executed?
   a) JPY strengthening against USD b) JPY weakening against USD
   c) INR strengthening against USD d) INR weakening against JPY
6. If you expect USDINR spot value to remain stable over next one month and also expect forward premium with USD at premium to INR to continue expect the future value of INR at a discount to USD to continue, what trade position could result in losses?
   a) Selling USDINR OTC forward b) Buying USDINR futures
   c) Selling USDINR futures
   d) Selling long term USDINR futures and buying short term USDINR futures
7. A trader writes a call option and receives premium of 80 paise to a USD. Next day the premium for the same call option falls to 30 paise. Which of the following transaction would result in profit for the trader?
   a) Buy the call option which he had sold earlier
   b) Short the call option to receive 30 paise premium
   c) Short the put option d) Buy the put option

Contd…

8. A trader writes a call option and receives premium of 80 paise to a USD. Next day the premium for the same call option falls to 40 paise to a USD when spot prices did not change. Which of the following could best explain the drop in option price?
   a) Increase in volatility
   b) Decrease in volatility
   c) Unexpected fall in inflation
   d) None of the above
9. A trading member (TM) has two clients "A" and "B" and he also does proprietary trading in currency futures. On day 1, TM buys 8 lots of USDINR one month futures and also sells 2 lots of the same contract on the same day in his proprietary book. On the same day, client "A" buys 8 lots of USDINR one month futures and also sells 2 lots of the same contract while client "B" sells 8 lots and buys 2 lots. What would be the open position (in USD) of the trading member, client "A" and client "B" respectively at the end of day 1?
   a) zero; 6,000; 6,000
   b) 18,000; 6,000; 6,000
   c) 6,000; zero; zero
   d) 6,000; 6,000; 6,000
10. What are the basic accounting heads to be maintained by any market participant for maintaining currency futures accounts?
   a) Initial margin - currency futures
   b) Profit and Loss - currency futures
   c) Mark to market - currency futures
   d) Initial margin - currency futures and Mark to market - currency futures

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Name at least 5 differences between OTC derivatives and Exchange Traded derivatives?

(OR)

   b) How do economic factors impact currency prices?

12. a) Explain Interest Rate Parity theory with respect to pricing of currency futures?

(OR)

   b) What is “trading spreads” in currency futures? Explain with an example?

13. a) Enumerate the differences and similarities between futures and options?

(OR)

   b) What are the various determinants of currency option price?

14. a) Briefly explain MTM settlement and Final settlement for futures?

(OR)

   b) A trading member (TM) has two clients "A" and "B" and he also does proprietary trading in currency futures. On day 1, TM buys 12 lots of USDINR one month futures and also sells 2 lots of the same contract on the same day in his proprietary book. On the same day, client "A" buys 12 lots of USDINR one month futures and also sells 2 lots of the same contract while client "B" buys 12 lots and sells 2 lots. What would be the open position (in USD) of the trading member, client "A" and client "B" respectively at the end of day 1?

Contd…

15. a) What are the accounts that a client has to maintain and how should he account for live positions?

(OR)

b) Explain briefly the duties of a broker to the client as per the Code of Conduct?

PART – C (3 x10 = 30)

Answer any THREE questions.

16. What are the key economic functions of derivatives?
17. A person has invested INR 100,000 in an Indian corporate bond for a year giving a return of 16% in one year. The person plans to use the proceeds from the maturity of corporate bond to fund his daughter's education on US. At the time of investing in the corporate bond, USDINR spot rate was 70 and one year premium was 4%. The person decides to hedge currency risk using USDINR one year futures. At the end of one year, how many USD can this person remit to his son? Also show the one year returns in INR and USD terms?
18. What is Moneyness of an option? Explain the types of moneyness and how they differ with respect to Call and Put options?
19. Explain the main activities in the Clearing and Settlement process?
20. Briefly explain the major Acts that govern the Currency Derivatives in India?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., (Capital Markets) **COURSE CODE : 18U4XAC4**

COURSE TITLE :Mutual Fund & Commodity Markets **QN.NO : 7860**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Mutual funds are very popular in
   a) USA b) UK c) Japan d) India
2. Through investments in a Mutual Fund as investor can get access to
   a) Equities b) Bonds
   c) Money market instruments d) All of the above
3. Which of the following in NOT a reason to invest in mutual funds?
   a) Professional Management of your investment
   b) Invest low amounts (as low as Rs.500) a diversified portfolio.
   c) Flexibility to buy and sell your investments as and when you want
   d) Personal customized portfolio.
4. Which scheme offers tax benefits but has a lock in period of 3 years?
   a) Diversified equity scheme b) Exchange traded scheme
   c) Equity linked savings scheme d) monthly income plan
5. _____ are agreements between two counter-parties to exchange a series of cash payments for a stated period of time based on a certain pre-agreed arrangement
   a) Forwards b) Futures c) Swaps d) Options
6. Arbitrage opportunities can exist between
   a) Spot and futures price b) Futures and options price
   c) Two futures price d) All of the above
7. Periodic settlement of running account may not be necessary in the following cases:
   a) Clients settling trades through "custodians"
   b) Clearing members who are clearing trades of custodial participants / other trading members.
   c) In case of new clients, no settlement would be required in the month / quarter in which funds/securities are received by the Member for the first time.
   d) All of the above
8. If a commodity call option has a strike price of Rs 1000 and the current market price of the underlying commodity futures is Rs 1150 and the option premium is Rs 200, calculate its Intrinsic Value.
   a) Rs50 b) Rs100 c) Rs150 d) Rs1150

Contd…

9. Introduction of futures trading on new commodities, or withdrawal of futures trading on a specific commodity require the prior approval of _____.
   a) FMC b) SEBI
   c) The exchange
   d) The clearing corporation of that exchange
10._____ is levied and administered by the Centre on every inter-state supply of goods and services.
   a) CGST b) SGST c) IGST d) XGST

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) What are the limitations of a Mutual Fund?

(OR)

   b) What do you understand by
      i) Actively managed funds and ii) Passively managed funds?
12. a)What are Direct plans and Regular plans?

(OR)

   b) What is a Riskometer? What are the various levels of risk listed?
13.a) Explain briefly "Role of Commodity Exchanges".

(OR)

   b) List at least five differences between Financial Derivatives and Commodity Derivatives.
14.a) What is NCDEX AGRIDEX?

(OR)

   b) Explain Hedge Ratio.
15.a) Indicate the intermediaries involved in the commodity derivatives exchange.

(OR)

   b) Write short notes on 'Investor grievances in commodity derivatives exchange'.

PART – C **(3 x10 = 30)**

Answer any THREE questions

16.Explain in detail the advantages of mutual fund for investors.

17.Discuss the various distribution channels available for mutual funds.

18.Trace the evolution of commodity derivatives market in India.

19.Explain the various types of margins applicable to commodity derivatives?

20.Explain the recent rules governing to commodity derivatives exchange.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., / BCM **COURSE CODE : 18U6XMC15**

COURSE TITLE : Financial Planning & Wealth Management **QN.NO : 7866**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. The pay-in and pay-out dates for the settlement calendar is declared
   a) By SEBI.
   b) As per the Securities Contract Regulation Act, 1957.
   c) By NSDL. d) By the respective Stock Exchanges.
2. People who bet on price changes in the hope of making a profit are called
   a) Speculator b) Investor c) Hedging d) Gambling
3. The culmination of an IPO is
   a) QIP b) FPO c) Listing d) ASBA
4. Which of the following is not permitted for mutual fund schemes?
   a) Entry Load b) Exit Load c) CDSC d) Deferred Load
5. Every company shall within _____ days from the day the AGM is held, prepare and file annual return with the ROC.
   a) Ninety b) Sixty c) Thirty d) One year
6. _____ uses financial analysis to envisage the movement of stock prices
   a) Money analysis b) Stock analysis
   c) Fundamental analysis d) Inflation analysis
7. If you bought a long contract on financial futures you hope that interest rates
   a) Rise b) Fall c) Stable d) Volatile
8. The interest rates are usually quoted on
   a) Per day basis b) Per week basis
   c) Per annum basis d) Per month basis
9. SEBI has prescribed the Code of Conduct for the sub-brokers in _____.
   a) Indian Contract Act, 1872
   b) Securities Contracts (Regulation) Act, 1956
   c) Companies Act, 1956
   d) SEBI (Stock Brokers and Sub-Brokers) Regulations, 1992
10. The Membership approval committee recommends the names for admission of trading member to the _____ of the Exchange.
    a) Chairman b) President
    c) Secretary d) Board of Directors

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Explain the structure of Indian Financial Markets.

(OR)

b) What are the types of Derivatives?

12.a) Explain the types of Mutual Funds.

(OR)

b) Detail about the impact of elements of macroeconomic policies on asset allocation.

13.a) Describe the types of risk with examples.

OR)

b) Compute Real rate of return vs. nominal return**.**

14.a) Explain the retirement planning process with suitable example.

(OR)

b) State the importance and need for financial planning.

15.a) What are the Demat and Remat processes in Securities Market?

(OR)

b) Explain about the provisions of PMLA.

PART – C (3 x10 = 30)

Answer any THREE questions.

16.Distinguish between Primary and Secondary Markets.

17.Discuss the various types of small savings instruments.

18.Briefly explain the relationship between Risk and Return with examples.

19.Identify and explain about the types of insurance products.

20.Briefly explain about the financial regulatory systems in India.

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THE MADURA COLLEGE (Autonomous), MADURAI – 625 011

(AFFILIATED TO MADURAI KAMARAJ UNIVERSITY)

RE-ACCREDITED (3rd Cycle) WITH "A" GRADE BY NAAC

No of Pages	2

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Com.,(Banking & Insurance) **COURSE CODE : 17U1IMC2**

COURSE TITLE : Indian Financial System **QN.NO : 7903**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which one of the following is a cash asset?
   a) Deposit created out of loans b) Share
   c) Bond d) Post office certificate
2. The money market instrument is
   a) Bond b) Debenture
   c) Stock certificate d) Certificate of deposit
3. _____ acts as the sole agent of RBI where it has no branch.
   a) KVB b) PNB c) SBI d) IOB
4. Wholesale banking refers to doing banking business with _____.
   a) Individuals
   b) Only Companies registered the Companies Act
   c) Large borrowers irrespective of their category
   d) Industrial and business entities including government and public sector companies
5. The certificate which evidences an unsecured corporate debt of short term maturity is
   a) Short term loan certificate b) Certificate of deposit
   c) Inter bank participation certificate d) Commercial paper
6. Members of OTCEI are _____only
   a) Corporates b) Financial Institutions
   c) Commodity markets d) Public sectors
7. Which of the following is India's first Credit Information Company?
   a) CRISIL b) CIBIL c) SMERA d) CERSAI
8. How many divisions are there in CIBIL?
   a) One b) Two c) Three d) Four
9. The pattern of investment of a matual fund is oriented towards fixed income yielding secrities under:
   a) Growth fund scheme b) Income fund scheme
   c) Balanced fund scheme d) Money market mutual fund scheme
10. Venture capital originated in _____
    a) Russia b) Japan c) USA d) Germany

Contd…

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Describe the functions of financial system.

(OR)

b) State the importance of capital market.

12.a) What are the differences between retail banking and wholesale banking?

(OR)

b) Explain the terms 'Cash reserve ratio' and 'Statutory liqidity ratio'.

13.a) What are the merits of Online Treading?

(OR)

b) Narrate the sailent features of OTCEI.

14.a) Pointout the fair practices code for debt collection.

(OR)

b) What are the benefits of banking ombudsman scheme?

15.a) Define : 'Factoring'. Describe its modus operandi.

(OR)

b) State the features of Venture Capital.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Discuss the characteristic features of financial instruments.

17. Explain the functions of RBI.

18. List out the guidelines of RBI on commercial paper issue.

19. What is BCSBI? Explain its function.

20. Enumerate the major advantages of Global depository receipt.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., (B&I) **COURSE CODE : 17U4IMC9**

COURSE TITLE : Service Marketing **QN.NO : 7913**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Marketing is a process which aims at
   a) Production b) Profit making
   c) Satisfaction of customer needs d) Selling products
2. ____ buy products &___ use product
   a) Consumers & Customers b) Customers & Consumers
   c) Buyers & sellers d) Buyers & Customers
3. Distinct characteristics of service is
   a) Intangibility b) Inseperability
   c) Variability d) Perishability
4. Inseperabilty of services result in
   a) the customers being co-producer of the service b) service perishability
   c) Unpredictability of demand
   d) Reduction in perceived risks
5. Which of the following is not an element of Physical evidence.
   a) Employee dress b) Training
   c) Equipment d) Facility design
6. The promotion "P" of marketing is also known as ___
   a) Cost b) Distribution
   c) Marketing communication d) Product differentiation
7. _____ is a sequence of activities where inputs are converted into output.
   a) People b) Process c) Price d) Product
8. Effective bank marketing requires_____
   a) affordable price b) customer support
   c) easy procedures d) none of these
9. When was the Life insurance sector nationalized ___
   a)1834 b)1907 c)1938 d)1956
10. Insurance works on the principle of
   a) sharing of losses b) probabilities
   c) large numbers d) All the above

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Explain the approaches to the study of marketing.

(OR)

b) What are the characteristics of Perfect Competition?

12. a) Focus on the significance of service marketing in the Indian perspective.

(OR)

b) State the features of Marketing Information System.

13. a) Describe the components of Internal marketing programmes.

(OR)

b) Discuss about the long term capacity management decisions.

14. a) State and explain the different components of promotion mix that helps you in promoting the banking business.

(OR)

b) Describe the significance of MIS to the Banking Organization.

15. a) Explain the concept of Insurance Marketing.

(OR)

b) Define insurance product. Focus on the formulation of a sound product mix for the insurance organsiation.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. What is a market? Explain the functions of marketing.
17. Compare between Goods and Services.
18. Explain the various stages of Product Development.
19. What is Market Segmentation? Discuss the different bases for market segmentation with a reference to the banking services.
20. Briefly discuss about the price mix for the insurance organization that helps making it a motivational tool vis-à-vis making the services commercially viable.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., (B&I) **COURSE.CODE : 17U4IMC10**

COURSE TITLE : Regulation of Insurance Business **QN.NO : 7914**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. _____in 1818 in Calcutta was the first life insurance company to starts with operations in India
   a) Bombay life assurance company b) oriental insurance company
   c) Oriental life assurance company d) madras equitable life insurance society
2. Who is the national reinsurance of India?
   a) Life Insurance Corporation of India
   b) General Insurance Corporation of India
   c) Reinsurance corporation of India
   d) IRDA
3. _____ is the term related to insurance characterized by low premium and designed to serve low income group of people
   a) Insurance b) General Insurance c) Micro Insurance d) Life Insurance
4. Unit Linked Insurance Plans (ULIPS) are _____ linked insurance plans
   a) Insurance b) Debt c) Market d) Indemnity
5. _____ is the legal document setting out the terms and condition of the contract
   a) Proposal form b) prospectus
   c) Cover note d) policy bond
6. Nomination is cancelled where the nominee's _____ before the policy matures for the payment
   a) Die b) Becomes major c) Get married d) All the above
7. The state commission should be _____
   a) District Judge b) High court judge
   c) Supreme court judge d) IRDA chairman
8. As per the consumer protection act 1986 the person who buys goods for consideration is called _____
   a) A client b) A debtor c) A consumer d) an intermediately
9. IBNR stands for
   a) Incurred but not reported b) income before net reported
   c) Incurred but not reviewed d) investment before net reported
10. The financial service authority (FSA) is the insurance regulator of which country
    a) United states b) United kingdom c) Pakistan d) France

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b).

11. a) Explain the duties and powers of IRDA.

(OR)

b) Explain the regulations of Third Party Administration (TPA).

12. a) Describe the stages and methods of monetary laundering.

(OR)

b) Explain the commencement of risk.

13. a) Write short note on claim settlement in LIC policy and GIC policy.

(OR)

b) Define insurance policy. Explain its types.

14. a) Frame the structure of Consumer Protection Act, 1986.

(OR)

b) Explain the pre-requisite condition for lodging complaint.

15. a) Write short note Insurance Accounting.

(OR)

b) State the insurance regulatory system of a few countries.

PART – C (3 x 10 =30)

Answer any THREE questions.

16. Elaborate recent developments and growth in insurance industry in India.
17. Define Micro insurance. Explain its regulations and conditions.
18. Discuss the provisions of transfer and nomination of insurance policies.
19. Enumerate the suggested amendments by the Law Commission.
20. Explain the concept of international trends in insurance regulations.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., (B & I) **COURSE CODE : 17U4IAC4**

COURSE TITLE : Banking and Allied Laws-I **QN.NO : 7915**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The main function of a bank includes
   a) Acceptance of deposit from the public b) Lending or investments of deposits
   c) Both A&B d) None of the above
2. The relationship between a banker and its customer is that of
   a) A debtor and creditor b) A trustee and beneficiary
   c) Principal and agent d) Indemnifier and indemnified
3. Any agreement with or by a minor is_____
   a) Valid b) Voidable c) Illegal d) Void
4. A quasi Contract _____
   a) a contract b) is an agreement
   c) Creates legal obligation d) None of the above
5. The position of a finder of goods is that of a
   a) Bailor b) bailee c) surety d) creditor.
6. Agent can be appointed by
   a) Express appointment b) implication of law
   c) Ratification by principal d) any of the above.
7. The Sale of Goods Act, 1930 deals with the_____
   a) Movable Goods b) Immovable Property
   c) Both A & B d)All except Stocks & Shares
8. The term "Caveat Emptor" means _____
   a) Let the buyer beware b) Let the seller beware
   c) Let the creditor beware d) Let the government beware
9. Registration of partnership is_____
   a) Compulsory b) Optional
   c) Not registered in order to avoid liabilities
   d) Registration must to make transactions valid
10. The agreement creating limited liability partnership is known as:
    a) Partnership deed b) Incorporation document
    c) Memorandum of association d) none of the above

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) What are the various types of banks?

(OR)

b) What is negotiable instrument? Briefly explain its special characteristics.

12. a) What are quasi contracts?

(OR)

b) Bring out the rules relating to contingent contracts.

13. a) Write the different modes in which the authority of agent may terminate by operation of law.

(OR)

b) What are the rights of surety?

14. a) Distinguish between a sale and agreement to sell.

(OR)

b) What are the rights of unpaid seller against the buyer personally?

15. a) State the various circumstances in which a firm may be dissolved.

(OR)

b) Write the essential characteristics of partnership.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain the functions of RBI as per RBI Act 1935.
17. Discuss the essential elements of a valid contract.
18. Enumerate the duties of bailor and Bailee.
19. Explain the conditions and warranties implied by law in a contract for the sale of goods.
20. Discuss the rule relating to the rights and duties of partners.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., (B&I) **COURSE CODE : 17U6IME5**

COURSE TITLE : Auditing of Banking and Insurance Companies **QN.NO : 7920**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. " An Auditor is a Watch Dog but not a Blood Hound". It was ruled in _____.
   a) Kingston Cotton Mill Co., (1896) b) Derry Vs Peek (1889).
   c) Crabtree Thomas Vs Crabtree (1912) d) Candler Vs Crane (1951)
2. Incorrect additions, wrong postings and entries are errors of _____
   a) Commission b) Duplication c) Principle d) Omission
3. An independent financial auditor submits his report to ____ .
   a) Shareholders of the company b) Board of directors
   c) Government d) All of the above
4. The logic behind the internal check is ____ .
   a) Encouraging division of work b) Minimising fraud
   c) Facilitating early submission of financial statement
   d) Not giving the power of executing a transaction from beginning to end to a single individual.
5. Purchase returns should be vouched with the help of ____ .
   a) Bought notes b) Credit notes c) Goods inward book d) Cash book
6. Verification refers to _____ .
   a) Examination of journal and ledger
   b) Examination of vouchers related to assets
   c) Examining the physical existence and valuation of assets
   d) calculation of value of assets
7. Which of the following is not permitted by Sec.6 of Banking regulation Act ?
   a) Borrowing and lending of money b) Dealing in negotiable instruments
   c) Buying and selling of bullions, foreign exchange
   d) Dealing in trading of goods
8. ____ controls the operation of State Bank of India and its subsdiaries.
   a) Banking Regulation Act 1949 b) State Bank of India Act 1955
   c) The Companies Act 1956 d) Co-operative societies Act 1976

Contd...

9. Which of the following is not the content of Sec.B to IRDA Regulations 2000 ?
   a) Accounting principles to be followed in preparation of financial statements
   b) General instructions for preparation of final statements
   c) Format of financial statement
   d) Regulations contain provisions as applicable to companies carrying on life insurance business .
10. Provision for unexpired risk in case of fire insurance, ____ % of premium is provided for in the accounts.
    a) 25 b) 50 c) 75 d) 90

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Define Audit. Write the difference between Book-keeping, Accountancy and Auditing.

(OR)

b)Describe the qualities of an auditor.

12. a) Write short notes on Internal Control – Accounting, administrative controls.

(OR)

b) Explain the evaluative criteria for Good Internal Check.

13. a) What are the basic elements of an audit report?

(OR)

b) Write short notes on verification and valuation of floating assets.

14. a) Give in detail the internal control system in a bank.

(OR)

b) Write in brief the special liabilities imposed on the auditors of banking companies.

15. a) State the audit of premium income.

(OR)

b) Write short notes on audit of certain items in Balance sheet.

Contd...

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain in detail the objects of audit

17. Discuss in detail the components of an internal control system.

18. Explain in detail the verification and valuation of Investments.

19. Enumerate the salient features of enactments affecting banks.

20. Discuss in detail the preparation for financial statements and auditor's report of Insurance companies.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Com., **COURSE.CODE : 17P2KMC6**

COURSE TITLE : Advanced Corporate Accounting **QN.NO : 8006**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Share Allotment is a
   a) Personal A/c b) Real A/c
   c) Impersonal A/c d) Nominal A/c
2. The difference between subscribed capital and called up capital is called
   a) Uncalled Capital b) Calls-in-arrear
   c) Paid up capital d) Calls in advance.
3. Dividend is paid on
   a) Authorised capital b) Issued Capital
   c) Called up capital d) Paid up capital
4. Gain on sale of fixed assets is shown in the statement of profit and loss as
   a) Revenue from operations b) Other income
   c) Any of the above d) none of the above
5. Accounting standard for Amalgamation is
   a) AS-8 b) AS-20 c) AS-14 d) AS – 3
6. Pooling of Interest method is used to account for Amalgamations in the nature of
   a) Purchase b) sale c) merger d) None of these
7. Rebate on Bills discounted is
   a) An accrued income b) an item of income
   c) a liability d) income received in advances
8. In life insurance, the policy amount is payable
   a) After the death of the insured
   b) after the expiry of the policy period
   c) only when the loss occurs or the liability arises
   d) only when insured has attained a certain
9. A company in which more than 50% of shares are held by another company is termed as
   a) Holding company b) subsidiary company
   c) Government company d) Public company

Contd...

10. The excess price paid by a holding company to acquire controlling interest in the subsidiary company is transferred to

a) Capital Reserve b) Goodwill a/c

c) Revenue reserve d) None of these

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11. a) X Ltd invited applications for 10000 shares of Rs. 100 each at a discount of 6% payable as follows:

On Application Rs. 25, On allotment Rs. 34 and on first and final call Rs. 35. The applications received were for 9000 shares and all of these were accepted. All moneys due were received except the first and final call on 100 shares which were forfeited. 50 shares were re-issued @ Rs. 90 as fully paid. Pass entries in the cash book and Jounal of the company.

(**OR**)

b) A company issued 10% debentures of Rs. 1,00,000 at par but redeemable after 3 years at 10% premium. The amount set aside for redemption of debentures was invested in 5% Govt. securities. The amount was invested in multiple of Re. 1. The sinking fund table shows that 0.31720855 at 5% compound interest in three years will become Re. 1. On due date the investments were sold at a loss of Rs.5000. you are required to show the necessary ledger accounts for the three years. You are not required to show the ledger accounts for payment of debenture interest.

12. a) The following items appear on the liabilities side of the balance sheet of a limited company as on 1st April, 1996:

a) 13.5% preference share capital	400000
b) Equity share capital fully paid up	500000
c) Equity share capital – 60% paid up	300000
d) Securities premium account	700000
e) 15% Debentures	1000000

f) Profit (before interest on debentures and tax at 60%) is Rs. 1150000 for the accounting year ended 31st March 1997. The recommendations of the company's board of directors include equity dividend of 15%. Pass journal entries to incorporated board's recommendations.

(**OR**)

Contd…

b) On 31st March, 2002, the Balance Sheet of Menon Ltd. was as follows

	Rs.		Rs.
Share *Capital :*		Land and Buildings	2,20,000
Authorised*& Issued :*		Plant and Machinery	95,000
5,000 Equity Shares of		Stock	3,50,000
Rs. 100 each fully paid	5,00,000	Sundry Debtors	1,55,000
Profit and Loss Account	1,03,000		
Bank Overdraft	20,000		
Creditors	77,000		
Provision for Taxation	45,000		
Proposed Dividend	75,000		
	8,20,000		8,20,000

The net profits of the company, after deducting all working charges and providing for depreciation and taxation, were as under :

1998	85000
1999	96000
2000	90000
2001	100000
2002	95000

On 31st March, 2002, Land and Buildings were valued at Rs. 2,50,000 and Plant and Machinery at Rs. 1,50,000.

In view of the nature of the business, it is considered that 10% is a reasonable return on tangible capital.

Prepare a valuation of the company's shares after taking into account the revised values of fixed assets and your own valuation of goodwill based on five years' purchase of the super profits based on the average profit of the last five years.

13. a) Strong Ltd., takes over Weak Ltd., in pursuance of a scheme of amalgamation and it was agreed that the shareholders of weak Ltd. Must be issued shares in strong Ltd. And the exchange is to be determined on the basis of the intrinsic values of the shares of the two companies concerned. The capital of Weak Ltd. Comprises 1,00,000 equity shares of Rs.10 each. The intrinsic values were, Strong Ltd. Rs.40 and Weak Ltd. Rs. 25. In allotment fractional shares are aggregate to 500. The market value of the shares of Strong Ltd. Was Rs.60. You are required to compute the purchase consideration payable to Weak Ltd.

(**OR**)

b) Shri A. B. Govindan is appointed as liquidator of a company in voluntary liquidation on 1st July, 2002, and the following balances are extracted from the books on that date :

Contd…

	Rs.		Rs.
Capital :		Machinery	30,000
16,000 shares of Rs. 5 each	80,000	Leasehold Properties	40,000
		Stock in Trade	1,000
Provision for Bad Debts	10,000	Book Debts	60,000
Debentures	50,000	Investments	6,000
Bank Overdraft	18,000	Calls in Arrear	5,000
Liabilities for Purchases	20,000	Cash in hand	1,000
		Profit & Loss a/c	35,000
	1,78,000		1,78,000

The machinery is valued at Rs. 60,000 ; the Leasehold Properties at Rs. 73,000 ; Investments at Rs. 4,000 ; Stock in Trade at Rs. 2,000 ; bad debts are Rs. 2,000 ; doubtful debts are Rs. 4,000, estimated to realiseRs. 2,000. The Bank Overdraft is secured by deposit of title deeds of Leasehold Properties. Preferential creditors for taxes and wages Rs. 1,000. Telephone rent owing is Rs. 80. You are required to make out (1) Statement of Affairs as regards creditors and contributories and (2) Deficiency or Surplus Account.

14. a) Write the advantages of Holding Company.

(OR)

b) H.Ltd, acquired all the shares in S. Ltd on 1sat January 2002 and the balance sheets of the two companies on 31st March 2002 were as follows

Liabilities	H.Ltd Rs	S.Ltd Rs	Assets	H.Ltd Rs	S. Ltd Rs
Share capital	50000	30000	Sundry Assets	65000	70000
Reserve on 1-4-2001	20000	15000	Shares in S. Ltd	50000	-
Profit and Loss A/C	25000	10000	at Cost		
Sundry Creditors	20000	15000			
	1,15,000	70,000		1,15,000	70,000

The profit and loss account of S .ltd has a credit balance of Rs.3000 on 1st April 2001. Prepare a consolidated Balance sheet as on 31st March 2002.

15. a) On 31st March 1998, Bharat Commercial Bank Ltd., finds its advances classified as follows:

Standard assets	1491300
Substandard assets	92800
Doubtful assets (secured)	
Doubtful for one year	25660
Doubtful for one year to 3 years	15640
Doubtful for more than 3 years	6580
Loss assets	10350

Contd…

Calculate the amount of provision to be made by the bank against the above mentioned advances.

(**OR**)

The life fund of a Life Insurance Company on 31.3. 2006 showed a balance of Rs.54,00,000. However the following items were not taken into account while preparing the revenue account for 2005-06.

Interest and dividends accrued on investments	20000
Income tax deducted at source on the above	6000
Reinsurance claims recoverable	7000
Commission due on reinsurance premium paid	10000
Bonus in reduction of premiums	3000

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. A limited company issued a prospectus inviting applications for 2000 equity shares of RS. 10 each at a premium of Rs. 2 per share payable as follows:
On application Rs. 2
On Allotment Rs. 5 (Including premium)
On first call Rs. 3
On second and final call Rs. 2
Applications were received for 3000 shares and pro-rata allotment was made on the applications for 2400 shares. Money overpaid on applications was employed on account of sum due on allotment. Pawan, to whom 40 shares were allotted, failed to pay the allotment money and on his subsequent failure to pay first call, his shares were forfeited, Pramod, the holder of 60 shares, failed to pay the two calls, and his shares were forfeited after the second call. Of the shares forfeited, 80 shares were sold to Ankur credited as fully paid @ RS. 11 per share, the whole of Pawan's shares being included. Pass the necessary journal entries and prepare the cash book of the company

17. Balance sheet of good Enterprises Ltd as at 31st March 2002 is as under

Liabilities	Rs	Assets	Rs
Equity Share capital of Rs. 10	2,00,000	Goodwill(Purchased)	50,000
Equity Share capital of Rs 4	1,00,000	Fixed Assets	1,00.000
General Reserve	30,000	Stock	1,20,000
Profit &Loss A/c	10,000	Debtors	1,35,000
Gratuity fund	15,000	Cash	10,000
Workmen's Compensation Fund	5,000	Prepaid Expenses	2,000
Depreciation Fund	10,000	Preliminary Expense	13,000
Sundry trade Creditors	25,000		
Expenses Creditors	5,000		
Bank Overdraft	30,000		
	4,30,000		4,30,000

Contd…

A shareholder holding 100 Shares of Rs 10 and 200 Shares of Rs 4 want to dispose all the shares. Dividends paid for last three years were 12%, 11%, and 13%. Normal expectation is 10%

Fixed Assets are worth Rs 60,000, goodwill is to increase by an amount equal to average of book value and a valuation made at 4 years purchase of average super profit for the last three years. Debtors are estimated to be worth Rs,1,42,000, Rs 3,000 of trade creditors are outstanding for many years and it is estimated that this amount will not be payable. On the other hand Rs 6,000 being disputed bonus claim has not been provided in the accounts but it is likely that the amount shall have to be paid.

Profits for three years after taxation are Rs35,000, Rs 48,000 and Rs 43,000

a) Calculate the value of goodwill
b) Find out breakup value, Market Value and fair value of the above two types
c) What should be the fair value of the shares if the controlling interest of the Managing Director is being sold?

18. Given below are the balance sheets of A Ltd, B Ltd , and C Ltd ., as on 31st March 2002. You are required to prepare the consolidated balance Sheets of the holding company and its subsidiaries as on 31st March, 2002 bearing in mind that the acquisition of shares by the companies was made on the same date.

Liabilities	A Ltd	B Ltd	C Ltd	Assets	A Ltd	B Ltd	C Ltd
Share capital: 700000 shares of Re. 1 each	700000			Fixed Assets	500000	300000	150000
50,000 shares of Rs 10 each		500000		Investments 40000 shares in B at cost	500000		
100000 shares of Re . 1 each			100000	100000 shares in C at cost	80000		
P& L a/c	180000	50000	75000	5000 shares in B at cost			60000
Loan from B	100000			Current Assets	400000	400000	140000
Current Liabilities	500000	150000	175000				
	1480000	700000	350000		1480000	700000	350000

19. The Balance Sheets of Surya of Surya Ltd. And Chandra Ltd. As at 31st March, 2003 were as under:

Liabilities	Surya	Chandra	Assets	Surya	Chandra
	Rs.	Rs.		Rs.	Rs.
Share Capital in Equity					
Shares of Rs. 10 each	3,75,000	3,00,000	Fixed Asset	4,75,000	2,75,000
Reserves	2,25,000	25,000	Current Assets :		
7% Debentures	—	1,00,000	Stock	1,25,000	75,000
Creditors	1,40,000	1,25,000	Debtors	1,50,000	1,00,000
Provision for Taxation	60,000	25,000	Bank	50,000	1,25,000
	8,00,000	5,75,000		8,00,000	5,75,000

Contd…

It was agreed that Surya Ltd. should absorb Chandra Ltd. as at 31-3-2003 on the basis of the following information and adjustments:

(i) The adjusted profits for the last three years are :		
	Surya Ltd. Rs.	Chandra Ltd. Rs.
Year ending 31-3-2003	2,25,000	1,50,000
Year ending 31-3-2002	2,40,000	1,35,000
Year ending 31-3-2001	2,35,000	90,000
(ii) The shares of the companies were to be valued on net assets basis, subject to goodwill of Chandra Ltd. being taken at one year's purchase of average profits of three years and no goodwill to be taken for Surya Ltd		
(iii) 7% Debenture holders are to be repaid on 31-3-2003 at par by Chandra Ltd.		
(iv) The fixed assets of Surya Ltd. are to be valued at Rs. 6,25,000.		
(v) Cost of absorption of Rs. 5,000 is met by Surya Ltd.		

You are required to calculate the ratio of exchange of shares and draw up resulting Balance Sheet of Surya Ltd. after absorption.

20. On 31st December 1986, the following balances stood in the books of Asian bank Ltd., after preparation of its profit and loss account.

Rs. In 000

Share capital Issued and subscribed	4000
Reserve Fund U/s 17	6200
Fixed Deposits	42600
Savings bank deposits	19000
Current accounts	23200
Money at call and short notice	1800
Investments	25000
Profit and loss account (cr) 1st jan 1986	1350
Dividend for 1985	400
Premises	2950
Cash in hand	380
Cash with RBI	10000
Cash with other banks	6000
Bills discounted and purchased	3800
Loans, cash credits and over drafts	51000
Bills payable	70
Unclaimed dividend	60
Rebate on bills discounted	50
Short loans (borrowing from other banks)	4750
Furniture	1164
Other assets	336
Net profit for 1986	1550

Prepare Balance sheet of the Bank as on 31st December 1986.

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RE-ACCREDITED (3rd Cycle) WITH "A" GRADE BY NAAC

No of Pages	2

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Com., **COURSE CODE : 17P2KMC7**

COURSE TITLE : Marketing Management **QN.NO : 8007**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which of the following is not an element of the marketing mix?
   a) Target market b) Product c) Distribution d) Pricing
2. "Get out production, cut the price"- philosophy by Henry Ford is an example of
   a) Marketing concept b) Selling concept
   c) Production concept d) Product concept
3. _____ buy products & _____ use product
   a) Consumers & customers b) Customers & consumers
   c) buyers & seller d) Buyers & customers
4. The core product is best defined as
   a) The fundamental benefit of the product
   b) the secondary product
   c) the tangible product
   d) intangible product
5. Bundle pricing is _____
   a) Providing a bundle of benefits for one price
   b) Packaging a group of products together
   c) Providing a group of prices for one product category
   d) None of those
6. Setting a price below that of the competition is called
   a) Penetration pricing b) skimming
   c) competitive pricing d) odd pricing
7. Just-in-time system of distribution are particularly depends upon _____
   a) Low unit transport costs b) low unit warehousing costs
   c) information flow between channel members
   d) large numbers of suppliers
8. Intermediaries typically perform all of the following functions, except:
   a) Breaking down bulk b) making goods locally available
   c) Providing expert local market knowledge
   d) Creating direct communication from the customers to manufacturer

Contd…

9. Marketing buzz means _____
   a) De-marketing b) social marketing
   c) Viral marketing d) virtual marketing
10. The promotion 'P' of marketing is also known as _____
   a) Cost b) distribution
   c) marketing communication d) product differentiation

PART – B **(5 x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Evaluate the modern concept of marketing.

(OR)

b) Describe the process of marketing Research.

12. a) Define product mix. What type of decision need to be taken by marketer regarding product mix?

(OR)

b) What are the various kinds of packaging?

13. a) Bring out the objectives of pricing.

(OR)

b) What are the basic pricing policies?

14. a) Discuss the various types of warehouse.

(OR)

b) What are the services rendered by wholesalers?

15. a) What is promotion mix? Describe its elements with suitable examples.

(OR)

b) Discuss the importance of personal selling.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Describe the marketing environmental forces that affect company's ability to serve its customers .
17. Explain the concept of product life cycle. Suggest suitable marketing strategies to be used in all states of the PLC .
18. What are the major factors that should be taken in to account in developing a pricing policy ? Explain.
19. What factors influences channel decision? State the channels most used for services.
20. "Adverting is a social waste". Do you agree? Explain with examples.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Com., **COURSE CODE : 17P2KMC8**

COURSE TITLE : Financial Markets and Services **QN.NO : 8008**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which of the following is a financial asset?
   a) Deposit created out of loans b) Share
   c) Bond d) Post office certificate.
2. Government Bond is a _____
   a) Short term security b) Long term security
   c) Medium term security d) either short term or long term security.
3. The major player in the Indian Money market is _____
   a) Cooperative banks b) Indigenous banks
   c) Commercial banks d) Reserve bank of india
4. The market which helps commercial banks to maintain its SLR requirements is _____
   a) Call money market b) Discount market
   c) Accepted market d) Commercial bill market
5. The components of capital market is _____
   a) Treasury bill market b) Government securities market
   c) Commercial bill market d) Both (a) & (b)
6. Public issue involves no
   a) Placement b) intermediaries c) flotation cost d) risk
7. Mutual funds are very popular in
   a) USA b) UK c) Japan d) India
8. Merchant banks deals with funds raised through
   a) Capital market b) money market
   c) capital and money market d) IPO
9. Functions of a factor exclude
   a) Credit rating b) Credit recording
   c) Credit Administration d) Credit financing

Contd…

10. Venture capital is
    a) Long term capital
    b) short term capital
    c) medium term capital
    d) all of the above

PART – B **(5 x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) State the functions of financial system.

(OR)

    b) Classify diversification and explain any two of them in detail.

12. a) Mention the objectives of money market.

(OR)

    b) What are the merits of a treasury bill market?

13. a) List out and explain the players in the new issue market.

(OR)

    b) Compare new issue market and stock market

14. a) Describe the guidelines for merchant bankers issued by SEBI.

(OR)

    b) What is net asset value? How it is computed?

15. a) Explain the various stages of venture capital financing.

(OR)

    b) Distinguish between factoring and bill discounting

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. "Financial system plays a significant role in the process of economic development of country"-Discuss.
17. What are the functions of discount market? Explain.
18. Bring out the various method of floating of securities in new market.
19. Explain the types of mutual funds.
20. Explain clearly the various functions involved in factoring.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Com., **COURSE CODE : 17P2KMC9**

COURSE TITLE : Advanced Management Accounting **QN.NO : 8009**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Management Accounting analyses Accounting data with the help of
   a) Tools & Techniques b) Statutory forms
   c) Auditors d) none of these
2. Management Accounts is suitable for
   a) Small Business b) Cooperative societies
   c) Nonprofit organization d) Large Industries and trading concerns.
3. Financial Statement are meaningful and useful only when they are
   a)Verified b) Presented to owners
   c) Analysed and interpreted d) Published
4. Solvency Ratios include
   a) G/P Ratio b) Fixed assets turnover
   c) Capital gearing Ratio d) P/E Ratio
5. Gross working capital is the
   a) total value of current assets b) total value of Fixed assets
   c) total value of all assets d)none of these
6. Cash from operating activities include
   a)cash from business activities
   b) Cash from business activities and changes in current assets and liabilities
   c) Sale of fixed assets
   d) Borrowing from outsiders
7. Break even point is
   a) Sales at which profit is high
   b) Sales at which there is loss
   c) Sales at which there is no profit or loss
   d) none of these
8. When P/V Ratio is 40% and sales value is Rs.10,000 the variable cost will be:
   a) Rs.4,000 b) Rs.6,000 c) Rs.10,000 d) Rs. 8,000
9. Overhead cost variance is the difference between :
   a) Recovered overheads and actual overheads
   b) Budgeted overheads and actual overheads
   c) Budgeted overheads and Standard overheads
   d) None of these
10. A Production budget is based on
    a) cash budget b) Overheads budget
    c) Sales budget d) Purchase budget

Contd…

PART – B **(5 x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) What are the functions of management Accounting .

(OR)

b) Discuss the limitations of management accounting.

12. a) The income statement of concern are given for the year ending on 31st December 2001 and 2002. Re- arrange the figures in a comparative form and study the profitability position of the concern.

Particulars	2001 Rs.(000)	2002 Rs.(000)
Net sales	785	900
Cost of goods sold	450	500
Operating expenses:		
General and administrative expenses	70	72
Selling expenses	80	90
Non Operating Expenses:		
Interest paid	25	30
Income tax	70	80

(OR)

b) Pankajam Ltd sells goods on cash as well as on credit basis. The following information is extracted from their books of accounts for 1993:

	Rs
Total sales	1,00,000
Cash sales(include in the above)	20,000
Sales Return	7,000
Total debtors for sales as on 31.12.1993	9,000
Bills Receivables as on 31.12.1993	2,000
Provision for doubtful debts	1,000
Trade creditors as on 31.12.93	10,000

You are required to calculate,

i) Debtors / Receivables turnover ratio

ii) The average collection period

13. a) Calculate fund from operations from the following Profit &loss A/c.

Profit and loss Account

Particulars	Rs	Particulars	Rs
To Expenses paid	3,00,000	By Gross profit	4,50,000
To depreciation	70,000	By gain on sale of land	60,000
To loss on sale of machine	4,000		
To Discount	200		
To Goodwill	20,000		
To net profit	1,15,800		
	5,10,000		**5,10,0000**

Contd…

(OR)

b) From the following balance sheets of Aravind Ltd you are required to prepare a cash flow statement:

Liabilities	1989 Rs	1990 Rs	Assets	1989 Rs	1990 Rs
Share capital	4,00,000	5,00,000	Cash	60,000	94,000
Trade creditors	1,40,000	90,000	Debtors	2,40,000	2,30,000
Profit & loss a/c	20,000	46,000	Stock	1,60,000	1,80,000
			Land	1,00,000	1,32,000
	5,60,000	**6,36,000**		**5,60,000**	**6,36,000**

14. a) You are given the following data for the year 2010 of the company.

Variable cost Rs.6,00,000
Fixed cost Rs. 3,00,000
Net profit Rs.1,00,000
Sales Rs,10,00,000
Calculate a) p/v ratio b) B.E.P
c) Profit when sales amounted to Rs. 12,00,000
d) Sales require to earn a profit of Rs. 2,00,000.

(OR)

b) From the following information , Calculate
a) P/V ratio b) Break even point c) Margin of safety
Total sales Rs. 3,60,000
Selling price per unit Rs. 100
Variable cost per unit Rs. 50
Fixed cost Rs.1,00,000
d) if the selling price is reduced to Rs.90 , by how is margin of safety reduced?

15. a) Calculate material cost variance from the following data:

	Standard	Actual
Quantity	400kg	460kg
Price	Rs.2 per kg	Rs.1,5per kg
Value	Rs.800	Rs.690

(OR)

b) Explain the different types of reports that are used for the internal management of an enterprise.

PART – C **(3 x10 = 30)**

Answer any THREE questions

16. Describe the main tools of management Accounting.
17. With the help of the following ratios regarding Indu films draw the balance sheet of the company for the year 1999.
Current ratio 2.5
Liquidity ratio 1.5
Net working capital Rs.3,00,000
Stock turnover ratio (cost of sales \closing stock) 6 times
Gross profit ratio 20%

Contd…

Debt collection period 2 months
Fixed assets turnover ratio (cost of sales) 2 times
Fixed assets to shareholders net worth 0.80
Reserve and surplus tom share capital 0.50

18. From the balance sheet of 'A' lid as on 31st December 2005 and 2006 you are required to prepare:
    a) Schedule of change in working capital
    b) fund flow statement

Balance sheet

Liabilities	2005 Rs	2006 Rs	Assets	2005 Rs	2006 Rs
Share Capital	1,00,000	1,00,000	Goodwill	12,000	12,000
General Reserve	14,000	18,000	Building	40,000	36,000
P&L A/c	16,000	13,000	Plant	37,000	36,000
Sundry creditors	8,000	5,400	Investment	10,000	11,000
Bills payable	1,200	800	Stock	30,000	23,400
Provision for taxation	16,000	18,000	Bills receivable	2,000	3,200
			Debtors	18,000	19,000
Provision for doubtful debts	400	600	Cash at bank	6,600	15,200
	1,55,600	**1,55,800**		**1,55,600**	**1,55,800**

Additional information is given:

1. depreciation : Plant - Rs.4,000 , Building - Rs. 4,000
2. provision for taxation of Rs. 19,000 was made during the year 2006
3. Interim dividend of Rs. 8,000 was paid during the year 2006

19. A,G Ltd furnished you the following related to the year 1996.

	First half of the year Rs	Second half of the year Rs
Sales	45,000	50,000
Total cost	40,000	43,000

Assuming that there is no change in prices and variables cost and that the fixed expenses are incurred equally in the 2 half year periods ,calculate for the year 1996:

a) the profit volume ratio
b) Fixed expenses
c) Break even sales
d) Percentage of margin of safety.

20. From the following data ,calculate labour variances :

Budgeted labour for completing job X:
8 Skilled workers at Rs.10 per hour for 20 hours
12 unskilled workers at Rs.8 per hour for 20 hours
Actual labour for completing job X :
12 skilled workers at Rs.11 per hour for 20 hours
13 unskilled workers at Rs. 7 per hour for 20 hours

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Com., **COURSE CODE : 17P2KMC10**

COURSE TITLE : Indian Accounting Standards & Accounting Software **QN.NO : 8010**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Ind-AS stands for
   a) Indian Accounting Standard b) Indian Financial Accounting Standard
   c) International Accounting Standard
   d) Indian Alternative Standard
2. Disclosure of Accounting Polices is dealt in
   a) AS-2 b) AS-1 c) AS-5 d) AS-19
3. Which of the following is included as a cost of inventory?
   a) Cost of Purchase b) Cost of Sales c) Prime Cost d) Works Cost
4. Revenue includes
   a) Sales taxes b) Goods and Services taxes
   c) Value added taxes d) none of the above
5. A _____ is an asset that takes a substantial period of time to get ready for its intended use or sale
   a) Qualifying assets b) Qualifying liability
   c) Current assets d) Current liabilities
6. The cash flows associated with extraordinary items should be separately classified as a cash flow from
   a) operating activities b) investing activities
   c) financing activities d) under (a) or (b) or (c) as is appropriate
7. We can switch from Accounting Voucher to Inventory Voucher pressing
   a) F2 b) Alt+F7 c) Ctrl+F1 d) F11
8. Which option from Company Info. Menu is selected to create a new Company in Tally?
   a) Company create b) Create Company
   c) Create d) New Company
9. Tally package is developed by
   a) Peutronics b) Tally Solutions
   c) Coral Software's d) Vedika Software

Contd…

10. For 'stock journal' entry we press _____ in tally

a) F7 b) Alt+F7 c) F10 d) F11

PART – B **(5 x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) What are the objectives of accounting standards?

(OR)

b) State any four accounting standards formulated by accounting standards board.

12. a) The following are the details relating to process II: Normal Loss 10%. Input 10,000 kgs at Rs.10 per kg. Output 15,000 kgs. Other Process costs Rs.90,000. Closing stock of finished goods 7,000 kgs. Calculate the valuation of Inventories, As per AS-2.

(OR)

b) From the following Balance sheet, you are required to prepare a cash flow statement.

Liabilities	2017 Rs.	2018 Rs.	Assets	2017 Rs.	2018 Rs.
Share capital	3,00,000	4,00,000	Cash	60,000	94,000
Trade creations	1,40,000	90,000	Debtors	1,40,000	1,30,000
Profit & Loss A/c	20,000	46,000	Land	1,00,000	1,32,000
			Stock	1,60,000	1,80,000
	4,60,000	**5,36,000**		**4,60,000**	**5,36,000**

13. a) ABC & CO., is installing a new plant at its production facility. It has incurred these costs:

Cost of the plant Rs.2,50,000. Initial delivery and handling cost Rs.20,000. Cost of site preparation Rs.60,000. Consultants used to advice on the acquisition Rs.70,000. Interest charges paid to supplier for deferred credit Rs.20,000. Estimated dismantling cost to be incurred after 7 years s.30,000. Operating losses before commercial production Rs.40,000. Find out the costs to be capitalized as per Ind AS-16.

(OR)

b) Explain the recognition of borrowing cost.

14. a) Discuss any five F11 functions in accounting software.

(OR)

b) Briefly explain any seven Primary groups for accounting software.

15. a) What are the types of inventory masters?

(OR)

b) Explain the steps involved in the activation of tracking numbers.

Contd…

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain the categorization of enterprises for the applicability of various accounting standards.
17. Ascertain the value of inventories as per AS2 in the following cases:
    a) Nirmala seetharam Ltd. Incurred the following costs: Purchased material costing Rs.80,000; Spend Rs.25,000 on Labour . Fixed and variable over heads of production applicable Rs.30,000. Selling &Distribution overheads Rs.20,000 and Finance expenditure Rs.45,000 for the year ended 2018.
    b) 5000 kgs of Raw material is purchased at Rs.15 per kg Closing stock includes 1,000 kgs of the material. Current market price is Rs.12 per kg. for the financial year end with 31.3.2018. The entire output is in the store.
18. ABC & CO ., has acquired a heavy road transporter at a cost of Rs.1,00,000 (with no breakdown of component parts). The estimated useful life is 10 years. At the end of the sixth year, the power train requires replacement, as further maintenance is uneconomical due to the off-road time required. The remainder of the vehicle is perfectly road worthy and is expected to last for the next four years. The cost of the new power train is Rs.45,000. Can the cost of new power train can be recognized as the asset, and if so, what treatment should be used ?
19. Explain the various types of Tally vouchers. Also give the shortcut for creating these vouchers.
20. Explain the stock group, stock category and stock items with suitable examples.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Commerce **COURSE CODE : 17P3KNM1**

COURSE TITLE : Entrepreneurial Skill Development **QN.NO : 8016**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The entrepreneur who blindly follows the traditional methods of production inspite of the loss is called
   a) Drone Entrepreneur b) Adoptive Entrepreneur
   c) Fabian Entrepreneur d) Innovative Entrepreneur
2. The important role of the entrepreneur in the economic development of a nation is
   a) Capital formation b) creation of employment
   c) balanced regional development d) All of these
3. Entrepreneurship refers to
   a) Person b) Function c) Technique d) All of the above
4. Factors affecting entrepreneurial growth are
   a) Social factors b) Cultural factors
   c) Economic factors d) All of these
5. The factors which influence the women to start a business are
   a) Pull factors b) Push factors
   c) Both (a) & (b) d) Neither pull nor push factors
6. Which of the following areas are preferred by women entrepreneurs?
   a) Administration b) Organisation c) Utilities d) Manufacturing
7. The most cited source of new business ideas is
   a) brainstorming b) in-depth understanding of industry/profession
   c) a hobby d) copying someone else
8. The startups which rarely go public are called
   a) life style b) foundation company
   c) small company d) high potential venture
9. The machinery & equipments details are shown in the project report under the head
   a) source of finance b) market potential
   c) general information d) project description
10. Which type of project cost estimate is the most accurate?
    a) Preliminary b) Definitive
    c) Order of magnitude d) Conceptual

Contd…

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Describe the types of entrepreneur.

(OR)

b) What are the major components of entrepreneurial competencies?

12. a) State the important economic factors affecting entrepreneurial growth.

(OR)

b) Make a note on 'Psychological theory of entrepreneurship'.

13. a) Describe the factors that affecting women entrepreneur.

(OR)

b) Write an essay about growth of women entrepreneurship in India.

14. a) Explain the different sources of business ideas.

(OR)

b) Narrate the expansion strategy for success of startups.

15. a) Point out the importance of project report.

(OR)

b) When is a project considered a failure?

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Discuss the functions of an entrepreneur.
17. Explain the major social factors that affecting entrepreneurial growth.
18. Enumerate the problems faced by women entrepreneurs in establishing an enterprise.
19. List out the common incubator services in India.
20. What are the contents of a project report? Explain.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Com., **COURSE CODE : 17P4KMC15**

COURSE TITLE : Human Resource Management **QN.NO : 8017**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Human resource management comprises the following major aspects
   a) Human, Human resource and Human resource management
   b) Personnel management, Compensation, Training, Development
   c) Training, Grievance management and Workers education
   d) None of the above
2. Acquiring, training, developing and retaining human resource is
   a) Personnel management b) Business administration
   c) Human resource management d) none of these
3. _____ is the process of determining the manpower needs of an enterprises so that it is possible to fill up any vacancy as and when it arises
   a) Human Resource Management b) Human Resource Planning
   c) Executive resource planning d) None of these
4. The measures can be taken to make the human resource plan effective
   a) Cost benefit analysis of the HR plan
   b) Making accurate forecasts
   c) Provision for future uncertainties d) All the above
5. The process of matching suitable candidates with available job vacancies is
   a) Selection b) Recruitment c) Promotion d) Training
6. Which of the following enhances the skill, attitude and knowledge of the employee?
   a) Performance appraisal b) Promotion
   c) Training d) Selection
7. _____ is an attitude of satisfaction with desire to continue in and willingness to strive for the goals of an organization
   a) Motivation b) Discipline c) Personality d) Morale
8. The feeling an employee gets the job he does fulfils all his expectations is called _____
   a) Job satisfaction b) Job description
   c) Job specification d) Job analysis
9. Joint management council were introduced in the year
   a) 1956 b) 1957 c) 1958 d) 1959
10. Employee is assessed in term of positive and negative behavior recorded in log book under
    a) MBO method b) BARS method
    c) cost accounting method d) critical incident method

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Point out the characteristics of Human Resource Management.

(OR)

b) Why the need for Human Resource Management?

12. a) State the objectives of manpower planning.

(OR)

b) Difference between career planning and manpower planning.

13. a) Distinguish between internal recruitment and external recruitment.

(OR)

b) Describe the various stages involved in selection process of an employee.

14. a) Explain the impact of morale on productivity.

(OR)

b) What is the job satisfaction? What are its determinants?

15. a) List out the objectives of workers participation management.

(OR)

b) Bring out the purpose of performance appraisal.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain the various methods of Human Resource Management.

17. Enumerate the various steps involved in Human Resource Planning.

18. Discuss the various types of training.

19. Mention the factors influencing employee morale.

20. Explain in brief the traditional methods of performance appraisal.

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RE-ACCREDITED (3rd Cycle) WITH "A" GRADE BY NAAC

No of Pages	3

SEMESTER EXAMINATIONS – APRIL 2021

CLASS: M.Com., **COURSE CODE : 17P4KMC16**

COURSE TITLE : Applied Operations Research **QN.NO : 8018**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Operation research is
   a) intuitive b) objective
   c) Multi-disciplinary d) all of the above
2. Decision variable in O.R model are
   a) Controllable b) Uncontrollable
   c) Parameters d) Constant
3. Which of the following is not associated with an LPP?
   a) Proportionality b) Uncertainty
   c) Additivity d) Divisibility
4. In graphical method the restriction on number of constraint is
   a) 2 b) Not more than 3 c) 3 d) None of the above
5. From the following methods _____ is a method to obtain initial solution to transportation problem.
   a) North-West b) Hungarian c) Simplex d) Newton Raphson
6. The solution to a transportation problem with m-rows and n-columns is feasible if number of positive allocation are
   a) m + n b) m × n c) m + n + 1 d) m + n - 1
7. A mixed strategy game can be solved by
   a) Matrix method b) Algebraic method
   c) Graphic method d) All of the above
8. A major goal of queuing is to
   a) Minimize the cost of providing service
   b) Provider models which help the manager to trade off the cost of service
   c) Maximize expected return d) Optimize system characteristics
9. Optimum replacement age is the year of occurrence of
   a) Least total cost b) Least average cost
   c) Least minimum cost d) Maximum average cost
10. At EOQ, inventory cost is
    a) Optimum b) Minimum c) Maximum d) Least

Contd…

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) What are the uses and limitations of operation research?

(OR)

b) Explain the steps involved in operation research.

12. a) A company wants to produce 500 pounds of a mixture consisting of 2 ingredients P_1 and P_2. P_1 costs Rs.5 per pound and P_2 costs Rs.8 per pound. The Mixture should not contain more than 400 pounds of P_1 and at least 200 pounds of P_2. Formulate a L.P. model to determine the quantities of P_1 and P_2 to be mixed so that the total cost of the mixture will be a minimum.

(OR)

b) Solve the following problem using simplex method

Maximize $Z = 21x_1 + 15x_2$

Subject to the constraints $-x_1 - 2x_2 \geq -6$

13. a) Find an initial basic feasible solution using North – west corner rule.

	X	Y	Z	
A	8	7	3	60
B	3	8	9	70
C	11	3	5	80
	50	80	80	210

(OR)

b) Solve the following assignment problem:

	1	2	3	4
A	10	12	19	11
B	5	10	7	8
C	12	14	13	11
D	8	15	11	9

14. a) Solve the following 2×2 game.

Player B

Player A $\begin{bmatrix} 0 & 2 \\ -1 & 4 \end{bmatrix}$

(OR)

b) Identify the application of Queuing theory.

15. a) Find the optimal ordering quantity for the following:

Annual usage	1000 pieces
Cost per piece	Rs. 250
Ordering cost	Rs. 6/ order
Expediting cost	Rs. 4/order
Inventory holding cost	20% of average inventory

(OR)

b) a bakery keeps stock of popular brand of bread. Previous experience indicates the daily demand as given below.

Daily demand	0	10	20	30	40	50
Probability	0.01	0.20	0.15	0.50	0.12	0.02

Contd…

Consider the following sequence of random numbers:

48, 78, 19, 51, 56, 77, 15, 14, 68, 9

Using above sequence, simulate the demand for the next 10 days.

i) Find out the stock situation if the owner of the bakery decides to make 30 breads every day.

ii) Estimate the daily average demand for the bread on the basis of simulated data.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Describe the various techniques of operation research.

17. Solve the following L.P. problem by graphical method:

Maximize $z = 6x_1 + 4x_2$

Subject to the constraints :

$2x_1 + x_2 \leq 390$

$3x_1 + 3x_2 \leq 810$

$x_2 \leq 200$

and $x_1, x_2 \geq 0$.

18. Solve the transportation problem using VAM.

Factory	Warehouse						Available
	A	B	C	D	E	F	
1	9	12	9	3	9	10	5
2	7	3	7	7	5	5	6
3	6	5	9	11	3	11	2
4	6	8	11	2	2	10	9
Demand	4	4	6	2	4	2	

19. Solve the following game graphically.

	Player B		
Player A	6	-3	7
	-3	0	4

20. The data on the operating cost per year and resale price of equipment A whose purchase price is Rs.25,000 are given below:

Year	1	2	3	4	5	6	7	8
Operating cost (Rs.)	1,200	1,500	1,800	2,100	2,700	3,200	4,000	4,800
Resale value (Rs.)	18,700	16,200	14,500	12,900	11,850	11,100	10,070	9,620

a) What is the optimal period of replacement for the equipment?

b) When equipment A is 2 years old, equipment B, which is a new model for the same usage is available. The optimal period for replacement is 4 years with an average cost Rs.3,900. Should equipment A be replaced with equipment B? if so when?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Com., **COURSE CODE : 17P4KMC17**

COURSE TITLE : Strategic Cost Management **QN.NO : 8019**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Contribution margin is also known as
   a) Marginal income b) Gross profit c) Net income d) Net profit
2. The break even point is the point at which
   a) There is no profit no loss
   b) contribution margin is equal to total fixed cost
   c) Total revenue is equal to total fixed cost
   d) All of the above.
3. Which of the following principles should be followed while making a decision to drop a product/line?
   a) Product yielding lowest contribution should be given top priority in production programme
   b) A product line should be dropped, if it yields positive contribution
   c) If any factor is key factor, the product/line should be dropped, which gives maximum contribution per unit of key factor
   d) None of the above
4. While preparing Marginal cost and Contribution Statement, if any factor of production is key factor then _____ should be expressed in terms of per unit of Key factor.
   a) Profit b) Sales c) Contribution d) None of the above
5. Which of the following is not an argument for using a separate stand alone system for activity based costing, i.e., rather than integrating ABC with the general ledger system used for GAAP?
   a) GAAP product costs may be incorrect relative to ABC product costs.
   b) It is faster to develop. c) It is less costly to develop.
   d) Subjective information can be used that auditors might question.
6. Which of the following arguments support integrating ABC with the general ledger system used for GAAP, rather than using a separate stand alone ABC system?
   a) Managers tend to prefer a single accounting system for product costing.
   b) Two separate systems tend to be confusing for management.
   c) Two separate systems tend to create redundant information and staff.
   d) all of the above.

Contd…

7. An estimated cost per unit in long run, which enables the company to achieve it's per unit target, operating income is classified as
   a) target operating income per unit b) target cost per unit
   c) total current full cost d) total cost per unit
8. Target price is subtracted from per unit target operating income to calculate
   a) total current full cost b) total cost per unit
   c) target operating income per unit d) target cost per unit
9. Deciding to collect a sample from a population is often
   a) Personal decision b) An economical decision.
   c) A risky decision d) A Team decision.
10. The main purpose of the measure phase of DMAIC is to
   a) Determine the customer requirements
   b) Find root causes c) Develop solutions
   d) Set baseline data to understand how the process is currently performing

PART – B **(5 x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) From the following data, calculate:
   i) Break even point expressed in amount of sales in rupees.
   ii) Number of units that must be sold to earn a profit of RS.1,20,000 per year
   iii) How many units are to be sold to earn a net income of 15% of sales

Selling price per unit	40
Variable Manufacturing cost per unit	22
Variable selling cost per unit	3
Fixed factory overheads	160000
Fixed selling cost	20000.

(OR)

   b) Explain the assumptions underlying Cost-Volume-Profit Analysis.

12. a) The Everest snow company manufactures and sells direct to customers 10,000 jars of Everest snow per month at RS.1.25 per jar. The company's normal production capacity is 20000 jars of snow per month. An analysis of cost for 10000 jars show:

Direct material	1000
Direct Labour	2475
Power	140
Misc. supplies	430
Jars	600
Fixed expenses of manufacturing selling and administration	7955
Total	**12600**

Contd…

The company has received an offer for the export under a different brand name of 1,20,000 jars of snow at 10,000 jars per month at 75 paise a jar. Write a short report on the advisability or otherwise of accepting the offer.

(OR)

b) Classify cost based on cost for management Decision making

13.a) Explain the limitations of Traditional Costing.

(OR)

b) Explain the advantages and limitations of Activity based Costing.

14.a) Write the features of Target Costing.

(OR)

b) Differentiate between Kaizen costing and standard costing.

15.a) Explain the key roles required for successful implementation of six sigma.

(OR)

b) Discuss the origin of Six sigma in brief.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16.M Ltd manufactures three products P, Q and R. The unit selling prices of these products are Rs.100, Rs. 80 and RS. 50 respectively. The corresponding unit variable costs are Rs. 50, Rs. 40 and Rs.20 The proportions (quantity-wise) in which these products are manufactured and sold are 20%, 30% and 50% respectively. The total fixed costs are Rs.14,80,000. Given the above information, you are required to work out the overall break-even quantity and the product-wise breakup of such quantity.

17.Even heel Ltd. Manufactures and sells a single product X whose selling price is RS 40 per unit and the variable cost is Rs. 16 per unit.

a) If the fixed cost for this year are Rs.4,80,000 and the annual sales are at 60% margin of safety, calculate the rate of net return on sale, assuming an income tax level of 40%

b) For the next year, it is proposed to add another product line Y whose selling price would be Rs. 50 per unit and the variable cost Rs.10 per unit. The total fixed costs are estimated at Rs.6,66,600. The sales mix of X,Y would be 7:3 At what level of sales next year, would Evenheel Ltd., break even? Give separately for both X and Y the break even sales in rupees and quantities.

18.Explain the stages of Activity Based Costing.

19.Enumerate the importance of product life cycle costing.

20.Write short notes on Failure mode and effects analysis, DMAIC and Balance Score Card

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Com., **COURSE CODE : 17P4KME2**

COURSE TITLE : Project Management **QN.NO : 8020**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Project management is the practice of _____.
   a) initiating b) planning c) executing d) all of these
2. Project formulation is the systematic development of a project idea for arriving at an
   a) investment decision b) cost decision
   c) executing d) organization
3. An investigation into the state of the market for a particular product is
   a) market survey b) marketing survey
   c) customer survery d) preference survey
4. Manufacturing process are the steps through which raw materials are converted into
   a) WIP b) Finished goods
   c) cash d) Sale
5. The cost of capital can be
   a) explicit cost b) implicit cost
   c) specific cost d) all of these
6. A firm's investment in total current assets refers to
   a) working capital b) net working capital
   c) gross working capital d) capital
7. Of all paths through the network, the critical path
   a) has maximum expected time b) has the minimum expected time
   c) has the maximum actual time d) has the minimum actual time
8. Estimating expected activity times in a PERT network
   a) makes use of three estimates
   b) puts the greatest weight on the most likely time estimate
   c) is motivated by a beta distribution
   d) all of the above
9. An analysis of the outcome of a project evaluation
   a) pre audit b) post audit c) audit d) none of these

Contd…

10. A document providing details on the overall picture of a proposed project is called

a) project report b) report

c) project proposal d) project activity

PART – B **(5 x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Explain the project parameters in detail.

(OR)

b) What are the characteristics of a project?

12. a) What are the key steps of market and demand analysis?

(OR)

b) What are the elements of marketing plan?

13. a) Explain the pay back method of evaluating capital requirement. What are the advantages and disadvantages?

(OR)

b) Explain the procedure for calculating the working capital requirement.

14. a) Draw a network diagram and find out the critical path and critical time for the following activity.

Activity	A	B	C	D	E	F
Predecessor activity	-	A	A	B	C	D, E
Time (weeks)	5	4	7	8	9	4

(OR)

b) Draw a network diagram and find out eh critical path and critical time for the following activity.

Path	**Duration days**	**Path**	**Duration days**
1 – 2	16	3 – 4	15
1 – 3	20	4 – 5	3
1 – 6	30	4 – 6	16
2 – 5	15	5 – 6	12
3 – 5	10		

15. a) Explain the phases of post audit.

(OR)

b) What are the objectives of project evaluation?

Contd…

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain the project life cycle.
17. What are the types of project Appraisal?
18. Explain the various kinds of capital investment proposals.
19. What are the advantages of Network analysis?
20. What are the different methods of project evaluation?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Com., **COURSE CODE : 17P4KME3**

COURSE TITLE : Applied Indirect Taxation **QN.NO : 8021**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Increasing income, the tax liability not only increase in absolute terms,but also it increases as a proportion of income called
   a) Degressive taxation b) Progressive taxation
   c) Proportional taxation. d) Regressive taxation.
2. Under the CST act, certificate of registration is issued by the authorities in:
   a) Form A b) Form B c) Form C d) Form D
3. The Customs Act, was enacted by the parliament in the year ____.
   a) 1962 b) 1972 c) 1982 d) 1992
4. GST was introduced in India with effect from
   a) 1.8.2017 b) 1.7.2017 c) 1.1.2018 d) 8.7.2017
5. Under GST, 'Value addition' refers to
   a) Expenses 'plus' profit b) Cost plus tax
   c) Cost plus tax plus profit d) Tax plus profit
6. Under GST law, tax rates determined by
   a) Central Government b) State Government
   c) GST council
   d) Central Govt. in consultation with State Govt.
7. Which of the following commodities is not kept outside the preview of GST?
   a) High speed Diesel b) Natural Gas
   c) Supply of liquor for human consumption
   d) Aviation turbine fuel
8. Tax rate on goods under GST are determined by
   a) Union budget b) State budget
   c) GST council
   d) Central Govt. in Consultation with state Govt.
9. Up to what limit e-way bill is not needed Rs. _____.
   a) 20000 b) 40000 c) 50000 d) 60000

Contd….

10. Integrated GST is applicable on goods or service
    a) Import c) Exported from India
    b) Interstate sale d) Import and interstate sales

PART – B **(5 x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) What are Direct and Indirect taxes? Explain.

(OR)

b) Brief note on Types of Indirect taxes.

12.a) What are the Objectives of Customs Act?

(OR)

b) Explain the different kinds of duties leviable under the customs Act.

13.a) What do you mean by GST council? What are its functions?

(OR)

b) State the advantages of GST.

14.a) What is Reverse Charge Mechanisms?

(OR)

b) Write short notes on Input Tax Credit (ITC)

15.a) Explain the procedure applicable for registration include compounded easy scheme.

(OR)

b) Explain the procedure for penalty under GST.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16.Explain the merits and demerits of indirect taxation.

17.What is the procedures for imposing penalty under the Customs Act?

18. Explain the registration procedures regarding CGST Act 2017.

19. Are there any rules for utilization of ITC from the electronic credit ledger?

20. Write short notes on;

a) Credit and Debit notes

b) E-Payment of tax

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics | **COURSE CODE : 17U1MMC1**

COURSE TITLE : Calculus | **QN.NO : 8101**

TIME : 3 Hours | **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. $\frac{d^n}{dx^n}(a^x) =$ ____ a) $a^x \log a$ b) $a^x (\log a)^n$ c) $\frac{a^x}{\log a}$ d) $(\log x)^n a^x$

2. If $f = x^3 + y^3 + z^3 + 3xyz$ then $f_{yy} =$ ____
a) $6x$ b) $6y$ c) $3xy$ d) $6xz$

3. Cartesian formula for radius of curvature $\rho =$ ____
a) $\frac{(1+y_1^2)}{y_2}$ b) $\frac{(1+y_1^2)^{3/2}}{y_2}$ c) $\frac{(1+x_1^2)}{x_2}$ d) $\frac{1+x_1^2}{x_2^2}$

4. Polar of the equation of the circle is ____
a) $r = a\cos\theta$ b) $r = 2a\cos\theta$ c) $r\sin\theta = a$ d) $r = a\sin\theta$.

5. If $f(x)$ is odd function then $\int_{-a}^{a} f(x)dx =$ ____
a) 0 b) 1 c) $2\int_0^a f(x)dx$ d) π.

6. $\int_0^{\pi/2} \log(\tan x)\,dx =$ ____ a) 1 b) $\frac{\pi}{2}$ c) $\frac{\pi}{4}$ d) 0 (zero)

7. $\int_0^1 \int_0^2 (x+2)\,dx\,dy =$ ____ a) 2 b) 3 c) 4 d) 5

8. $\int_0^1 \int_0^2 \int_0^2 x^2yz\,dx\,dy\,dz =$ ____ a) 1 b) 2 c) 0 d) −1

9. $\overline{(n+1)} =$ ____ a) $(n+1)!$ b) $n!$ c) $(n-1)!$ d) $(n+1)n!$

10. $\int_0^\infty e^{-x^2}\,dx =$ ____ a) $\frac{\pi}{2}$ b) $\frac{\sqrt{\pi}}{2}$ c) $\frac{\pi}{3}$ d) $\frac{\pi}{4}$

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

11 (a) If $y = e^{-x}\cos x$ then prove that $y_4 + 4y = 0$.

(or)

(b) If $u = \log(\tan x + \tan y + \tan z)$ then p.t. $\Sigma \sin 2x \frac{\partial u}{\partial x} = 2$.

(P.T.O)

CODE : 17UIMMC1 QN.NO : 8101

TITLE : CALCULUS

-2-

12. a) Find the radius of curvature to the curve $xy^2 = a^2(a-x)$ at $(a, 0)$.

(OR)

b) Find the evolute of the ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$.

13 (a) prove that $\int_0^{\pi} \frac{x \sin x}{1+\cos^2 x}\, dx = \frac{\pi^2}{4}$.

(OR)

b) Find the reduction formula for $I_n = \int_0^{\pi/2} \cos^n x\, dx$, $n \in N$.

14 a) Evaluate $I = \int_0^{\infty} \int_x^{\infty} \frac{e^{-y}}{y}\, dx\, dy$

(OR)

b) prove that $\int_0^1 \int_0^{1-x} \int_0^{1-x-y} (1+x+y+z)^{-3}\, dx\, dy\, dz = \frac{1}{2}\log 2 - \frac{5}{16}$

15 (a) prove that $\int_0^{\pi/2} \sqrt{\tan\theta}\, d\theta = \frac{\pi}{\sqrt{2}}$

(OR)

b) prove that $\Gamma\left(\frac{1}{2}\right) = \sqrt{\pi}$.

PART – C

(3 x 10 = 30)

Answer any THREE questions.

16. If $y = \left(x + \sqrt{1+x^2}\right)^m$ then p.t $(1+x^2)y_{n+2} + (2n+1)xy_{n+1} + (n^2 - m^2)y_n = 0$.

17. Find the maximum and minimum values of $u = x(x-y)^2 - x^4 - y^4$.

18. Evaluate: $\int_0^{\pi/2} \frac{\sin^2 x}{\sin x + \cos x}\, dx$

19. Evaluate $I = \iiint_D xyz\, dx\, dy\, dz$ where D is the region bounded by the positive octant of the sphere $x^2 + y^2 + z^2 = a^2$.

20 prove that $\beta(m, n) = \frac{\Gamma(m)\,\Gamma(n)}{\Gamma(m+n)}$

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., **COURSE CODE : 17U1MAC1**

COURSE TITLE : Mathematics - I **QN.NO : 8104**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. If f(x) = 0 is a reciprocal equation of first type and odd degree then _____ is a factor of f (x)
   a) x-1 b) x+1 c) x^2-1 d) x^2+1
2. Find the equation whose roots are negative of the roots of $x^3 - x^2 + x - 4 = 0$.
   $a)\ x^3 + x^2 + x - 4 = 0$ $b)\ x^3 - x^2 + x + 4 = 0$
   b) $x^3 - x^2 - x - 4 = 0$ $d)\ x^3 + x^2 + x + 4 = 0$
3. The curvature of a circle of radius r at any point is _____
   a) r b) r^2 c) 1/r d) r+1
4. The locus of the centers of curvature of curve is called the _____ of the curve.
   a) curvature b) involutes c) envelopes d) evolutes
5. The value of $\int xe^x dx$ is equal to
   a)e^x b) $e^x x$ c) $e^x(x-1)$ d) $e^x(x+1)$
6. $\int_o^a f(a-x)dx$ = _____
   a) $\int_o^a f(a)^{dx}$ b) $\int_o^a f(x)^{dx}$ c) $\int_o^a f(x+a)dx$ d) $\int_o^a f(x-a)dx$
7. $\theta + \frac{\theta^3}{3} + \frac{2\theta^5}{15} + \cdots =$
   a)$\sin\theta$ b) $\cos\theta$ c) $\tan\theta$ d) $\sec\theta$
8. $\log_e\left(x + \sqrt{\lambda^2 + 1}\right)$ = _____
   a) $\cos\lambda^{-1}x$ b) $\tan\lambda^{-1}x$ c) $\sin\lambda^{-1}x$ d) $\cos\lambda x$
9. Log 1=
   a)$2n\pi$ b)$i\ 2n\pi$ c)$-i2n\pi$ d)$-2n\pi$
10. $Logz_1 + Logz_2 =$
    a)$Logz_1z_2$ b $Log(z_1/z_2)$ c) $Log(z_1 + z_2)$ d) $Log(z_1 - z_2)$

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) One root of the equation $2x^6 - 3x^5 + 5x^4 + 6x^3 - 27x + 81 = 0$ is $\sqrt{2} + i$. Find the remaining roots.

(OR)

b) If the product of two roots of $x^4 + px^3 + qx^2 + rx + s = 0$ is equal to the product of the other two, show that $r^2 = p^2 s$.

12.a)Show that the radius of curvature of the curve $x^2y = a(x^2 + y^2)$ at $(-2a, 2a)$ is $-2a$.

(OR)

b) Find the evolute of the parabola $y^2 = 4ax$.

13. a)Evaluate $I = \int_0^{\frac{\pi}{2}} \frac{\sin^2 x}{\sin x + \cos x} dx$.

(OR)

b) Establish a reduction formula for $I_{m,n} = \int \sin^m x \cos^n x \, dx$ where $m, n \geq 1$.

14.a) Expand $\sin 7\theta$ in powers of $\cos\theta$ and $\sin\theta$. Deduce that $\frac{\sin 7\theta}{\sin\theta} = 7 - 56\sin^2\theta + 112\sin^4\theta - 64\sin^6\theta$.

(OR)

b) Expand $\cos^5\theta \sin^5\theta$ in a series of sines of multiples of θ.

15.a) If $i^{x+iy} = A+iB$ show that $A^2 + B^2 = e^{-(4n+1)\pi y}$

(OR)

b) Find $S_n = \cos^2\alpha + \cos^2(\alpha+\beta) + \cos^2(\alpha+2\beta) + \cdots n \text{ terms}$.
Hence find $\cos^2\alpha + \cos^2(\alpha+\beta) + \cos^2(\alpha+2\beta) + \cdots n \text{ terms}$.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16.Find the positive root of $x^3 - x - 3 = 0$ correct to two places of decimals using Horner's method.

17.Find the centre of curvature of the curve x=a (cos t + t sin t); y = a (sin t – t cos t) and prove that its evolute is a circle.

18.Evaluate $I = \iiint_D xyz\, dx\, dy\, dz$ where D is the positive octant of the ellipsoid $\frac{x^2}{a^2} + \frac{y^2}{b^2} + \frac{z^2}{c^2} = 1$.

19.Prove that $u = \log_e \tan\left(\frac{\pi}{4} + \frac{\theta}{2}\right)$ iff $\cos\lambda\, u = \sec\theta$

20.i) Show that $\frac{\sin\theta}{1!} + \frac{\sin 2\theta}{2!} + \frac{\sin 3\theta}{3!} + \cdots \infty = e^{\cos\theta}\sin(\sin\theta)$.

ii) Sum to infinity the series $\sin\theta - \frac{1}{2}\sin 2\theta + \frac{1}{3}\sin 3\theta - \cdots \infty$

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 17U2MMC3**

COURSE TITLE : Analytical Geometry of 3D & Vector Calculus **QN.NO : 8105**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The acute angle between the palnes $2x - y + z = 6$ and $x + y + 2z = 7$ is _____.
   a) 45° b) 60° c) 30° d) 90°
2. The length of the perpendicular from the origin to the plane $x + y + z - 1 = 0$ is _____.
   a) 1 b) $\sqrt{3}$ c) $\frac{1}{\sqrt{3}}$ d) 0
3. The acute angle bisector of the coordinate planes is _____
   a) $x + y = 0$ b) $z + y = 0$ c) $x + z = 0$ d) $x + y + z = 0$
4. The foot of the perpendicular drown from (1,2,3) on the xy planes is _____.
   a) (0,2,3) b) (1,0,3) c) (1,2,0) d) (1,2,-3)
5. The plane section of the sphere is _____
   a) a circle b) a straight line c) a plane d) a skew lines.
6. The line $\frac{x}{2} = \frac{y}{3} = \frac{z}{-5}$ lies on the plane _____.
   a) $x + y + z = 0$ b) $x + y - z = 0$ c) $x - y + z = 0$ d) $x - y - z = 0$
7. Div (curl $\bar{f}$ L=
   a) 0 b) $\bar{o}$ c) $\bar{f}$ d) 1
8. A vector $\bar{f}$ is said to solenoid as if _____.
   a) div $\bar{f} = 0$ b) grand $\bar{f} = 0$ c) curl $\bar{f} = \bar{o}$ d) $\nabla^2 x\ \bar{f} = \bar{o}$
9. Using stoke's theorem, if $\bar{r} = x\bar{i} = y\bar{j} = z\bar{k}$ then $\int_c \bar{r}.d\bar{r} =$ _____.
   a) 0 b) 1 c) 2 d) 3v
10. If S is the sphere $x^2 + y^2 + z^2 = 1$, the value of $\iint_s \bar{r}.\hat{n}ds =$ _____.
    a) $\frac{4\pi}{3}$ b) 4π c) $\frac{3\pi}{2}$ d) $\frac{x^2}{3}$

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Prove that the equation of the normal plane is lx + my + hz = p, where l,m,n are the dc's of the plane.

(OR)

b)A moving plane passes through a fixed point (α, β, γ) and intersects the coordinate axes at A, B, C. Prove that the locus of the Centroid of the Δ ABC is $\frac{\alpha}{x}+\frac{\beta}{y}+\frac{\gamma}{z}=3.$

12. a) Find the symmetrical form the equations of the line given by $x + y – 5z – 7 = 0; 2x – 5y + 3z + 1 = 0.$

(OR)

b)Find the image of the point (2,3,4) under the reflection in the plane $x – 2y + 5z = 6.$

13. a) Prove that a plane section of the sphere is a circle.

(OR)

b)Find the equation of the sphere having the circle $x^2 + y^2 + z^2 – 3x + 4y – 2z – 5 = 0;\ \ 5x – 2y + 4z + 7 = 0$ as a great circle.

14. a) If $\nabla\phi = (y + \sin z / \bar{c} + xJ + \cos z\vec{k}$ find ϕ (x,y,z).

(OR)

b)Prove that $\operatorname{div}\left(\frac{\vec{r}}{\gamma}\right)=\frac{2}{r}.$

15. a) Evaluate $\int_c \bar{f}.d\bar{r}$ where $\bar{f}=\left(x^2+y^2\right)\bar{e}-2xy\vec{z}$ and the curve C is the rectangle in the xy plane bounded by x = 0; x = a; y = 0; y = 6.

(OR)

b)Prove that for a closed surface S, $\iint \bar{r}.\hat{n}ds = 3v,$ where V is the volume enclosed by S.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Find the bisector of the acute angle between the planes $3x + 4y – 5z + 1 = 0; 5x + 12y – 13z = 0.$
17. Find the shortest distance and the equation of the S.D. between the lines $\frac{x-1}{2}=\frac{y-2}{3}=\frac{z-3}{4};\ \ \frac{x-2}{3}=\frac{Y-4}{4}=\frac{Z-5}{5}.$
18. A Sphere of constant radius 'r' always posses (0,0,0) and meets the coordinate axes in A,B,C. Prove that the locus of the Centroid of the Δ ABC is the sphere $9\left(x^2+y^2+z^2\right)=4r^2.$
19. a) Prove that $\nabla\times\left(\nabla\times\bar{f}\right)=\left(\nabla.\bar{f}\right)-\nabla^2\times\bar{f}.$
    b) Prove that $\operatorname{div}\left(r^n\vec{r}\right)=(n+3)r^n.$
20. Evaluate $\iint_S \vec{f}-\hat{n}ds$ where $\vec{f}=\left(x^3-yz\right)\bar{e}-2x^2yj+2\vec{k}$ and S is the surface of the cube bounded by x = 0; y = 0; z = 0; x = a; y = a and z = a.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 17U2MMC4**

COURSE TITLE : Discrete Mathematics **QN.NO : 8106**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Two sets A and B are disjoint if
   (a) $A \cup B \neq \emptyset$ (b) $A \cap B = \emptyset$ (c) $AB = BA$ (d) $A \cap B = A \cup B$
2. Let A and B are two finite sets. Then which one of the following is true?
   (a) $n(A \backslash B) = n(A) - n(A \cap B)$ (b) $n(A \backslash B) = n(A) + n(A \cap B)$
   (c) $n(A \backslash B) = n(A) - n(A \cup B)$ (d) $n(A \backslash B) = n(A) + n(A \cup B)$
3. What is the number of relations from A={a,b,c} to B={1,2}?
   (a)6 (b)12 (c)32 (d)64
4. A function $f: A \to B$ is invertible if
   (a) f is 1-1 (b) f is onto
   (c) f is both 1-1 and onto (d) f is neither 1-1 nor onto
5. The proposition $p \wedge (7p \vee q)$ is
   (a) a tautology (b) a contradiction
   (c) logically equivalent to $p \wedge q$ (d)none of these
6. The proposition $7(p \wedge q)$ is equivalent to
   (a) $p \wedge q$ (b) $p \vee q$ (c) $(7p \wedge 7q)$ (d) $(7p \vee 7q)$
7. A square matrix A is idempotent if
   (a)$A^2=0$ (b)$A^2=A$ (c)$A^2=I$ (d)$A=A^{-1}$
8. The diagonal entries of a Hermitian matrix are
   (a) real (b) always zero
   (c) purely imaginary (d) none of these
9. What is the rank of the matrix $A = \begin{pmatrix} 1 & 1 & 1 & 3 \\ 0 & 1 & 3 & 4 \\ 0 & 0 & 4 & 4 \end{pmatrix}$?
   (a) 1 (b)2 (c)3 (d)4
10. The characteristic equation of a matrix A=$\begin{pmatrix} 1 & 2 \\ 3 & 4 \end{pmatrix}$ is
    (a)$x^2-5x-2=0$ (b) $x^2+5x-2=0$ (c) $x^2+5x+2=0$ (d) $x^2-5x+2=0$

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Let A, B, C be any three sets. Then prove that

$$(A \cup B) \backslash (A \cap B) = (A \backslash B) \cup (B \backslash A)$$

(OR)

b) Prove the proposition $P(n) = 1 + 2 + \cdots + n = \frac{1}{2}n(n+1)$ by mathematical induction.

Contd…

12.a) Given $A = \{1,2,3,4\}$ and $B = \{x, y, z\}$. Let R be the following relation from A to B: $R = \{(1,y),(1,z),(3,y),(4,x),(4,z)\}$. (i) Determine the matrix of the relation

(ii) Draw the arrow diagram of R (iii) find the inverse relation R^{-1} of R.

(OR)

b) Let $A = \{a,b,c\}, B = \{x,y,z\}, C = \{r,s,t\}$. Let $f: A \to B$ and $g: B \to C$ defined by: $f = \{(a,y),(b,x),(c,y)\}$ and $g = \{(x,s),(y,t),(z,r)\}$. Find gof, $Im(f)$, $Im(gof)$.

13.a) Find the truth table of $p \vee 7(p \wedge q)$.

(OR)

b) Determine the validity of the following argument: $p \longrightarrow q, 7p \vdash 7p$.

14. a) Let A and B be square matrices of the same order. Then prove that

i) A is Hermitian $\Longrightarrow$ iA is skew Hermitian.

ii) A,B are Hermitian $\Longrightarrow$AB+BA is Hermitian.

(OR)

b) Show that the equations x+y+z=6,x+2y+3z=14,x+4y+7z=30 are consistent and solve them.

15.a) The product of two eigen values of the matrix $A = \begin{pmatrix} 2 & 2 & -7 \\ 2 & 1 & 2 \\ 0 & 1 & -3 \end{pmatrix}$ is -12. Find the eigen values of A.

(OR)

b) Find the inverse of the matrix $\begin{pmatrix} 3 & 3 & 4 \\ 2 & -3 & 4 \\ 0 & -1 & 1 \end{pmatrix}$ using Cayley-Hamilton theorem.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16.In a survey of 120 people, it was found that: 65 read Newsweek magazine, 20 read Newsweek and Time, 45 read time, 42 read Fortune, 25 read both Newsweek and Fortune, 15 read both Time and Fortune, 8 read all three magazines.

a) Find the number of people who read at least one of the three magazines.

b) Find the number of people who read exactly one magazine.

c) Find the number of people who read Newsweek and Time but not Fortune.

17.Let R be an equivalence relation on a set A. Then prove that A/R is a partition of A.

18.Prove the following argument is valid: $p \longrightarrow 7q, r \longrightarrow q, r \vdash 7p$.

19.Prove that any square matrix A can be expressed uniquely as the sum of a symmetric matrix and a skew symmetric matrix.

20.Find the eigen values and eigen vectors of the matrix $A = \begin{pmatrix} 2 & -2 & 2 \\ 1 & 1 & 1 \\ 1 & 3 & -1 \end{pmatrix}$.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 17U2MSM2**

COURSE TITLE : Fourier series and Z- transforms **QN.NO : 8107**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The value of b_n in the expansion of $f(x) = |x|$ as a Fourier series in $(-\pi, \pi)$ is
   (a) π (b) 0 (c) 1 (d) -1
2. The constant term in the expansion of Fourier series $f(x) = x - x^3$ in $(-\pi, \pi)$ is
   (a) 1 (b) π (c) 0 (d) -1
3. The Fourier coefficient a_0 for the function $f(x) = 2$ in $(0, \pi)$ as a Half range Fourier Sine series
   (a) 0 (b) $\frac{\pi^2}{2}$ (c) π^2 (d) 2π
4. The value of a_0 in the expansion of $f(x) = x$ as a Fourier Half Range Cosine series in $(0, \pi)$ is
   (a) 1 (b) 0 (c) π (d) -1
5. The formula for a_0 , when a function $f(x)$ is given by its numerical values is
   (a) Mean of $f(x)$ (b) 2 times Mean of $f(x)$ (c) 0 (d) Variance of f(x)
6. The term $a_1 cosx + b_1 sinx$ is called
   (a) 1st harmonic (b) 2nd harmonic (c) 3rd harmonic (d) constant
7. The Z- transforms of the sequence a^n is
   (a) $\frac{z}{z-a}$ (b) $\frac{z}{z+a}$ (c) $\frac{a}{z=a}$ (d) $\frac{a}{z+a}$
8. The Z- transforms of the sequence $\frac{1}{n}$ is
   (a) $log(\frac{1}{z-1})$ (b) $log(\frac{z}{z-1})$ (c) $log(\frac{1}{z+1})$ (d) $log(\frac{z}{z+1})$
9. The inverse transform of $\frac{z}{(z-1)^2}$
   (a) 1 (b) n (c) a^n (d) log x
10. The inverse transform of $\frac{z}{z-1}$ is
    (a) $(-1)^n$ (b) 1 (c) n (d) $\frac{1}{n}$

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. (a) Expand $x(2\pi - x)$ as a Fourier Series in $(0,2\pi)$.

(OR)

(b) Find the Fourier series expansion of $f(x) = x\cos x$, in $(-\pi,\pi)$.

12.(a) Find the Half Range Fourier sine series of $f(x) = x$ in $0 < x < 2$.

(OR)

(b) Find the Half Range sine series for $f(x) = k$ in $o < x < \pi$.

13.(a) Determine the first harmonic of the Fourier series for the following values.

x	0	$\frac{\pi}{3}$	$\frac{2\pi}{3}$	π	$\frac{4\pi}{3}$	$\frac{5\pi}{3}$
y	1.98	1.30	1.05	1.30	-0.88	-0.25

(OR)

(b) Find the Fourier series up to first harmonic to represent $f(x)$ in terms of x given :

x	0	$\frac{\pi}{3}$	$\frac{2\pi}{3}$	π	$\frac{4\pi}{3}$	$\frac{5\pi}{3}$	2π
y	1	1.4	1.9	1.7	1.5	1.2	1

14.(a) Find $Z[\cos n\theta]$ and $Z[\sin n\theta]$.

(OR)

(b) Find $Z\left[\frac{1}{n(n+1)}\right]$

15.(a) Find $Z^{-1}\left[\frac{z}{z-a}\right]$

(OR)

(b) Find $Z^{-1}\left[\frac{z^2}{(z-a)(z-b)}\right]$

PART – C (3 x 10 = 30)

Answer any THREE questions.

16.Expand $f(x) = x^2$, when $-\pi < x < \pi$ in a Fourier series of periodicity 2π.
Hence deduce that $\frac{1}{1^2} - \frac{1}{2^2} + \frac{1}{3^2} - \frac{1}{4^2} + \cdots = \frac{\pi^2}{12}$ and $\frac{1}{1^2} + \frac{1}{2^2} + \frac{1}{3^2} + \frac{1}{4^2} + \cdots = \frac{\pi^2}{6}$

17.Find the Half range sine series of $f(x) = x\cos x$ in $(0,\pi)$.

18.Obtain the constant term and the first harmonic in the Fourier series expansion for $f(x)$ where $f(x)$ is given in the following table

x	0	1	2	3	4	5	6	7	8	9	10	11
$f(x)$	18.0	18.7	17.6	15.0	11.6	8.3	6.0	5.3	6.4	9.0	12.4	15.7

19.State and Prove Initial and Final value theorem on Z – transforms.

20.Using Z- transforms, solve $u_{n+1} - 2u_n = 0$ given $u_0 = 3$

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 17U2MAC2**

COURSE TITLE : Allied Mathematics - II **QN.NO : 8108**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Curl grad φ = _____.

   a) φ b) 0 c) curl φ d) grad φ

2. Vector f is solenoidal if _____.

   a) div $f = 0$ b) div $f = f$ c) curl $f = 0$ d) curl $f = f$

3. $(A^T)^T$ = _____.

   a) A b) A^T c) 0 d) A^{-1}

4. Rank of $\begin{pmatrix} 3 & -1 & 2 \\ 0 & 1 & -3 \\ 6 & -1 & 1 \end{pmatrix}$ =_____.

   a) 0 b) 1 c) 2 d) 3

5. The correlation is perfect and positive if γ

   a) < 1 b) > 1 c) $= 1$ d)$= 0$

6. If one of the regression coefficient $b_{xy} > 1$ then the other b_{yx}

   a) < 1 b) > 1 c) < 0 d) > 0

7. E = _____

   a) Δ b) $1 + \Delta$ c) $1 - \Delta$ d) Δ^2

8. The $(n+1)^{th}$ order difference of a polynomial of degree n is _____.

   a) 0 b) 1 c) 2 d) 3

9. Which of the following is an ideal index number?

   a) Fisher's b) Bowley's c) Kelley's d) Laplace's

10. Simple index number for the current year P_{01} = _____.

    a) P_1 x 100 b) P_0 x 100 c) $\frac{P_1}{P_0} x\ 100$ d) $\frac{P_0}{P_1} x\ 100$

Contd…

PART – B **(5 x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) (i) P.T $div\, r^n \boldsymbol{r} = (n+3)r^n$. Deduce that $r^n \boldsymbol{r}$ is solenoidal $iff\ n = -3$.

(ii) For what value of the constant a is the vector (x + 3y, y - 2z, x + az) solenoidal?

(OR)

b) Find the work done in moving a particle in a force field given by $\boldsymbol{F} = 3x^2\boldsymbol{i} + (2xz - y)\boldsymbol{j} + z\boldsymbol{k}$ along the line joining the points (0, 0, 0) to (2, 1, 3).

12. a) Show that the equations x + y + z = 6, x + 2y + 3z = 14, x + 4y + 7z = 30 are consistent and solve them.

(OR)

b) State and prove Cayley Hamilton theorem.

13. a) Find the correlation coefficient for the following data

x	10	12	18	24	23	27
y	13	18	12	25	30	10

(OR)

b) Calculate the rank correlation coefficient for the following data

x	20	25	60	45	80	25	55	65	25	75
y	52	50	55	50	60	70	72	78	80	63

14. a) Estimate the missing term in the following table

x	1	2	3	4	5
y	2	5	7	-	32

(OR)

b) Find the form of U_x given that $U_0 = 8;\ U_1 = 11;\ U_4 = 78;\ U_5 = 123$.

15. a) From the following data find (i) fixed base index numbers with 2000 as the base year (ii) chain base index numbers

Commodities	Prices in Rupees				
	2000	2001	2002	2003	2004
I	2	3	5	7	6
II	8	10	12	4	18
III	4	3	7	9	12

(OR)

b) From the chain base index numbers given below prepare fixed base index number.

y_r	2005	2006	2007	2008	2009	2010	2011
Chain base index number	105	108	110	107	115	120	125

Contd…

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. (i) If $\nabla\varphi = 2xyz^3\ \boldsymbol{i} + x^2z^3\boldsymbol{j} + 3x^2yz^2\boldsymbol{k}$ then find $\varphi(x, y, z)$ if $\varphi(1, -2, 2) = 4$.

    (ii) Verify that $f = yz\boldsymbol{i} + zx\boldsymbol{j} + xy\boldsymbol{k}$ is irrational.

17. Find eigen values and eigen vectors of the matrix $\begin{pmatrix} 1 & 1 & 3 \\ 1 & 5 & 1 \\ 3 & 1 & 1 \end{pmatrix}$

18. If $x = 4y + 5$ and $y = kx + 4$ are the regression lines of x on y and y on x respectively (i) show that $0 \leq k \leq \frac{1}{4}$ (ii) If $k = \frac{1}{8}$ find the means of the two variables x and y and the correlation coefficient between them.

19. Find y at x = 42 and x = 38 from the following data

x	40	50	60	70	80	90
y	184	204	220	250	276	304

20. Construct index numbers of prices from the following data by applying

    (i) Laspayre's method (ii) Paasche's method (iii) Bowley's method

    (iv) Fisher's method (v) Marshall – Edge worth method.

Commodities	Base year		Current year	
	Price	Quantity	Price	Quantity
A	2	8	4	6
B	5	10	6	5
C	4	14	5	10
D	2	19	2	13

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 17U3MAC3**

COURSE TITLE : Ancillary Mathematics - III **QN.NO : 8112**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The necessary and sufficient condition for the differential equation $Mdx + Ndy = 0$ to be exact is _____
   a) $\frac{\partial M}{\partial x} = \frac{\partial N}{\partial x}$ b) $\frac{\partial M}{\partial y} = \frac{\partial N}{\partial x}$ c) $\frac{\partial M}{\partial y} = \frac{\partial N}{\partial y}$ d) $\frac{\partial M}{\partial x} = \frac{\partial N}{\partial y}$
2. If $\frac{1}{N}\left(\frac{\partial M}{\partial y} - \frac{\partial N}{\partial x}\right) = g(x)$, a function of x only, then _____ is an I.F of $Mdx + Ndy = 0$.
   a) $g(x)$ b) $-g(x)$ c) $e^{\int g(x)dx}$ d) $e^{-\int g(x)dx}$
3. The particular integral of $(D^3 + 3D^2 + 3D + 1)y = e^{-x}$ is
   a) $\frac{x^3 e^{-3x}}{3!}$ b) $\frac{x^3 e^{x}}{3!}$ c) $\frac{x^3 e^{3x}}{3!}$ d) $\frac{x^3 e^{-x}}{3!}$
4. The complimentary function of $(D^2 - 5D + 6)y = 0$ is
   a) $c_1 e^{3x} + c_2 e^{2x}$ b) $c_1 e^{-3x} + c_2 e^{2x}$
   c) $c_1 e^{3x} + c_2 e^{-2x}$ d) $c_1 e^{-3x} + c_2 e^{-2x}$
5. The system of equations $\frac{dx}{P} = \frac{dy}{Q} = \frac{dz}{R}$ is called the _____ equation of $Pp + Qq = R$.
   a) complimentary b) auxiliary
   c) arbitrary d) integrating factor
6. The partial differential equation by eliminating the arbitrary constants a & b from $z = axy + b$ is $z =$ _____
   a) $p - q = 0$ b) $p + q = 0$ c) $px - qy = 0$ d) $py - qx = 0$
7. If $f(z) = \bar{z}$ then the values of $u_x \; and \; v_x$ are respectively _____ and _____.
   a) $1,0$ b) $-1,1$ c) $0,-1$ d) $-1,0$
8. An analytic function in a region D with its derivative zero at every point of the domain is a _____
   a) non-constant b) point c) zero d) constant
9. The transformation $w = bz$ where b is real and $b > 0$ represents a magnification if _____
   a) $b < 1$ b) $b < 0$ c) $b > 1$ d) $b = 1$
10. The inverse of the bilinear transformation $w = \frac{az+b}{cz+d}$, where a, b, c, d are complex constants and $ad - bc \neq 0$ is $z =$ _____
    a) $\frac{dw-b}{cw-a}$ b) $\frac{-dw+b}{cw-a}$ c) $\frac{-dw+b}{-cw+a}$ d) $\frac{dw-b}{-cw+a}$

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Solve: $(x^2 + y^2 + x)dx + xydy = 0$

(OR)

b) Verify whether $x\,dx + ydy - \left(\frac{xdy - ydx}{x^2+y^2}\right) = 0$ is exact, if so solve.

12. a) Solve: $(D^3 - 3D^2 + 3D - 1)y = x^2e^x$

(OR)

b) Solve: $(D^2 + 4D + 13)y = 2e^{-x}$ given $y(0) = 0\ and\ y'(0) = -1$.

13. a) Find the general solution of $zp + x = 0$

(OR)

b) Write down the rules for Charpit's method.

14. a) Prove that $f(z) = z\,Im\,z$ is differentiable only at $z = 0$ and hence find $f'(0)$.

(OR)

b) If $\frac{\partial^2}{\partial x \partial y} = \frac{\partial^2}{\partial y \partial x}$ then prove that $\frac{\partial^2}{\partial x^2} + \frac{\partial^2}{\partial y^2} = \frac{4\partial^2}{\partial z \partial \bar{z}}$.

15. a) Show that the transformation $w = \frac{5-4z}{4z-2}$ maps the unit circle $|z| = 1$ into a circle of radius unity and centre $-\frac{1}{2}$.

(OR)

b) Find the bilinear transformation which maps the points $(0, -i, -1)$ into the points $(i, 1, 0)$.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Solve: $y(xy + 2x^2y^2)dx + x(xy - x^2y^2)dy = 0$

17. Solve: $(D^2 - 4D + 4)y = 3x^2e^{2x} \sin 2x$.

18. Solve: $(x^2 - yz)p + (y^2 - zx)q = z^2 - xy$.

19. Suppose that $f(z) = u(x, y) + iv(x, y)$ be differential at a point $z_0 = x_0 + iy_0$ then prove that $u(x, y)and\ v(x, y)$ have first order partial derivative at (x_0, y_0) and their partial derivatives satisfy the C.R. equations given by $u_x = v_y\ and\ u_y = -v_x$.

20. i) Prove that any bilinear transformation preserves cross ratio.

ii) Find the fixed point and normal form of the bilinear transformation $w = \frac{z}{2-z}$. Also determine whether it is a elliptic or hyperbolic or parabolic.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Mathematics **COURSE CODE : 17U3MNM1**

COURSE TITLE : Mathematics for Competitive Examinations **QN.NO : 8114**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The H.C.F of 108,288 and 360 is _____.
   a) 35 b)36 c)37 d)38
2. Two numbers are in the ratio of 15:11 and their H.C.F is 13. The numbers are _____.
   c) 185,110 b)185, 143 c)195, 110 d)195,143
3. What is the value of $\sqrt{1\frac{9}{16}} = ?$
   a) 3 b)$1\frac{1}{4}$ c)$\frac{4}{3}$ d)4
4. What is the average of all prime numbers between 30 and 50.
   a) 39.8 b)38 c)38.9 d)39
5. If a radio is purchased for Rs.490 and sold for Rs.465.50. What is the loss percent?
   a) 5% b) 7% c) 4% d) 8%
6. What is S.P when C.P= Rs. 56.25 and Gain=20% ?
   a) 67.5 b) 6.75 c) 675 d) none
7. If 672are divided in the ratio 5:3, then the numbers are _____.
   a) 400, 252 b) 420, 252 c) 420, 250 d) 400, 250
8. If 2A=3B and 4B=5C, then A: C is _____.
   a) 4:3 b) 8:15 c) 15:8 d) 3:4
9. At what rate percent per annum will a sum of money double in 16 years?
   a) $5\frac{1}{4}\%$ b)$4\frac{1}{5}\%$ c)$6\frac{1}{5}\%$ d)$6\frac{1}{4}\%$
10. What is the compound interest on Rs. 7500 at 4% per annum for 2 years, compounded annually?
    a) 8112 b) 612 c) 8100 d) 610

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Find the H.C.F and L.C.M of $\frac{2}{3}, \frac{8}{9}, \frac{15}{81}$ and $\frac{10}{27}$.

-OR-

....2

b) The traffic lights at three different road crossings change after every 48 sec., 72 sec., and 108 sec., respectively. If they all change simultaneously at 8: 20: 00 hours, then at what time will they again change simultaneously?

12.a) If $\sqrt{3} = 1.732$, find the value of $\sqrt{192} - \frac{1}{2}\sqrt{48} - \sqrt{75}$ correct to 3 places of decimal.

-OR-

b) Nine persons went to hotel for taking their meals. Eight of them spent Rs. 12 each on their meals and the ninth spent Rs. 8 more than the average expenditure of all the nine. What was the total money spent by them?

13.a) A person incurs 5% loss by selling a watch for Rs. 1140. At what price should the watch be sold to earn 5% profit?

-OR-

b) A man bought a horse and a carriage for Rs. 3000. He sold the horse at a gain of 20 % and the carriage at a loss of 10%, thereby gaining 2% on the whole. Find the cost of the horse.

14.a) If $x: y = 3: 4$, find $(4x+5y): (5x-2y)$.

-OR-

b) Salaries of Ravi and Sumit are in the ratio 2: 3. If the salary of each is increased by Rs. 4000, the new ratio becomes 40: 57. What is Sumit's present salary?

15.a) Find the simple interest on Rs. 3000 at $6\frac{1}{4}$ % per annum for the period from 4th Feb., 2005 to 18th April. 2005.

-OR-

b) If the compound interest on a certain sum at $16\frac{2}{3}$ % for 3 years is Rs. 1270, find the simple interest on the same sum at the same rate and for the same period.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. (i) Find the largest number of four digits exactly divisible by 12, 15, 18 and 27.
(ii) Find the smallest number of five digits exactly divisible by 16, 24, 36 and 54.

17. (i) A batsman makes a score of 87 runs in the 17th inning and thus increases his average by 3. Find his average after 17th inning.
(ii) The average of 25 results is 18. The average of first twelve of them is 14 and that of last twelve is 17. Find the thirteenth result.

18. (i) An uneducated retailer marks all his goods at 50% above the cost price and thinking that he will still make 25% profit, offers a discount of 25% on the market price. what is his actual profit on the sales?
(ii)A retailer buys 40 pens at the market price of 36 pens from a wholesaler. If he sells these pens giving a discount of 1%, what is the profit percent?

Contd...

19. (i) Divide Rs. 1162 among A, B, and C in the ratio 35: 28: 20.

(ii) A mixture contains alcohol and water in the ratio 4: 3. If 5 liters of water is added to the mixture, the ratio becomes 4: 5. Find the quantity of alcohol in the given mixture.

20. (i) The simple interest on a certain sum of money for $2\frac{1}{2}$ years at 12% per annum is Rs. 40 less than the simple interest on the same for $3\frac{1}{2}$ years at 10% per annum. Find the sum.

(ii) A sum was put at simple interest at a certain rate for 3 years. Had it been at 2% higher rate, it would have fetched Rs. 360 more. Find the sum.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 17U4MMC6**

COURSE TITLE : Sequence and Series **QN.NO : 8115**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. $\lim_{n\to\infty}\left(1+\frac{1}{n!}\right)=$

   a) 0 b) 1 c) 2 d) 1/2

2. The sequence (n^2) is

   a) convergent b) oscillating c) divergent d) None

3. $\lim_{n\to\infty}\left(\frac{(-1)^n}{n}\right)=$ ___

   a) 0 b) 1 c) 2 d) 1/2

4. If $(a_n)\to -\infty$ and $(b_n)\to -\infty$, then $(a_nb_n)\to$ ___

   a) 0 b) $-\infty$ c) ∞ d) $\pm\infty$

5. A monotonic increasing sequence which is not bounded above diverges to ___

   a) 0 b) 1 c) $-\infty$ d) ∞

6. If $|r|<1$, then $\lim_{n\to\infty}(nr^n)=$ ___

   a) 0 b) 1 c) ∞ d) $-\infty$

7. If $\sum_{n=1}^{\infty} a_n$ converges to s, then $\lim_{n\to\infty} a_n=$ ___

   a) s b) 0 c) ∞ d) 1

8. If $a_n=\frac{n^n}{(n+1)^{n+1}}$ and $b_n=\frac{1}{n}$, then $\lim_{n\to\infty}\frac{a_n}{b_n}=$ ___

   a) 0 b) 1 c) e d) $\frac{1}{e}$

9. If $a_n=\frac{n^n}{(n!)}$, then $\lim_{n\to\infty}\frac{a_n}{a_{n+1}}=$ ___

   a) 0 b) 1 c) e d) $\frac{1}{e}$

10. If $a_n=\frac{1}{(\log n)^n}$, then $\lim_{n\to\infty}\sqrt[n]{a_n}=$ ___

    a) 0 b) 1 c) e d) $\frac{1}{e}$

Contd...

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Show that any convergent sequence is a bounded sequence.

(OR)

b) If $(a_n) \to \infty$ and $a_n \neq 0$ for all n ϵ N, then prove that $\left(\frac{1}{a_n}\right) \to 0$.

12.a) If $(a_n) \to a$ and $(b_n) \to b$, then prove that $(a_n b_n) \to ab$.

(OR)

b) Show that $\lim_{n\to\infty}\left(\frac{1^2+2^2+\cdots+n^2}{n^3}\right)=\frac{1}{3}$.

13.a) Let $a_n = 1+\frac{1}{2}+\frac{1}{3}+\cdots+\frac{1}{n}$. Show that (a_n) diverges to ∞.

(OR)

b) State and prove Cesaro's theorem.

14.a) Discuss the convergence of the series $\sum \frac{\sqrt{(n+1)}-\sqrt{n}}{n^p}$.

(OR)

b) Discuss the convergence of the series $1+\frac{1}{2^2}+\frac{2^2}{3^3}+\frac{3^3}{4^4}+\cdots$

15.a) State Gauss's test and test the convergence of the series $\sum \frac{2^n n!}{n^n}$.

(OR)

b) State Cauchy's root test and test the convergence of $\sum\left(1+\frac{1}{n}\right)^{-n^2}$.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. i) Show that if (a_n) is a monotonic sequence then $\left(\frac{a_1+a_2+\cdots+a_n}{n}\right)$ is also a monotonic sequence.

ii) Prove that $\lim_{n\to\infty}\frac{1}{2^n}=0$.

17. If $(a_n) \to a$ and $a_n \neq 0$ for all n ϵ N, then prove that $\left(\frac{1}{a_n}\right) \to \frac{1}{a}$.

18. Prove that $\frac{1}{n}\left[(n+1)(n+2)\ldots(n+n)\right]^{1/n} \to \frac{4}{e}$.

19. Discuss the behaviour of the geometric series (r^n). Here $s_n = \frac{1-r^n}{1-r}$.

20. Test the convergence of the hyper geometric series

$$1+\frac{\alpha\beta}{r}x+\frac{\alpha(\alpha+1)\beta(\beta+1)}{r(r+1)2!}x^2+\cdots$$

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRMME: B.Sc., Mathematics **COURSE CODE : 17U4MMC7**

COURSE TITLE : Mathematical Statistics **QN.NO : 8116**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The H.M. of the variate values is the reciprocal of the _____ of their reciprocals.
   a) A.M. b) G.M. c) Q.D. d) S.D.
2. _____ of the distribution is that value of the variate for which the frequency is maximum.
   a) Mean b) Median c) Mode d) H.M.
3. _____ is the least possible root mean square deviation.
   a) S.D. b) Q.D. c) mean deviation d) G.M.
4. Bowley's coefficient of skewness rangers from____
   a) 0 to 1 b) 1 and 2 c) -1 and +1 d) $-\infty$ to $+\infty$
5. For a symmetrical distribution β_1 = _____
   a) 0 b) 1 c) -1 d) ∞
6. Curves with values of $\beta_2 < 3$ is _____
   a) kurtosis b) Mesokurtic c) Febtokurtic d) platykurtic
7. The correlation co efficient is the _____ between the regression coefficients.
   a) A.M. b) G.M. c) H.M. d) S.D.
8. If x and y are independent then cov(x,y) = _____
   a) 0 b) 1 c) -1 d) γ_{xy}
9. If the two regression lines are parallel then γ = _____
   a) 1 b) -1 c) ∞ d) 0
10. Rank correlation coefficient is derived from_____
    a) E. Spearman b) Karl Pearson c)Richardson d) Baye's

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Prove that the sum of squares of deviations of a set of values is minimum when taken about mean.

(OR)

b) Calculate the G.M. for the following frequency distribution

C.I	0-10	10-20	20-30	30 -40
f	5	8	3	4

Contd…

12. a) Prove that $\sigma_2 = \left(\frac{1}{12}\right)(n^2 - 1)$.

(OR)

b) Find the mean , range and S.D. for the following data

20, 22, 27, 30, 48, 45, 40, 32, 31, 35.

13.a) Calculate the first four central moments from the following data. Also find β1 and β2.

x	0	1	2	3	4	5	6
F	5	15	17	25	19	14	5

(OR)

b) Prove that for any discrete distribution the S.D is not less than the mean deviation from the mean.

14. a) Prove that $-1 \le \gamma_{xy} \le +1$.

(OR)

b) Calculate the rank correlation coefficient for the following data.

x	10	12	18	18	15	40
y	12	18	25	25	50	25

15. a) Prove that the angle between the two regression lines in given by

$$\tan\theta = \left[\left(\frac{\gamma^2 - 1}{\gamma}\right)\left(\frac{\sigma_x \sigma_y}{\sigma^2 x \sigma^2 y}\right)\right].$$

(OR)

b) The two variables x and y have the regression lines 3x+2y = 26; 6x+y=31.Find (i) The mean values of x and y

(ii) the correlation coefficient of x and y

(iii) the variance of y , if the variance of x is 25.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Find the mean, median and mode of the following data:

C.I	**20-24**	**25-29**	**30-34**	**35-39**	**40-44**	**45-49**	**50-54**	**55-59**
f	3	5	10	20	12	6	3	1

17. Calculate (i) S.D. (ii) Q.D.

(iii) Coefficient of variation of the following data.

C.I	**125 - 175**	**175 - 225**	**225 - 275**	**275 - 325**	**325 - 375**	**375 - 425**	**425 -475**	**475 - 525**	**525 - 575**
f	2	22	19	14	3	4	6	1	1

18. The first four moments of a distribution about x = 2 are 1, 2.5, 5.5 and 16. Calculate the four moments. (i) about the mean (ii) about zero.

19. Find the correlation coefficient for the following data:

X	:	65	66	67	67	68	69	70	72
Y	:	67	68	65	68	72	72	69	71

20. a) Distinguish between the correlation and Regression.

b) Prove that Regression Coefficients are independent of the change of origin but dependent on change of scale

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 17U4MSM3**

COURSE TITLE : Fourier Transforms **QN.NO : 8117**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. $F\left(e^{iax}f(x)\right) =$ _____.

   a) F(s) b) F(s+a) c) F(s-a) d) a F(s)

2. The Fourier transform of the convolution of f(x) and g(x) is the _____of their Fourier transforms.

   a) sum b) difference c) product d) quotient

3. The Fourier sine transform of $\frac{1}{x}$ is _____

   a) 0 b) 1 c) $\frac{\pi}{2}$ d) $\sqrt{\frac{\pi}{2}}$

4. $\Gamma\left(\frac{1}{2}\right) =$ ------.

   a) $\frac{\pi}{2}$ b) π c) $\sqrt{\pi}$ d) 2

5. The Fourier transform of $f(t) = \begin{cases} -e^{xt}g(t), & t > 0 \\ 0, & t < 0 \end{cases}$ is _____ the Laplace transform of g(t).

   a) $\frac{1}{\pi}$ b) $\frac{1}{2\pi}$ c) $\frac{1}{\sqrt{2\pi}}$ d) $\frac{1}{2\sqrt{\pi}}$

6. The roots of the auxiliary equation $m^2 + \alpha^2 s^2 = 0$ are _____

   a) $m = \pm \alpha si$ b) $m = \pm \alpha s$ c) $m = \pm \alpha i$ d) $m = \pm si$

7. The finite Fourier cosine transform of f(x) = 1 in $(0, \pi)$ is _____

   a) 0 b) 1 c) $\frac{\pi}{2}$ d) π

8. If the finite Fourier sine transform is $\frac{2\pi}{3}(-1)^{p-1}$ for p = 1, 2, … and $0 < x < \pi$, then f(x) is _____

   a) $4\sum_{p=1}^{\infty}\frac{(-1)^{p-1}}{p^3}\cos px$ b) $4\sum_{p=1}^{\infty}\frac{(-1)^{p-1}}{p^3}\sin px$

   c) $2\sum_{p=1}^{\infty}\frac{(-1)^{p-1}}{p^3}\cos px$ d) $2\sum_{p=1}^{\infty}\frac{(-1)^{p-1}}{p^3}\sin px$

9. $F_s\{f'(x)\} =$ _____

   a) $\frac{p\pi}{l}f_c(p)$ b) $\frac{-p\pi}{l}f_c(p)$ c) $\frac{p\pi}{l}\bar{f}_c(p)$ d) $\frac{-p\pi}{l}\bar{f}_c(p)$

Contd...

10. $\int_0^{\pi} \sin^4 x\, dx =$ _____

a) $\frac{3\pi}{8}$ b) $\frac{5\pi}{8}$ c) $\frac{7\pi}{8}$ d) $\frac{\pi}{8}$

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Show that the transform of $e^{-\frac{x^2}{2}}$ is $e^{-\frac{s^2}{2}}$ by finding the Fourier transform of $e^{-a^2x^2}, a > 0$.

(OR)

b) Using Parseval's identity, prove $\int_0^{\infty} \left(\frac{\sin t}{t}\right)^2 dt = \frac{\pi}{2}$.

12. a) Evaluate $\int_0^{\infty} \frac{dx}{(a^2+x^2)(b^2+x^2)}$ using transform methods.

(OR)

b) Find Fourier cosine transform of $e^{-a^2x^2}$ and hence evaluate Fourier sine transform of $x\, e^{-a^2x^2}$.

13. a) Solve the diffusion equation $\frac{\partial u}{\partial t} = k\frac{\partial^2 u}{\partial x^2}$, $-\infty < x < \infty, t > 0$ with the condition u (x,0) = f(x) and $\frac{\partial u}{\partial x}, u$ tend to 0 as x tend to $\pm\infty$.

(OR)

b) Solve $\frac{\partial u}{\partial t} = k\frac{\partial^2 u}{\partial x^2}$, for $x \geq 0, t \geq 0$ under the given conditions $u = u_0$ at $x = 0, t > 0$ with initial condition u (x,0) =0, $x \geq 0$.

14. a) Find the finite Fourier sine and cosine transforms of $f(x) = e^{ax}$ in (0, l).

(OR)

b) Find f (x) if its finite Fourier cosine transform is $\frac{2l^3}{p^2\pi^2}(-1)^n$ for p = 1, 2, 3, … and is $\frac{l^3}{3}$ for p = 0; 0 < x < 1.

15. a) Using finite Fourier transform, $\frac{\partial u}{\partial t} = \frac{\partial^2 u}{\partial x^2}$, given $u(0,t) = 0$ and u (4, t) =0 and u (x, 0) =2x where 0 < x < 4, t > 0.

(OR)

b) Solve $\frac{\partial u}{\partial t} = \frac{\partial^2 u}{\partial x^2}$, $0 < x < 6,\ t > 0$ given $\frac{\partial u}{\partial t}(0,t) = 0, \frac{\partial u}{\partial x}(6,t) = 0$ and u (x, 0) =2x.

Contd...

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. State and prove Parseval's identity.

17. Find Fourier sine and cosine transforms of $e^{-ax}, a > 0$ and hence deduce the inversion formula.

18. Solve $\frac{\partial u}{\partial t} = k\frac{\partial^2 u}{\partial x^2}$, for $0 \leq x < \infty, t \geq 0$ given the conditions

    (i) u(x,0) = 0 for $x \geq 0$

    (ii) $\frac{\partial u}{\partial x}(0,t) = -a$ (constant)

    (iii) u(x,t) is bounded.

19. Find the finite Fourier sine transform of f(x) = 1 in $(0\ ,\ \pi)$. Using inversion theorem find Fourier sine series for f(x) = 1 in $(0\ ,\ \pi)$. Hence prove (i) $1 - \frac{1}{3} + \frac{1}{5} - \frac{1}{7} + \cdots = \frac{\pi}{4}$ (ii) $\frac{1}{1^2} + \frac{1}{3^2} + \frac{1}{5^2} + \cdots = \frac{\pi^2}{8}$.

20. Solve $\frac{\partial u}{\partial t} = \frac{\partial^2 u}{\partial x^2}$, $0 < x < \pi,\ t > 0$ given $u(0,t) = u(\pi,t) = 0$ for t > 0 and $u(x,\ 0) = sin^3 x$.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 17U4MAC2**

COURSE TITLE : Programming in C **QN.NO : 8118**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Scanf in C Programming is a
   a) Input Statement b) Output statement c) syntax d) logic
2. The keyword 'Constant' in C programming is a
   a) Data type b) syntax c) Variable d) Logic
3. What is the header file used in C programming for I/O?
   a) stdio.h b) conio.h c) .hh d) .dd
4. What is the purpose of "conio.h" header file?
   a) clear screen b) clear file
   c) clear typo errors d) clear syntax
5. GOTO statement is _____ used in C.
   a) rarely b) often c) very often d) never
6. The "VOID" keyword in C is related to _____
   a) syntax b) function c) files d) compiler
7. The function "getchar()" is used for _____.
   a) iteration b) to input a character c) to display a text d) loops
8. "=" is called _____operator in C.
   a) logical operator b) assignment operator
   c) arithematic operator d) equivalent
9. "int fun (int a, int b) is an example of _____prototype.
   a) syntax b) function c) compiler d) run time
10. C programming is a _____language.
    a) Assembly b) semi-high level c) compiler d) run-time

Contd...

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) What are Logical Operators in C?

(OR)

b) What is meant by main() in C programming? Give examples.

12. a) Explain the syntax of 'WHILE loop with an example.

(OR)

b) What are Nested FOR LOOPs? Give examples.

13. a) What is meant by User Defined function in C? Explain briefly.

(OR)

b) What are Pointers? Why are they used in C? Explain.

14. a) What are One Dimensional and Multi-Dimensional Arrays? Explain.

(OR)

b) Explain briefly: Compilation Error and Run Time Error.

15. a) Write down the built-in String functions in C to merge two lines of texts.

(OR)

b) What are Pointers-to-Pointers in C? Explain with an example.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Write a C program to find the biggest of 10 given numbers.
17. Write a C program to find the smallest of given five numbers.
18. Write a C Program to read a set of given words and find the duplicates and display it in the screen.
19. Explain the concept of Structure in C with examples.
20. What are Increment and Decrement operators in C? Explain with examples.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 17U4MAC4**

COURSE TITLE : Ancillary Mathematics - IV **QN.NO : 8120**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. In the standard form of an LPP, all constraints must be of
   a) $\leq$ type b) $\geq$ type c) $<$ type d) equation type.
2. A linear function of the variables which is to be maximize or minimize is called
   a) constraints b) objective function
   c) decision variables d) non-negativity restrictions
3. If the objective function for a L.P. model is $3x_1 + 2\,x_2$, if $x_1 = 20$ and $x_2 = 30$, then the value of the objective function is
   a) 0 b) 50 c) 60 d) 120
4. The set of feasible solutions of an LPP is a
   a) singleton set b) empty set c) concave set d) convex set.
5. In the simplex method, the variable leaves the basis, if the ratio is _____.
   a) Maximum b) Minimum c) 0 d) 1.
6. In the simplex method , the pivotal element is always
   a) positive b) negative c) zero d) none.
7. The solution of a T.P. with m-sources and n-destinations is feasible if the number of allocations are
   a) m + n + 1 b) m + n – 1 c) m + n d) mn
8. An optimal solution to a T.P. is obtained by
   a) North West corner rule b)Least cost method
   c)Vogel's method d) Modi's method
9. In an assignment problem, each person is assigned to
   a) exactly one job b) more than one job
   c) exactly two job d) none
10. For a salesman who has to visit n cities which of the following are the ways of his tour plan
    a) $(n+1)!$ b) $n!$ c) n d) $(n-1)!$

Contd...

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) A paper mill produces 2 grades of paper namely X and Y. Because of raw material restrictions, it cannot produce more than 400 tonnes of grade X and 300 tonnes of grade Y in a week. There are 160 production hours in a week. It requires 0.2 and 0.4 hours to produce a ton of products X and Y respectively with corresponding profits of Rs.200 and Rs. 500 per ton. Formulate the above as a LPP to maximize profit.

(OR)

b) Express the following L.P. problem in standard form:

Minimize Z $= x_1 - 2x_2 + x_3$ subject to

$2x_1 + 3x_2 + 4x_3 \geq -4$, $3x_1 + 5x_2 + 2x_3 \geq 7$,

$x_1, x_2 \geq 0$ and x_3 is unrestricted in sign.

12. a)Solve using graphical method

Maximize $Z = 3x_1 + 4x_2$

Subject to $4x_1 + 2x_2 \leq 80$; $2x_1 + 5x_2 \leq 180$with $x_1, x_2 \geq 0$.

(OR)

b) Find all the basic solutions of the following system of equations identifying in each case the basic and non-basic variables:

$2x_1 + x_2 + 4x_3 = 11$, $3x_1 + x_2 + 5x_3 = 14$.

13. a) Explain the simplex method.

(OR)

b) Use simplex method to solve the following LPP:

Maximize $Z = 7x_1 + 5x_2$

subject to $x_1 + 2x_2 \leq 6$; $4x_1 + 3x_2 \leq 12$ and $x_1, x_2 \geq 0$.

14.a) Find the initial basic feasible solution for the following transportation problem using north - west corner rule.

	D_1	D_2	D_3	D_4	Available
S_1	6	4	1	5	14
S_2	8	9	2	7	16
S_3	4	3	6	2	5
Requirement	6	10	15	4	35

(OR)

(b) Determine the initial basic feasible solution for the following transportation problem using Least cost method.

2	7	4	5
3	3	1	8
5	4	7	7
1	6	2	14
7	9	18	

Contd…

15.a) Solve the following assignment problem.

	1	2	3	4
A	10	12	19	11
B	5	10	7	8
C	12	14	13	11
D	8	15	11	9

(Or)

b) A salesman wants to visit the cities 1, 2, 3 and 4. He does not want to visit any city twice before completing the tour of all the cities and wishes to return to his home city, the starting station. Cost of going from one city to another in rupees is given in the table below. Find the least cost route.

		To city			
		1	2	3	4
From city	1	∞	30	80	50
	2	40	∞	140	30
	3	40	50	∞	20
	4	70	80	130	∞

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. A person requires at least 10 and 12 units of chemicals A and B respectively, for his garden. A liquid product contains 5 and 2 units of A and B respectively per bottle. A dry product contains 1 and 4 units of A and B respectively per box. If the liquid product sales for Rs. 30 per bottle, dry product sales for Rs. 40 per box. How many of each should be purchased in order to minimize the cost and meet the requirements? Formulate the L.P.P.

17. Solve the following LPP by the graphical method.
Maximize $Z = 2x_1 + x_2$
Subject to $x_1 + 2x_2 \leq 10$; $x_1 + x_2 \leq 6$; $x_1 - x_2 \leq 2$; $x_1 - 2x_2 \leq 1$
$x_1, x_2 \geq 0$.

18. Use Big - M to solve the following LPP:
Maximize $Z = 3x_1 + 2x_2$
subject to the constraints: $2x_1 + x_2 \leq 2$; $3x_1 + 4x_2 \geq 12$ with $x_1, x_2 \geq 0$.

19. Solve the transportation problem.

	A	B	C	D	Available
E	21	16	25	13	11
F	17	18	14	23	13
G	32	27	18	41	19
Demand	6	10	12	15	

Contd…

20.Solve the following assignment problem.

	1	2	3	4	5	6
A	12	10	15	22	18	8
B	10	18	25	15	16	12
C	11	10	3	8	5	9
D	6	14	10	13	13	12
E	8	12	11	7	13	10

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Mathematics **COURSE CODE : 17U4MNM2**

COURSE TITLE : Quantitative Aptitude **QN.NO : 8121**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. A cyclist covers a distance of 750 m in 2 min 30 sec_____ is the speed of cyclist in km/hr.
   a)18 b)17 c)16 d)15
2. A train 100 metres long takes 6 seconds to cross a man walking at 5 kmph in a direction opposite to that of the train. What is the speed of train?
   a)52kmph b)53kmph c)54kmph d)55kmph
3. $\log_3 27$=
   a)3 b)9 c)15 d)27
4. $\log_{100}(0.01)$=
   a)0 b)-1 c)1 d)2
5. January 1,2007 was Monday. Then ___ day of the week lies on Jan1,2008.
   a)Monday b)Tuesday c)Wednesday d)Sunday
6. How many times are the hands of a clock at right angle in a day?
   a)22 b)24 c)44 d)48
7. What is the value of $4P_4$?
   a)4 b)8 c)16 d)24
8. Two unbiased coins are tossed. What is the probability of getting at most one head?
   a)1/2 b)1/4 c)3/4 d)1
9. Rs.750 is the present worth of Rs.930 due 3 years hence at 8% per annum. Then what is the discount?
   a)Rs.180 b)Rs.170 c)Rs.160 d)Rs150
10. The present worth of a certain sum due sometimes hence is Rs.1600 and the true discount is Rs.160. Then the banker's gain is
    a)Rs.20 b)Rs.24 c)Rs.16 d)Rs.12

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) I walk a certain distance and ride back taking a total time of 37 minutes. I could walk both ways in 55 minutes. How long would it take me to ride both ways?

(OR)

b) A train running at 54kmph takes 20 seconds to pass a platform next it takes 12 seconds to pass a man walking at 6 kmph in the same direction in which the train is going. Find the length of the train and the length of the platform.

12.a) If log 2=0.3010 and log 3=0.4771, find the value of $\log_5 512$.

(OR)

b) Find the value of $(\log_3 4)(\log_4 5)(\log_5 6)(\log_6 7)(\log_7 8)(\log_8 9)$

13.a) What was the day of the week on 16th July, 1776?

(OR)

b) At what time between 5 and 6 o'clock are the hands of a clock 3 minutes apart?

14.a) How many words can be formed by using all the letters of the word 'DAUGHTER', so that the vowels always come together?

(OR)

b) A bag contains 2 red, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls drawn is blue?

15.a) The true discount on a bill due 9 months hence at 12% per annum is Rs.540. find the amount of the bill and its present worth.

(OR)

b) What rate percent does a man get for his money when in discounting a bill due 10 months hence; he deducts 10% of the amount of the bill?

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. a) A and B are two stations 390km apart. A train starts form A at 10 a.m and travels towards B at 65kmph. Another train starts from B at 11a.m and travel towards A at 35kmph. At what time do they meet?

b) A thief is spotted by a policeman from a distance of 100 metres. When the policeman starts the chase, the thief also starts running. If the speed of the thief be 8 km/hr and that of the policeman 10kmhr, how far the thief will have run before he is overtaken?

17.a) Simplify $\left(\log\frac{75}{16} - 2\log\frac{5}{9} + \log\frac{32}{243}\right)$

b)Find the value of x which satisfy the relation

$\log_{10}3+\log_{10}(4x+1)=\log_{10}(x+1)+1$.

18.a) Find the angle between the hour and the minute hand of a clock when the time is 3.25.

b)Prove that the calendar for the year 2003 will serve for the year 2014.

Contd…

19.a) In how many ways can cricket eleven be chosen out of a batch of 15 players?

b)Two cards are drawn form a pack of 52 cards. What is the probability that either both are black (or) both are queen?

20.a) The present worth of a bill due sometimes hence is Rs.1100 and the true discount on the bill is Rs.110. Find the banker's discount and the banker's gain.

b) A bill falls due in 1 year. The creditor agrees to accept immediate payment of the half and to defer the payment of the other for 2 years. By this arrangement he gains Rs.40. What is the amount of the bill, if the money be worth $12\frac{1}{2}\%$.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 17U5MMC9**

COURSE TITLE : Differential Equations **QN.NO : 8123**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Mdx + Ndy = 0 is exact if _____
   (a) $\frac{\partial M}{\partial y}=\frac{\partial N}{\partial x}$ (b) $\frac{\partial M}{\partial x}=\frac{\partial N}{\partial y}$ (c) $\frac{\partial M}{\partial y}\neq\frac{\partial N}{\partial x}$ (d) $\frac{\partial M}{\partial x}\neq\frac{\partial N}{\partial y}$
2. If $\frac{1}{N}\left(\frac{\partial M}{\partial y}-\frac{\partial N}{\partial x}\right)=\frac{-1000}{x}$, then integrating factor is ____.
   (a)$1000x$ (b)$-1000x$ (c) x^{-1000} (d)x^{1000}
3. The solution of $\frac{d^2y}{dx^2}=\frac{dy}{dx} is\ y=$ _____
   (a) Ae^x (b) $A+B\,e^x$ (c) Ae^x+B (d) Ae^{-x}
4. Particular Integral of $x^2\frac{d^2y}{dx^2}-4x\frac{dy}{dx}+6y=x$ is _____
   (a)2x (b)$\frac{x}{2}$ (c)x (d)1
5. The PDE obtained by eliminating arbitrary constants a and b from $z=a+b(x+y)$ is _____
   (a)$z=p+q$ (b)$z=pq$ (c) $p=q$ (d)z = $^{p}/_{q}$
6. A solution which contains the maximum possible number of arbitrary functions is called a _____ integral.
   (a)complete (b) particular (c) general (d) singular
7. Solution of $\left(9D^2+6DD'+D'^2\right)Z=0$ is Z = _____
   (a)$f_1\left(y-\frac{x}{3}\right)-f_2(y-\frac{x}{3})$ (b)$f(y-\frac{x}{3})$
   (c)$f_1(x-\frac{y}{3})$ (d)$f_1(\frac{x}{3})$
8. The auxillary equation to solve $\left(D_x+D_y\right)^2z=e^{x-y}$ is _____
   (a)$(m+1)^2=0$ (b) $m+1=0$ (c)$(m-1)^2=0$ (d) $m-1=0$
9. $L(sinhax)=$ _____
   a) $\frac{s}{s^2-a^2}$ (b) $\frac{a}{s^2-a^2}$ (c) $\frac{-s}{s^2-a^2}$ (d) $\frac{-a}{s^2-a^2}$
10. $L^{-1}\left(\frac{1}{s^2+2s+2}\right)=$ _____
    (a) $e^{-t}sint$ (b) $e^{-t}cost$ (c) $e^{-t}tant$ (d) e^{-t}

Contd...

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. (a)Solve $p^2 + pxy = y^2 logx$

(OR)

(b)Solve $(e^x y^2 - 2xy)dx - x^2 dy = 0$

12.(a)Solve $\frac{d^4y}{dx^4} + y = 0$.

(OR)

(b)Solve $(x^2D^2 - 3xD - 5)y = \sin(logx)$.

13.(a)Obtain PDE for z by eliminating arbitrary function from $\varphi(x + y + z, x^2 + y^2 - z^2) = 0$.

(OR)

(b)Solve $9(p^2z + q^2) = 4$.

14.(a) Solve $\frac{\partial^2 z}{\partial x^2} - 9\frac{\partial^2 z}{\partial y^2} = xy$.

(OR)

(b) Find PI of $(D_x + D_y)^2 z = e^{x-y}$.

15.(a)Find $L(te^t sint)$.

(OR)

(b) Find inverse Laplace transform of $log\left(\frac{s+2}{s+3}\right)$.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16.Solve $y = x(p + (1 + p^2)^{\frac{1}{2}})$.

17. Solve the simultaneous equations $\frac{d^2x}{dt^2} + y = sint, \frac{d^2y}{dt^2} + x = cost$.

18. Solve $(y^2 + z) - qy(x^2 + z) = z(x^2 - y^2)$.

19.Solve $D(D + D' - 1)(D + 3D' - 2)x = xy + e^{2x+3y}$.

20.Using Laplace Transform

solve $xy'' - (2 + x)y' + 3y = x - 1$ *when* $y(0) = 0$.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 17U6MMC11 / 6M1 (Upto 2014)**

COURSE TITLE : Complex Analysis **QN.NO : 8131**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. $\lim_{z \to 2} \frac{z^2 - 4}{z - 2} =$
   a) 2 c) 4
   b) 8 d) $\frac{1}{2}$
2. An analytic function in a region with constant real part is _____
   a) Not a constant c) Function
   b) Constant d) Relation
3. Any bilinear transformation preserves
   a) Harmonic c) Series
   b) Riemann d) Cross ratio
4. The transformation $w=2+z$ is _____
   a) Inversion c) Magnification
   b) Direction d) Translation
5. Every polynomial of degree n has exactly _____
   a) One zero c) Two zeros
   b) n zeros d) $n+1$ zeros
6. If $C : |z| = 1$ then $\int_C \frac{z}{z-2} dz$
   a) $2\pi i$ c) πi
   b) $-\pi i$ d) 0
7. The Taylor's Series expansion of $f(z)$ about the point zero is called
   a) Euler Series c) Laurent Series
   b) Maclaurin's Series d) Rouches Seres
8. What is the zero of order 2 for $f(z) = (z-2i)^2 (z+3)^3 e^z$?
   a) 3 c) $2i$
   b) –3 d) $-2i$

Contd…

9. A pole of order two is called _____
   a) Double pole
   b) Zero
   c) Simple pole
   d) Bi-pole

10. The residue of $f(z)=\dfrac{z+1}{z^2-2z}$ at $z=2$
   a) 1/2
   b) 5/2
   c) 3/2
   d) –1/2

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Prove that $f(z)=\begin{cases}\dfrac{z\,\mathrm{Re}\,z}{|z|} & if \quad z\neq 0\\ 0 & if \quad z=0\end{cases}$ is continuous at $z=0$ but not differentiable at $z=0$.

(OR)

b) Prove that real and imaginary parts of an analytic function are harmonic function.

12. a) Prove that any bilinear transformation having two finite fixed points α and β can be written in the form $\dfrac{w-\alpha}{w-\beta}=k\left(\dfrac{z-\alpha}{z-\beta}\right)$.

(OR)

b) Find the bilinear transformation which maps z = –*i*, 0, *i* onto w = –1, *i*, 1 respectively.

13. a) $\int_C \dfrac{e^z}{(z+2)(z+1)^2}\,dz$ where C is $|z|=3$.

(OR)

b) State and prove Cauchy's Inequality.

14. a) Expand $f(z)=\sin z$ in a Taylor's series about $= \pi/4$.

b) Suppose $f(z)$ is analytic in a region D and is not identically zero in D. Then prove that set of all zeros of $f(z)$ is isolated.

15. a) Evaluate, using Cauchy's residue theorem $\int_C \dfrac{z+1}{z^2+2z+4}dz$ where C is the circle $|z+1+i|=2$

b) State and prove Rouche's Theorem.

Contd…

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Find the analytic function $f(z) = u + iv$ if $u = \frac{sin2x}{\cosh 2y - \cos 2x}$

17. Find the image of the following under $w = \frac{1}{z}$.

    i) the circle $|z| = 1$ ii) the circle $|z - 2i| = 2$ iii) the strip $1 < x < 2$.

18. State and prove Cauchy integral formula .

19. Expand $f(z) = \frac{z}{(z-1)(2-z)}$ in a Laurent's series valid for

    i) $|z| < 1$ ii) $1 < |z| < 2$ iii) $|z| > 2$ (iv) $|z - 1| > 1$.

20. State and prove Argument Theorem.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 17U6MMC12**

COURSE TITLE : Linear Algebra **QN.NO : 8132**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Let $T : V \to U$ be a homomorphism. Then Kernal of T is _____.
   a) $\{x \in U \mid T(x) = 0\}$ b) $\{x \in V \mid T(x) \neq 0\}$
   c) $\{x \in V \mid T(x) = 0\}$ d) $\{x \in U \mid T(x) = 1\}$
2. Which of the following is not true?
   a) R^nover R is a vector space b) R over C is a vector space
   c) C over R is a vector space d) C over C is a vector space
3. Linear span of S is _____.
   a) the set of some linear combinations of finite sets of elements of S.
   b) the set of all linear combinations of infinite sets of elements of S.
   c) the set of all linear combinations of finite sets of elements of S.
   d) None of the above.
4. Any basis of a finite dimensional vector space is_____.
   a) Vector space b) Inner product space c) Finite d) Infinite
5. If V is an inner product space and $u, v \in V$ then $(u, \alpha v) =$ _____.
   a) $\bar{\alpha}(u, \alpha v)$ b) $\bar{\alpha}(u, v)$ c) $\alpha(u, \alpha v)$ d) (u, v)
6. If V stands for an inner product space with $(x, z) = (y, z), \forall z \in V$ then ____.
   a) $x \neq y$ b) $x \leq y$ c) $x \geq y$ d) $x = y$
7. The range of the linear transformation $T : R^2 \to R^3$such that
   $T(x_1, x_2) = (x_1, x_1 + x_2, x_2)$is _____.
   a) $\{(1,1,0), (0,1,1)\}$ b) $\{(0,0,1), (1,0,0)\}$
   c) $\{(1,1,1), (0,0,0)\}$ d) $\{(1,0,1), (1,0,1)\}$
8. If $T: M_n(R) \to R$ is defined by $T(A) = Trace\ A$ then Rank T is _____.
   a) 1 b) 0 c) n d) $n^2 - 1$
9. Let $T: V \to W$ be the linear transformation where V and W are two finite dimensional vector spaces with same dimension. If T is 1 – 1 then _____.
   a) Range T = Ker T b) dim Range T = W
   c) Range T = Rank T d) Range T = W
10. Let T be a Linear transformation from R^7onto a 3 - dimensional subspace of R^5. Then dim Ker T = _____.
    a) 7 b) 3 c) 5 d) 4.

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Let A and B be two subspaces of a vector space $V(F)$.
Prove that $\frac{A+B}{A} \cong \frac{B}{A \cap B}$.

(OR)

b) Let W and U be subspaces of $V(F)$ such that $W \subset U \subset V$. Let $f : V \to V/W$ be the quotient map. Prove that $f(U)$ is a proper subspace of V/W.

12. a) Show that
i) $\{1, \sqrt{2}\}$ is linearly independent in R over Q.(2 Marks)
ii) $\{1, \sqrt{2}, \sqrt{3}\}$ is linearly independent in R over Q.(2 Marks)
iii) $\{1, \sqrt{2}, \sqrt{3}, \sqrt{6}\}$ is linearly independent in R over Q. (3 Marks)

(OR)

b) Let V be a finite dimensional vector space. Suppose S and T are two finite subsets of V such that S spans V and T is linearly independent. Prove that $o(T) \leq o(S)$.

13. a) (i) State and prove the triangle inequality. (4 Marks)
(ii) Show that sum of squares of lengths of diagonals of a parallelogram is equaltosum ofsquares of lengths of its sides. (3 Marks)

(OR)

b) Let $u = (x_1, x_2)$and $v = (y_1, y_2) \in R^2$. Verify that
$(u, v) = x_1y_1 - 2x_1y_2 - 2x_2y_1 + 5x_2y_2$is an inner product on R^2.

14. a) Find the range, Rank, Ker and nullity of the linear transformation
$T: R^3 \to R^3$such that $T(x, y, z) = (x + z,\ x + y + 2z,\ 2x + y + 3z)$.

(OR)

b)Let $T_1, T_2 \in Hom(V, W)$. Prove that the following
(i) $r(\alpha T_1) = r(T_1),\ \forall\ \alpha \in F, \alpha \neq 0$.(3 Marks)
(ii) $|r(T_1) - r(T_2)| \leq r(T_1 + T_2) \leq r(T_1) + r(T_2)$, where $r(T)$ = Rank T. (4 Marks)

15. a) Show that the linear transformation $T: R^3 \to R^3$ defined by
$T(x_1, x_2, x_3) = (2x_1,\ x_1 - x_2,\ 5x_1 + 4x_2 + x_3)$is invertible and find the rule by which T^{-1} is defined.

(OR)

b) Let W_1 and W_2 be subspaces of V such that $\frac{V}{W_1}$ and $\frac{V}{W_2}$ are finite dimensional vector spaces. Prove that $\frac{V}{W_1 \cap W_2}$ is also a finite dimensional vector space.

Contd…

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Let $T : V \rightarrow U$ be an onto homomorphism with $Ker\ T = W$. Prove that there exists a one – one onto mapping between the subspaces of U and the subspaces of V which contain W.
17. Let V be a finite dimensional vector space. Let $W_1, W_2, \ldots\ldots\ldots, W_m$ be subspaces of V, where $W = W_1 + W_2 + \ldots\ldots\ldots\ldots + W_m$. Prove that the following are equivalent.
    (i) $W_1, W_2, \ldots\ldots\ldots, W_m$ are independent.
    (ii) $W_j \cap (W_1 + W_2 + \ldots\ldots\ldots\ldots + W_{j-1}) = \{0\},\ \forall j,\ 2 \leq j \leq m.$
    (iii) If β_i is an ordered basis of $W_i,\ 1 \leq i \leq m$, then $\beta = \{\beta_1, \beta_2, \ldots\ldots\ldots, \beta_m\}$ is an ordered basis of W.
18. Let V be a finite dimensional inner product space and W be a subspace of V. Show that $= W \oplus W^{\perp}$.
19. Let F be a subfield of complex numbers and a function $T: F^3 \rightarrow F^3$ defined by
    $T(x_1, x_2, x_3) = (x_1 - x_2 + 2x_3,\quad 2x_1 + x_2,\quad -x_1 - 2x_2 + 2x_3)$
    (i) Show that T is a linear transformation. (4 Marks)
    (ii) What are the conditions on a, b, c such that (a, b, c) in the null space of T? Find nullity of T. (6 Marks)
20. Let $T : V \rightarrow W$ and $S : W \rightarrow U$ be two linear transformations. Prove that the following:
    (i) If S and T are one – one onto then ST is one – one onto and $(ST)^{-1} = T^{-1}S^{-1}$. (6 Marks)
    (ii) If ST is one – one then T is one – one. (2 Marks)
    (iii) If ST is onto then S is onto. (2 Marks)

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 17U6MMC13 / 6M4 (Upto 2014)**

COURSE TITLE : Graph theory **QN.NO : 8133**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. If more than one line joining two vertices are allowed, the resulting object is called a

   a) multi graph b) multiple lines c) pseudo graph d) tree

2. A graph whose edge set is empty is called a ___ graph.

   a) complete b) null c) connected d) bipartite

3. A set $S \subseteq V$ is an independent set of G iff ___ is a covering of G.

   a) V b) S – V c) V – S d) S

4. A subset S of V is called an ____ set of G if no two vertices of S are adjacent in G

   a) disjoint b) similar c) dependent d) independent

5. A walk is called a ____ if all its lines are distinct.

   a) trail b) path c) tree d) closed

6. A graph G is said to be ____ if every pair of its points are connected.

   a) cycle b) connected c) disconnected d) component

7. A spanning cycle in a graph is called a ____ cycle.

   a) theta b) Eulerian c) Hamiltonian d) Petersen

8. A connected acyclic graph is called a ____.

   a) walk b) trail c) disconnected d) tree

9. A graph is called ____ if it can be drawn on a plane without intersecting edges.

   a) planar b) non-planar c) connected d) disconnected

10. The Chromatic ___ of a graph G is the minimum number of colours needed to colour G.

    a) polynomial b) number c) index d) equation

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Show that in any group of two or more people, there are always two with exactly the same number of friends inside the group.

(OR)

b) For any graph G with 6 points, prove that G or $\overline{G}$ contains a triangle.

12. a) With usual notations , prove that $\alpha' + \beta' = p$.

(OR)

b) If a partition $P = (d_1,d_2,\ldots,d_p)$ with $d_1 \geq d_2 \geq \ldots \geq d_p$ is graphical then prove that $\sum_{i=1}^{p} d_i$ is even and $\sum_{i=1}^{k} d_i \leq k(k-1) + \sum_{i=k+1}^{p} \min\{k, d_i\}$ for $1 \leq k \leq p$.

13. a) Prove that a closed walk of odd length contains a cycle.

(OR)

b) Prove that a line x of a connected graph G is a bridge iff x is not on any cycle of G.

14. a) Prove that c(G) is well defined.

(OR)

b) Find the number of perfect matchings in the complete graph K_{2n}.

15. a) State and prove the Euler's theorem.

(OR)

b) Prove that every uniquely n-colourable graph is (n – 1)-connected.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Prove that the maximum number of lines among all p point graphs with no triangles is $\left\lfloor \frac{p^2}{4} \right\rfloor$.

17. Let G_1 be a (p_1,q_1) graph and G_2 be a (p_2,q_2) graph. Prove the following.
    (i) $G_1 \cup G_2$ is a $(p_1+ p_2, q_1+ q_2)$ graph.
    (ii) $G_1 + G_2$ is a $(p_1+ p_2, q_1+ q_2+p_1p_2)$ graph.
    (iii) $G_1 \times G_2$ is a $(p_1p_2, q_1p_2+q_2p_1)$ graph.
    (iv) $G_1[G_2]$ is a $(p_1p_2, p_1q_2+ p_2^2q_1)$ graph.

18. Prove that the following statements are equivalent for a connected graph G.
    (i) G is Eulerian.
    (ii) Every point of G has even degree.
    (iii) The set of edges of G can be partitioned into cycles.

19. Show that the Petersen graph is non-hamiltonian.

20. (i) Prove that the coefficients of $f(G,\lambda)$ alternate in sign.
    (ii) Prove that $\lambda^4 – 3\lambda^3 + 3\lambda^2$ cannot be the chromatic polynomial of any graph.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 17U6MME2(D)**

COURSE TITLE : Optimization Techniques **QN.NO : 8134**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Linear programming problem (LLP) must have an _____
   a) Objective to maximize or minimize b) Constraints
   c) Decision Variables d) all the above
2. A feasible solution to an linear programming problem _____
   a) must satisfy all of the problem's constraints simultaneously
   b) must be a corner point of the feasible region
   c) need not satisfy all of the constraints
   d) must optimize the value of the objective function
3. A necessary and sufficient condition for a basic feasible solution to a minimization LPP to be an optimum is that (for all j) _____
   a) $Z_j - C_j \geq 0$ b) $Z_j - C_j \leq 0$
   c) $Z_j - C_j = 0$ d) $Z_j - C_j > 0$ or $Z_j - C_j < 0$
4. For maximization LPP, the objective function coefficient for an artificial variable is _____
   a) +M b) –M c) +1 d) Zero
5. If duel has an unbounded solution primal has _____
   a) an unbounded solution b) an infeasible solution
   c) a feasible solution. d) none of the above.
6. Dual simplex method is applicable to these LPP's that start with_____solution
   a) an infeasible b) an infeasible but optimum
   c) a feasible d) a feasible and optimum
7. The solution to a transportation problem with m-sources and n-destinations is feasible, if the number of allocations are_____
   a) m+n-1 b) m+n+1 c) m+n d) m x n
8. In an assignment problem involving four corners and these jobs, total number of assignments possible are
   a) 4 b) 3 c) 7 d) 12
9. In critical Path Analysis the CPM means_____
   a) Critical Path method b) Crash Project management
   c) Critical Project management d) Critical Path Management
10. In PERT network, each activity time assume a β-distribution, because_____
    a) it need not be symmetrical about model value
    b) it is a uni-model distribution that provides information regarding the uncertainity of time estimates of activities
    c) it has got finite non-negative error d) all of the above

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Three grades of coal A, B and C contain ash and phosphorous as impurities. In a particular industrial process fuel obtained by blending the above grades containing not more than 25% ash and 0.03% phosphorous is required. The maximum demand of the fuel is 100 tons. Percentage impurities and costs of the various grades of the coal are shown below. Assuming that there is an unlimited supply of each grades of coal and there is no loss in blending, formulate the problem to minimize the cost.

Coal Grade	% ash	% phosphorous	Cost per ton (in Rs.)
A	30	0.02	240
B	20	0.04	300
C	35	0.03	280

(OR)

b) Reduce the following LPP to its standard form: Maximize $z^*=3x_1+4x_2+6x_3$ subject to constraints: $2x_1+x_2+2x_3\geq 6$, $3x_1+2x_2=8$, $7x_1-3x_2+5x_3\geq 9$; $x_1\geq 0$; $x_2\geq 0$ and x_3 unrestricted in sign.

12. a) Obtain all the basic solutions to the following system of linear equations:

$x_1+2x_2+x_3=4$, $2x_1+x_2+5x_3=5$

(OR)

b)Find the maximum value of $z=107x_1+x_2+2x_3$ subject to constraints $14x_1+x_2-6x_3+3x_4=7$, $16x_1+x_2-6x_3\leq 5$, $3x_1-x_2-x_3\leq 0$, $x_1,x_2,x_3,x_4\geq 0$ by using Simplex method.

13.a) The Dual of the Dual is the Primal.

(OR)

b) Consider the L.P.P : Maximize $z=2x_1+4x_2+4x_3-3x_4$ subject to constraints $x_1+x_2+x_3=7$, $x_1+4x_2+x_4=8$, $x_1,x_2,x_3,x_4\geq 0$ by using x_3 and x_4 as the starting variables, the optimum table is given by

Basis	Solution	x_1	x_2	x_3	x_4
x_3	2	¾	0	1	-¼
x_2	2	¼	1	0	¼
z	16	2	0	0	3

Write the Dual problem and find its solution from the optimum primal table.

14.a) Obtain an Initial Basic Feasible solution to the following transportation problem using the Least-Cost method.

	D_1	D_2	D_3	D_4	Capacity
O_1	1	2	3	4	6
O_2	4	3	2	0	8
O_3	0	2	2	1	10
Demand	4	6	8	6	

Contd…

(OR)

b) A salesman is planning to tour cities B, C, D and E staring from his home city A. the inter-city distances are shown is the following table:

City	A	B	C	D	E
A	∞	103	188	136	38
B	103	∞	262	176	52
C	188	262	∞	85	275
D	136	176	85	∞	162
E	38	52	275	162	∞

How should he plan his tour so that i) he visits each of the cities only once ii) travels the minimum distance.

15.a) A television is manufactured in six steps, labeled A through F. Because of its size and complexity the television is produced one at a time. The production control manager thinks that network scheduling technique might be useful in planning future production. He recorded the following information:

A is the first step and precedes B and C, C precedes D and E, F follows E and D is successor of F, B follows D and precedes E

i). Draw an activity-on-node diagram for the production manager.

ii). On checking with the records, the production manager corrects his last note to read, "D is a predecessor of F". Draw a new diagram for the revised network incorporating the new change.

(OR)

b) Distinguish between PERT and CPM.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16.Use graphical method to solve the following LPP: Maximize $z = 2x_1 + 3x_2$; subject to the constraints $x_1+x_2 \leq 30$, $x_1 - x_2 \geq 0$, $x_2 \geq 3$, $0 \leq x_1 \leq 20$ and $0 \leq x_2 \leq 12$.

17.Use Big M method to Maximize $z = 6x_1 + 4x_2$ subject to the constraints $2x_1+3x_2 \leq 30$, $3x_1 + 2x_2 \leq 24$, $x_1 + x_2 > 3$, $x_1 > 0$ and $x_2 > 0$.

18.Use dual simplex method to solve the following LPP Maximize $z = 3x_1 + x_2$ subject to the constraints $x_1+x_2 \geq 1$, $2x_1 + 3x_2 \geq 2, x_1, x_2 \geq 0$

19.ABC Limited has the production shops supplying a product to five warehouses. The cost of production varies from shop to shop and cost of transportation from one shop to a ware house also varies. Each shop has a specific production capacity and each ware house has certain amount of requirement. The cost of transportation is given below

Shop	Warehouse					Supply
	I	II	III	IV	V	
A	6	4	4	7	5	100
B	5	6	7	4	8	125
C	3	4	6	3	4	175
Demand	60	80	85	105	70	400

Contd…

The cost of manufacturer of the product at different production shops is

Shop	Variable Cost	Fixed Cost
A	14	7000
B	16	4000
C	15	5000

Find the optimum quantity to be supplied from each shop to different warehouse at minimum total cost.

20. A project consists of eight activities with the following relevant information:

Activity	**Immediate predecessor**	**Estimated duration (days)**		
		Optimistic	**Most Likely**	**Pessimistic**
A	…	1	1	7
B	…	1	4	7
C	…	2	2	8
D	A	1	1	1
E	B	2	5	14
F	C	2	5	8
G	D,E	3	6	15
H	F,G	1	2	3

(i) Draw the PERT network and find out the expected project completion time'

(ii) What duration will have 95% confidence for project completion?

(iii) If the average duration for activity F increases to 14 days, what will be its effect on the expected project completion time which will have 95% confidence? (For standard normal Z=1.645, area under the standard normal curve from 0 to Z is 0.45).

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 17U6MME3(G)**

COURSE TITLE : Numerical Methods **QN.NO : 8137**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. In bisection method, after n bisections, the length of the subinterval which contains x_n is

   a) $\frac{b-a}{2^n}$ b) $\frac{b-a}{2^{n-2}}$ c) $\frac{b-a}{2^{n-1}}$ d) $\frac{b-a}{2^{n+1}}$

2. The order of convergence of Regular Falsi method is

   a) 1.6 b) 1.618 c) 1.61 d) 1.0618

3. Gauss elimination method is called a _____

   a) Iterative method b) Direct method c) Indirect method d) none

4. The initial approximation of Gauss Seidel method is _____

   a) x = 0, y =0 b) y = 0, z = 0

   c) x =0, y = 0,z =0 d) x =0, y =0

5. Newton forward interpolation formula can be used only for _____intervals.

   a) unequal b) equal c) distinct d) none

6. In Newton's backward interpolation formula, the difference is denoted by

   a) Δ^2 b) Δ c) ∇ d) none

7. In Lagrange's interpolation $\frac{(x-x_1)(x-x_2).....(x-x_n)}{(x_0-x_1)(x_0-x_2).....(x_0-x_n)}$?

   a) y_1 b) y_2 c) y_3 d) y_0

8. Inverse interpolation is used to find _____

   a) y at x b) x at y c) y(x) at x d) none

9. Simpson's $\frac{1}{3}$ rule is applicable only when number of ordinates must be ____

   a) even b) odd c) both a & b d) none

10. The second order Runge Kutta method, to find the value of Δy = _____

    a) k_1 b) k_3 c) k_2 d) k_4

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11.a) Find the positive root of $x - \cos x = 0$ by bisection method.

(OR)

b) Solve $e^x - 3x = 0$ by the method of iteration.

12.a) Solve the system of equations by Gauss elimination method.

X+2y + z=3 , 2x + 3y + 3z = 10 and 3x – y + 2z = 13

(OR)

b) Solve the system of equations by using Crout's method.

$2x + 3y + z = -1, 5x + y + z = 9$ *and* $3x + 2y + 4z = 11.$

13.a) Find the 7th term of the sequence 2, 9, 28, 65, 126, 217 and also find the general term.

(OR)

b) Find the forward difference of

(i) $\frac{1}{x(x+4)(x+8)}$ (ii) $\frac{1}{(3x+1)(3x+4)(3x+7)}$

14.a) Using Lagrange's interpolation formula, find y(10) from the following table

x	5	6	9	11
y	12	13	14	16

(OR)

b) Find the value of $f'(0.5)$ using Stirling's formula from the following data.

X	0.35	0.40	0.45	0.50	0.55	0.60	0.65
Y=f(x)	1.521	1.506	1.488	1.467	1.444	1.418	1.389

15.a) Solve $\frac{dy}{dx} = x + y,$ given y(1) = 0, and get y(1.1), y(1.2) by Taylor series method. Compare your result with the explicit solution.

(OR)

b) Given $y' = -y$ and y(0) = 1, determine the value of y at x = (0.01) (0.01) (0.04) by Euler method.

Contd…

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Solve for a positive root of $x^3 - 4x + 1 = 0$ by Regular Falsi method.

17. Solve the following system of equations by using Gauss - Jacobi and Gauss - Seidel methods correct to 3 decimal places.

$8x - 3y + 2z = 20,\ 4x + 11y - z = 33$ *and* $6x + 3y + 12z = 35.$

18. The population of a town is as follows.

Year (x)	1941	1951	1961	1971	1981	1991
Population in lakhs (y)	20	24	29	36	46	51

Estimate the population increase during the period 1946 to 1976.

19. Find the first two derivatives of $(x)^{1/3}$ at x=50 and x=56 given the table below:

X	50	51	52	53	54	55	56
Y=f(x)	3.68403	3.7084	3.7325	3.7563	3.7798	3.8030	3.8259

20. Obtain the values of y at x = 0.1, 0.2 using Runge-Kutta method of (i) second order (ii) third order and (iii) fourth order for the differential equation $y' = -y$, given y(0) = 1.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 17U6MSM4/ 6SM (Upto 16)**

COURSE TITLE : Quantitative Aptitude **QN.NO : 8140**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. A man is 24 years older than his son. In two years, his age will be twice the age of his son. The present age of the son is _____
   a) 14 years b) 18 years c) 20 years d) 22 years
2. What is 15 percent of Rs.34?
   a) Rs. 3.40 b) Rs. 3.75 c) Rs. 4.50 d) Rs. 5.10
3. If the Cost price is 96% of the selling price , then _____ is the profit percent.
   a) 4.17% b) 5.16% c) 8.25 % d) 7.15%
4. The ratio of three numbers is 3:4:5 and the sum of their squares is 1250. The sum of the numbers is _____
   a) 30 b) 50 c) 60 d) 90
5. The ratio between the speeds of two trains is 7:8. If the second train runs 400 kms in 4 hours, then the speed of the first train is _____
   a) 70 km/hr b) 87.5 km/hr c) 84 km / hr d) 75 km / hr
6. A train moves with a speed of 108 kmph. Its speed in meters per second is ____
   a) 10.8 b) 18 c) 30 d) 38.8
7. How many days are there in x weeks x days?
   a) $7x^2$ b) 8x c) 14x d) 7
8. Find the cost of Rs. 6400, 10% stock at 15 discount
   a) 4540 b) 5450 c) 5440 d) 4440
9. If the true discount on a sum due 2 years hence at 14% per annum be Rs.168 the sum due is
   a) Rs. 768 b) Rs. 968 c) Rs. 1960 d) Rs. 2400
10. The present worth of a certain bill due sometime hence is Rs. 800 and the true discount is Rs. 36. The banker's discount is _____
    a)Rs. 37 b) Rs. 37.62 c) Rs. 34.38 d) Rs. 38.98

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11.a) Sachin was 4 times as old as his son 8 years ago, After 8 years, Sachin will be twice as old as his son. What are their present ages?

(OR)

b) Difference of two numbers is 1660. If 7.5% of one number is 12.5% of the other number. Find the two numbers.

12. a) An article is sold at a certain price. By selling it at 2/3of that price one loses 10% . Find the gain percent at original price.

(OR)

b) A mixture contains alcohol and water in the ratio 4:3. If 5 litres of water is added to the mixture, the ratio becomes 4:5. Find the quantity of alcohol in the given mixture.

13. a) If a man walks at the rate of 5kmph , he misses a train by 7 minutes. However , if he walks at the rate of 6kmph, he reaches the station 5 minutes before the arrival of the train. Find the distance covered by him to reach the station.

(OR)

b) A man is standing on a railway bridge which is 180m long, He finds that a train crosses the bridge in 20 seconds but himself in 8 seconds. Find the length of the train and its speed.

14. a) Prove that the calendar for the year 2003 will serve for the year 2014.

(OR)

b) A man sells Rs. 5000 , 12% stock at 156 and invests the proceeds partly in 8% stock at 90 and 9% stock at 108. He thereby increases his income by Rs. 70 .How much of the proceeds were invested in each stock?

15. a) The difference between the simple interest and true discount on a certain sum of money for 6 months at $12\frac{1}{2}\%$ per annum is Rs. 25. Find the sum.

(OR)

b) The banker's discount on Rs. 1650 due a certain time hence is Rs. 165. Find the true discount and the banker's gain.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16.Tanya's grandfather was 8 times older to her 16 years ago. He would be 3 times of her age 8 years from now. Eight years ago, What was the ratio of Tanya's age to that of her grandfather?

Contd…

17. When a producer allows 36% commission on the retail price of his product, he earns a profit of 8.8% what would be his profit percent if the commission is reduced by 24 %.

18.i) A man travelled from the village to the Post – Office at the rate of 25 km ph and walked back at the rate of 4 km ph. If the whole journey took 5 hours 48 minutes, Find the distance of the Post – Office from the village.

ii) A train running at 54 km ph takes 20 seconds to pass a platform. Next it takes 12 seconds to pass a man walking at 6 km ph in the same direction in which the train is going. Find the length of the train and the length of the Platform.

19.i) What was the day of the week on 15th August 1947?

ii) Rs. 9800 are invested partly in 9 % stock at 75 and 10% stock at 80 to have equal amount of incomes . Find the investment in 9% stock.

20.i) Goods were bought for Rs. 600 and sold the same day for Rs. 688.50 at a Credit of 9 months and thus gaining 2 % . Find the rate of interest per annum.

ii) The banker's gain on a certain sum due $1\frac{1}{2}$ years hence is $\frac{3}{25}$ of the banker's discount. Find the rate percent.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 17U6MAC4**

COURSE TITLE : Fundamentals of JAVA Programming **QN.NO : 8141**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Assignment statement is an ____ statement.
   a) expression b) labeled c) selection d) jump
2. Java ____ converting the bytecode into machine code.
   a) compiler b) interpreter c) machine d) program
3. _____ constant refers to a sequence of digits.
   a) Real b) Character c) Integer d) String
4. _____ statement is a built-in multiway decision statement.
   a) if b) while c) for d) switch
5. _____ have the same name as the class itself.
   a) Constructor b) Method c) Object d) Inheritance
6. The mechanism of deriving a new class from an old one is called ____.
   a) constructor b) inheritance c) subclass d) interface
7. _____ are used as super class whose properties are inherited by classes.
   a) Inheritance b) Import c) Interface d) Package
8. The _____ statement can be used to search a list of packages for a particular class.
   a) inheritance b) package c) interface d) import
9. aThread.stop(); statement causes the thread to move to the ____ state.
   a) dead b) stop c) null d) block
10. The thread will return to the runnable state when the specified time is elapsed in the case of _____.
    a) return() b) sleep() c) suspend() d) notify()

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Explain the Java development kit and tools.

(OR)

b) How to implement a Java program?

12. a) Explain about the 'while' and 'do' statements.

(OR)

b) Explain 'else-if ladder with an example.

13. a) How to add methods? Give an example..

(OR)

b) How to create and initialize an one dimensional array?

14. a) How to add a class to a package?

(OR)

b) Explain the implements interfaces with an example.

15. a) How to extending the thread class?

(OR)

b) What are the two methods by which we may stop threads?

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. (i) Explain the Java statements.

(ii) Write the structure of a Java program.

17. Explain the 'for' statement and its additional features with examples.
18. Explain all types of inheritances.
19. How to create, access and use a package?
20. Explain the life cycle of a thread.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Statistics **COURSE CODE : 17U1SAC1**

COURSE TITLE : Calculus **QN.NO : 8204**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. 1 If $y = \log \sqrt{\frac{1+\sin x}{1-\sin x}}$ then $\frac{dy}{dx}$ = _____

a) Cosx b)secx c)cosecx d) none of these

2. If $f = x^3 + y^3 + z^3 - 3xyz$ then f_{xy} =_____.

a) $3z$ b) z c) $-3z$ d) -3

3. If $rt - s^2 < 0$ at a point (x, y), then (x, y) is called _____ point.

a) Maximum b) Minimum c) Tangent d) Saddle

4. The radius of curvature of $y = e^x$ at the point where it crosses the y −axis is ___

a) $2\sqrt{2}$ b) $\frac{1}{2\sqrt{2}}$ c) $\sqrt{2}$ d) $\frac{1}{\sqrt{2}}$

5. $\int \log x \ dx =$ _____

a) $1/x$ b) xe^x c) e^x d) 1

6. $\int xe^x dx =$ _____

a)e^x b) e^x (x-1) c)xe^x d) e^x (x+1)

7. $\int_0^1 \int_0^2 xy^2 dydx =$

a)4 b) $4/5$ c) $4/3$ d)none of these

8. $\int_0^a \int_0^b \int_0^c xyz \, dz \, dy \, dx$

a) $\frac{abc}{8}$ b) $\frac{a^2b^2}{8}$ c) $\frac{a^2c^2}{8}$ d) $\frac{a^2b^2c^2}{8}$

9. β(m+1,n) +β(m,n+1) = _____

a)β(m,m) b) β(m,n) c) β(0,n) d) β(m,0)

10. $\beta(m, n)$ can be expressed as a definite integral with _____ as limits

a) 0,1 b) 0,2 c) $0, \infty$ d) $1, \infty$

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) If $y = e^{a\sin^{-1}x}$, then prove that $(1-x^2)y_2 - xy_1 - a^2y = 0$.

(OR)

b) Find y_n if $y = \sin 3x \cos x$.

12. a) Find the points in the curve $y = x^4 - 6x^3 + 13x^2 - 10x + 5$ where the tangents are parallel to $y = 2x$ and prove that two of these points have the same tangent.

(OR)

b) Show that in a parabola $y^2 = 4ax$ at the point $t, \rho = -2a(1+t^2)^{\frac{3}{2}}$, $X = 2a + 3at^3, Y = -2at^3$. Deduce the equation of the evolute.

13. a) Evaluate: $\int_0^{\pi/2} \log \sin x \, dx$.

(OR)

b) Evaluate: $\int \frac{3x+1}{(x-1)^2(x+3)} dx$.

14. a) Evaluate $\int\int (x^2 + y^2) dx\, dy$ over the region for which $x, y \geq 0$ and $x + y \leq 1$.

(OR)

b) By transforming into polar co-ordinates evaluate $\iint \frac{x^2y^2}{x^2+y^2}\, dx\, dy$ over the annular region between the circles $x^2 + y^2 = a^2$ and $x^2 + y^2 = b^2 (b > a)$.

15.a)Prove that $\int_0^{\pi/2} \sqrt{\tan\theta}\, d\theta = \frac{\pi}{\sqrt{2}}$

(OR)

b) Prove that $\int_0^{\infty} e^{-x^2} dx = \frac{\pi}{2}$ using Gamma Function.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Transform $\frac{\partial^2 V}{\partial x^2} + \frac{\partial^2 V}{\partial y^2}$ into polar coordinates.

17. Find the maximum or minimum values of $x^3y^2(6 - x - y)$.

18. Establish a reduction formula for $I_n = \int sin^n x\, dx, where\ n \in \mathbb{N}$ and hence find $\int_0^{\frac{\pi}{2}} sin^n x\, dx$.

19. i) Evaluate $\int\int\int xyz\, dx\, dy\, dz$ taken through the positive octant of the sphere $x^2 + y^2 + z^2 = a^2$.

ii) Evaluate: $\int_0^1 \int_0^x \int_0^{x+y} (x + y + z)\, dz\, dy\, dx$.

20.Prove that $\beta(m,n) = \frac{\Gamma(m)\Gamma(n)}{\Gamma(m+n)}$.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Statistics **COURSE CODE : 17U4SMC6**

COURSE TITLE : Theory of Estimation **QN.NO : 8213**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. A statistic $\widehat{\Theta} = \theta$ is an _____ estimator of the parameter θ if and only if $E(\widehat{\Theta}) = \theta$.
   a) Biased b) Unbiased c) Consistent d) Efficient
2. If $x_1, x_2, \ldots, x_n$ is a random sample from a normal population N(μ,1), then $t = \frac{1}{n}\sum_{i=1}^{n} x_i^2$ is an estimator of _____.
   a) $\mu - 1$ b) $\mu + 1$ c) $\mu^2 - 1$ d) $\mu^2 + 1$
3. _____is an asymptotic property.
   a) Unbiased b) Consistency c) Sufficiency d) Efficiency
4. Y= 1/6 (X_1 + 2 X_2 + 3 X_3) is _____ estimator of the Bernoulli parameter θ.
   a) Not an efficient b) Not a constant c) Not a sufficient d) None of these
5. The kth sample moment is denoted by _____
   a) m_k' b) m_1' c) m_0' d) m_2'
6. $\frac{\partial}{\partial\theta}(log\ L) = 0$ is referred to _____
   a) Likelihood equation b) Chehyshev's equation
   c) Moment equation d) Cauchy's equation
7. The probability _____is called degree of confidence.
   a) 1+α b) 1 – α c) α d) nα
8. The sampling distribution of X for random samples of size n from a normal population with the mean μ and the variance σ^2 is a normal distribution with $\sigma_{\bar{X}}^2$ = _____
   a) $\frac{\sigma}{n}$ b) $\frac{n^2}{\sigma}$ c) $\frac{\sigma^2}{n}$ d) $\frac{n}{\sigma}$
9. In the estimation of difference between the proportion $E(\widehat{\Theta_1} - \widehat{\Theta_2}) =$ _____
   a) $\theta_1 - \theta_2$ b) $\theta_2 - \theta_1$ c) $\theta_1 + \theta_2$ d) $\theta_2 + \theta_1$
10. (1 – α)100% confidence limits for _____ can be obtained by taking square root of confidence limit for σ^2.
    a) σ b) 2 σ c) nσ d) $\sqrt{\sigma}$

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) If S^2 is the variance of a random sample from an infinite population with the finite variance σ^2, then prove that $E(S^2) = \sigma^2$.

(OR)

b) Show that $\bar{X}$ is a minimum variance unbiased estimator of the mean μ of a normal population.

12. a) Show that for a random sample from a normal population, the sample variance S^2 is a consistent estimator of σ^2.

(OR)

b) Show that $\bar{X}$ is a sufficient estimator of the mean μ of a normal population with the known variance σ^2.

13. a) If $x_1, x_2, \ldots, x_n$ are the values of a random sample from an exponential population, find the maximum likelihood estimator of its parameter θ.

(OR)

b) Find the mean of the posterior distribution as an estimate of the "true" probability of a success, if 42 successes are obtained in 120 binomial trials and the prior distribution of Θ is a beta distribution with $\alpha = \beta = 40$.

14. a) Explain the 3qestimation of means.

(OR)

b) A paint manufacturer wants to determine the average drying time of a new interior wall paint. If for 12 test areas of equal size he obtained a mean drying time of 66.3 minutes and a standard deviation of 8.4 minutes, construct a 95% confidence interval for the true mean μ.

15. a) In a random sample, 136 of 400 persons given a flu vaccine experienced some discomfort. Construct a 95% confidence interval for the true proportion of persons who will experience some discomfort from the vaccine.

(OR)

b) Explain the estimation of variances.

Contd…

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. If $X_1, X_2, \ldots, X_n$ constitute a random sample from a uniform population with α = 0, show that the largest sample value (i.e the nth order statistic, Y_n) is a biased estimator of the parameter β. Also, modify this estimator of β to make it unbiased.

17. If $X_1, X_2, \ldots, X_n$ constitute a random sample of size n from a Bernoulli population, show that $\widehat{\Theta} = \frac{X_1 + X_2 + \cdots + X_n}{n}$ is a sufficient estimator of the parameter θ.

18. If X is a binomial random variable and the prior distribution of Θ is a beta distribution with the parameters α and β, then prove that the posterior distribution of Θ given X = x is a beta distribution with the parameters x + α and n – x + β.

19. Construct a 94% confidence interval for the difference between the mean lifetimes of two kinds of light bulbs, given that a random sample of 40 light bulbs of the first kind lasted on the average 418 hours of continuous use and 50 light bulbs of the second kind lasted on the average 402 hours of continuous use. The population standard deviations are known to be $\sigma_1 = 26$ and $\sigma_2 = 22$.

20. If 132 0f 200 male voters and 90 of 159 female voters favor a certain candidate running for governor of Illinois, find a 99% confidence interval for the difference between the actual proportions of male and female voters who favor the candidate.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Statistics **COURSE CODE : 17U4SMC7**

COURSE TITLE : Elements of Stochastic Processes **QN.NO : 8214**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. $L(6t)$ =.....
   (a) $\frac{1}{s}$ (b) $\frac{2}{s^2}$ (c) $\frac{6}{s^2}$ (d) $\frac{1}{s^2}$
2. If m_1 and m_2 are complex roots, then $f(n)$ are .....
   (a) $(c_1 + c_2 n)m^n$ (b) $(c_1 m_1^n + c_2 m_2^n)$
   (c) $r(A\cos\theta + B\sin\theta)$ (d) $r^n(A\cos n\theta + B\sin n\theta)$
3. $Var(X)$ =.....
   (a) $[E(X)]^2$ (b) $E(X^2) - [E(X)]^2$ (c) $E(X)$ (d) $E(X^2)$
4. $E[S_N]$ =.....
   (a) $E[X_i]E[N]$ (b) $E[N]$ (c) $E[X_i]$ (d) $E[X_N]$
5. $L^{-1}\left(\frac{1}{s^2+16}\right)$ =.....
   (a) $\sin 16x$ (b) $\sin ax$ (c) $\sin 4x$ (d) $\sin x$
6. $F^*(s)$ =.....
   (a) e^{-sx} (b) $E[e^{-sx}]$ (c) $E[e^x]$ (d) $E[e^{sx}]$
7. The set of possible values of any individual members of random process is called.....
   (a) Time space (b) State space
   (c) Random sequence (d) Sample space
8. If X and Y are independent then $E[XY]$ =.....
   (a) $E[XY]$ (b) $E[X].E[Y]$ (c) $E[X]$ (d) $E[Y]$
9. If every state can be reached from every other state then Markov Chain is said to be
   (a) Bernouli (b) Irreducible (c) Reducible (d) None of these.
10. State j is called persistent if .....
    (a) $f_{jj} = \infty$ (b) $f_{jj} = -1$ (c) $f_{jj} = 1$ (d) $f_{jj} = 0$

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) State and prove first shifting property of Laplace transform.

(OR)

b) Solve the difference equation $U_n = \frac{1}{2}(U_{n+1} + U_{n-1}), 1 \le n \le a-1$ with the initial conditions $U_0 = 1$ and $U_a = 0$.

12. a) Find the generating function of Fibonacci sequence.

(OR)

b) Find the p.g.f., mean and Variance of Poisson random variable with parameter λ.

13. a)Prove that mean of $X = E[X] = -\left[\frac{d}{ds}F^*(S)\right]_{s=0}$

(OR)

b) Define Dirac delta. Also find its Laplace transform.

14. a) Define Stochastic process with two examples.

(OR)

b) Define Martingale. Show that Martingale is a constant mean.

15. a) Let $\{X_n, n \ge 1\}$ be a Markov chain with three states 0,1,2 and with transition matrix $P = \begin{bmatrix} \frac{3}{4} & \frac{1}{4} & 0 \\ \frac{1}{4} & \frac{1}{2} & \frac{1}{4} \\ 0 & \frac{3}{4} & \frac{1}{4} \end{bmatrix}$ and the initial distribution

$\Pr[X_0 = i] = \frac{1}{3}, i = 0,1,2.$

Find (i). $\Pr[X_2 = 2, X_1 = 1, X_0 = 2$ (ii) $\Pr[X_2 = 2, X_1 = 1/X_0 = 2]$.

(OR)

b) Derive Chapman – Kolmogrov equation.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Find the Laplace transform of (i) te^{-t} (ii) t^2 (iii) $4t^3$ (iv) $2t-5$
17. Find the p.g.f., mean and variance of Binomial random variable with parameter n and p.
18. If X have a Gamma distribution with parameter $\lambda > 0$ and $k > 0$. Find its Laplace transform, mean and variance.
19. Consider the process $X(t) = A\cos\omega t + B\sin\omega t$ where A and B are uncorrelated random variables each with mean 0 and variance and ω is a positive constant. Find the mean value function. Is the Covariance function Stationary ?
20. Suppose that the probability of dry day (state 0) following rainy day(state1) is $\frac{1}{3}$ and the probability of a rainy day following a dry day is $\frac{1}{2}$. Given that May 1 is a dry day .Find the probability that (i) May 3 is also a dry day (ii) May 5 is also a dry day.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Statistics **COURSE CODE : 17U4SSM4**

COURSE TITLE : Mathematical Analysis **QN.NO : 8215**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The set $\left\{\frac{1}{n}, n \in N\right\}$ is _____.
   a) closed b) not closed c) not open d) both (b) and (c)
2. [a, b] is a set which is ____ but _____ .
   a) not closed, open b) closed, open
   c) not closed, not open d) closed, not open.
3. The value of $\lim_{x\to 0} x sin\frac{1}{x} =$
   a) 1 b) 2 c) 0 d) ∞
4. The value of $\lim_{x\to 3} \frac{1}{(x-3)^4} =$
   a) 1 b) 2 c) 0 d) ∞
5. The function $f(x) = x^2$is _____ continuous on [-1, 1].
   a) uniformly b) not uniformly
   c) not continuous d) none of the these
6. A function which is continuous on a closed interval is also _____ continuous on that interval.
   a) uniformly b) not uniformly
   c) not continuous d) none of the these
7. If a function is derivable at all points of an interval except the end points, it is said to be derivable in the ____ interval.
   a) open b) closed c) end d) none of these
8. The function $f(x) = \begin{cases} 0 & if\ x \leq 0 \\ x & if\ x > 0 \end{cases}$ is continuous and not derivable at
   a) $x = 1$ b) $x = 0$ c) $x = -1$ d) $x = 2$
9. The two points with equal ordinates on the graph of f, there exists at least one point where the tangent is _____ to x-axis.
   a) perpendicular b) intersect
   c) parallel d) bisect
10. If a function f is continuous on [a, b] and derivable on] a, b[and $f'(x) > 0, \forall\, x \in]a, b[$, then f is _____ on [a, b].
    a) decreasing b) strictly increasing
    c) increasing d) strictly decreasing

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Define Interior points of a set. Prove that the interior of a set is an open set.

(OR)

b) Prove that the union of two closed sets is a closed set.

12. a) Evaluate $\lim_{x\to 0+} \frac{1}{1+e^{-1/x}}$.

(OR)

b) Evaluate $\lim_{x\to 1} \frac{x^2-1}{x-1}$.

13. a) Prove that the Dirichlet's function f defined on R by $f(x) = \begin{cases} 1, & when\ x\ is\ irrational \\ -1, & when\ x\ is\ rational \end{cases}$ is discontinuous at every point.

(OR)

b) Prove that a function which is continuous on a closed interval is also uniformly continuous on that interval.

14. a) Prove that a function which is derivable at a point is necessarily continuous at that point.

(OR)

b) If f is derivable at c and $f(c) \neq 0$ then the function $1/f$ is also derivable thereat and $(1/f)'(c) = -f'(c)/\{f(c)\}^2$.

15. a) State and prove Rolle's Theorem.

(OR)

b) State and prove Lagrange's Mean Value theorem.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. State and prove the Bolzano Weierstrass Theorem.

17. If f and g be two functions defined on some neighbourhood of c such that $\lim_{x\to c} f(x) = l$, $\lim_{x\to c} g(x) = m$ then

(i) $\lim_{x\to c}(fg)x = \lim_{x\to c} f(x) . \lim_{x\to c} g(x) = lm.$

(ii) $\lim_{x\to c}(f/g)x = \lim_{x\to c} f(x) / g(x) = \frac{l}{m} if\ m \neq 0.$

18. A function f is defined on [0,1] by $f(x) = \begin{cases} -x^2 & if\ x \leq 0 \\ 5x-4 & if\ 0 < x \leq 1 \\ 4x^2-3x & if\ 1 < x < 2 \\ 3x+4 & if\ x \geq 2 \end{cases}$.

Examine f for continuity at $x = 0,1,2$. Also discuss the kind of discontinuity, if any.

19. State and prove the Darboux's theorem

20. State and prove the Cauchy's Mean Value theorem.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Statistics **COURSE CODE : 17U4SAC4**

COURSE TITLE : Differential Equations **QN.NO : 8216**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The solution of the differential equation $\frac{d_y}{d_x}+\left(\frac{1-y^2}{1-x^2}\right)^{y_2}=0$ is _____

   a) $\sin^{-1}y+\sin^{-1}x=c$ b) $\cos^{-1}y+\cos^{-1}x=c$

   c) $\sin^{-1}y-\sin^{-1}x=c$ d) None

2. A differential equation is said to be _____ when the dependent variable and its derivatives occur only in the first degree

   a) Homogeneous equation b) Non-Homogeneous equation

   c) linear equation d) None

3. The necessary condition for the given equation to be exact is _____

   a) $\frac{\partial N}{\partial y}=\frac{\partial M}{\partial x}$ b) $\frac{\partial M}{\partial y}=\frac{\partial N}{\partial y}$ c) $\frac{\partial M}{\partial y}=\frac{\partial N}{\partial x}$ d) None

4. If $\frac{\partial M}{\partial y}-\frac{\partial N}{\partial x}$ is a function of x alone say f(x), then the integration factor is _____

   a) $e^{\int f(y)dy}$ b) $e^{\int f(x)dx}$ c) $e^{\int f(x)dy}$ d) None

5. The cooling law "The rate at which a hot body cools is proportional to the difference in temperature between the body and the surrounding medium" is _____

   a) Ohm's law b) Kepler's law c) Newton's law d) Kelvin's law

6. Assuming that air exerts a resistance proportional to the velocity, the differential equation of motion is _____

   a) $m\frac{d^2y}{dt^2}=mg-k\frac{dy}{dt}$ b) $m\frac{d^2y}{dt^2}=-k\frac{dy}{dt}$

   c) $m\frac{d^2y}{dt^2}=mg-k$ d) None

7. The solution of the equation $(D^2-5D+4)y=0$ is _____

   a) $y=c_1 e^x+c_2 e^{4x}$ b) $x=c1\ e^y+c_2 e^{4y}$

   c) $y=c_1 e^x.c2\ e^{4x}$ d) None

Contd…

8. The particular integral of $(D^2+5D+6)y= e^x$ is _____

a) $\frac{e^x}{24}$ b) $\frac{e^x}{12}$ c) $\frac{e^x}{3}$ d) $\frac{e^x}{14}$

9. The solution of the equation $\frac{dx}{\tan x}=\frac{dy}{\tan y}=\frac{dz}{\tan z}$ is _____, where ϕ is arbitary

a) $\phi\left(\frac{\sin x}{\sin y},\sin z\right)=0$ b) $\phi\left(\frac{\sin x}{\sin y},\frac{\sin y}{\sin z}\right)=0$

c) $\phi\left(\sin x,\frac{\sin y}{\sin z}\right)=0$ d) None

10. The solution of the equation $\frac{dx}{y-z}=\frac{dy}{z-x}=\frac{dz}{x-y}$ is _____, where ϕ is arbitary

a) $\phi\ (x^2-y^2-z^2,xyz)=0$ b) $\phi(x^2-y^2+z^2,xyz)=0$

c) $\phi\ (x^2+y^2+z^2,x+y+z)=0$ d) None

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Solve $\frac{dy}{dx}=\frac{x+2y-3}{2x+y-3}$

(OR)

b) Form the differential equation by eliminating α and β from $(x-\alpha)^2+(y-\beta)^2= r^2$.

12. a) Solve $(a^2-2xy-y^2)\ dx-(x+y)^2\ dy=0$.

(OR)

b) Solve $(y^2+2x^2y)\ dx+(2x^3-xy)\ dy=0$.

13. a) If, in a culture of yeast, by what active ferment doubles itself in three hours, by what ratio will it increase in 15 hours, on the assumption that the quality increases at a rate proportional to itself ?

(OR)

b) Inside the earth, the force of gravity is proportional to the distance from the centre. If a hole be drilled from pole to and a rock is dropped in the hole, with what velocity will it reach the centre?

14. a) Solve $(D^2-8D+9)y= 8 \text{ Sin } 5x$.

(OR)

b) Explain the damped simple harmonic vibrations.

15. a) Solve the equation $\frac{dx}{xy}=\frac{dy}{y^2}=\frac{dz}{x(yz-2x)}$.

Contd…

(OR)

b) Solve the equation $\frac{dx}{y-xz}=\frac{dy}{yz+x}=\frac{dz}{x^2+y^2}$.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. (i) Solve $x\frac{dy}{dx}+y\log x=e^x . x^{1-\frac{1}{2}\log x}$

(ii) Solve $\frac{dy}{dx}-y\tan x=\frac{\sin x\cos^2 x}{y^2}$

17. Solve $y(xy+2x^2y^2)\,dx + x\,(xy-x^2y^2)\,dy=0$.

18. Find the time required to empty a cylindrical tank 1 meter in diameter and 4 meters long through a hole 5cm. diameter if the tank is initially full and its axis is (a) vertical and (b) horizontal.

19. Show that the solution of the differential equation $\frac{d^2y}{dt^2}+4y=A\,Sinpt$ which is such that y=0 and $\frac{dy}{dt}=0$ when t=0 is $y=\frac{A(\sin pt-\frac{1}{2}p\sin 2t}{4-p^2}$

If p≠2. If p=2, show that $y=\frac{A(\sin 2t-2t\cos 2t)}{8}$

20. Solve $4\frac{dx}{dt}+9\frac{dy}{dt}+2x+31y=e^t$;

$3\frac{dx}{dt}+7\frac{dy}{dt}+x+24y=3$.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Statistics **COURSE CODE : 17U6SMC10**

COURSE TITLE : Statistical Quality Control **QN.NO : 8224**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. _____ is the reduction of variability in processes and products.
   a) Quality improvement b) Quality design
   c) Quality conformance d) Quality
2. The mean of the gamma distribution is μ = _____
   a) λ / r b) r / λ c) λ / r^2 d) r / λ^2
3. A single measurable quality characteristic is called _____
   a) $\bar{X}$ control chart b) R control chart
   c) variable d) S control chart
4. Average range for the new sample size is denoted by _____
   a) $\bar{R}_{old}$ b) $\bar{R}_{new}$ c) n_{old} d) n_{new}
5. The center line of the np-control chart is _____
   a) p b) n c) np d) all the above
6. In g-chart, the center line CL = _____
   a) t b) 1 / t c) $\bar{t}$ d) 1 / $\bar{t}$
7. In double-sampling, the average sample number ASN = _____
   a) $n_1 - n_2(1 - p_1)$ b) $n_1 + n_2(1 - p_1)$
   c) $n_1 + n_2(1 + p_1)$ d) $n_1 - n_2(1 + p_1)$
8. The probability of acceptance on the second samples is denoted by _____
   a) P_a b) P_a' c) P_a'' d) P
9. The word percent non-conforming was substituted for ---------- defective.
   a) Percent b) Conformance c) OC d) non conformity
10. It is possible to use --------- sampling plans when the parameter of interest does not have a normal distribution.
    a) variables b) sequential c) attributes d) simple

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Explain the following terms
(i) Stem – and – leaf plot (ii) Time Series plot.

(OR)

b) Manufacturing process produces thousands of semiconductor chips per day. On the average 1% of these chips do not conform to specifications. Every hour, an inspector selects a random sample of 25 chips and classifies each chip in the sample as conforming or nonconforming. If we let x be the random variable representing the number of nonconforming chips in the sample, then the probability distribution of x is

$$p(x) = \binom{25}{x}(0.01)^x(0.99)^{25-x} \qquad x = 0, 1, 2, \ldots, 25$$

where $\binom{25}{x} = 25\,! / [\,x!\,(25 - x)!\,]$. This is a discrete distribution. Since the observed number of nonconformances is x = 0, 1, 2, …, 25, and is called the binomial distribution. We may calculate the probability of finding one or fewer nonconforming parts in the sample.

12. a) State the control limits for $\bar{X}$, R charts.

(OR)

b) Explain in detail about Cyclic pattern and Mixture pattern.

13. a) Explain the Demerit systems for Attribute data.

(OR)

b) Distinguish between Attributes and variables control charts.

14. a) Explain in detail about Rectifying Inspection.

(OR)

b) Explain the following terms
(i) AQL (ii) LQL (iii) RQL

15. a) Write the procedures to calculate the variable sample plan.

(OR)

b) A manufacturer of wood paneling samples the substrate blanks bought from an offshore supplier to determine their formaldehyde emission level. As long as the mean emission level is less than 0.3 ppm, the lot is satisfactory. We want to design a variables sampling procedure that will give lots that have a mean emission level of 0.3 ppm a 0.95 probability of acceptance, and lots that have a mean emission level of 0.4 ppm a 0.10 probability of acceptance. The largest probable value of the standard deviation of emission level is known from past experience to be $\sigma = 0.10$ ppm.

Contd…

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Define Dimensions of Quality and its key points.

17. Explain in detail about Construction and operation of $\bar{x}$ and s charts.

18. Determine which characteristic to control chart and where to put the control chart.

19. Write the aspects and the advantages and disadvantages of sampling.

20. Explain in detail about MIL STD 414.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Statistics **COURSE CODE : 17U6SMC11**

COURSE TITLE : Design of Experiments **QN.NO : 8225**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Replication in a design of experiment means
   a) Block size
   b) Number of treatments
   c) Number of Plots
   d) Number of times a treatment is repeated
2. Experimental error is due to
   a) experimenter's Mistake b) extraneous factors
   c) Variation in treatment effects d) Size of experimental units
3. Analysis of variance was developed by
   a) R.A. Fisher b) Karl pearson
   c) Irving Fisher d) Bowley
4. Missing observation in a CRD is to be
   a) estimated b) ignored c) deleted d) Comparable
5. In two – way Classification has 't' treatments 'r' replications and m observations per cell. The degree of freedom of interaction is
   a) t (m-1) b) (t – 1) (r -1) c) (t – 1)(m – 1) d) (r – 1) (tm -1)
6. Error sum of squares in RBD as compared to CRD using same material to be
   a) more b) less c) equal d) more or less
7. In a 2^2 Factorial experiment, the main effect of A is given by
   a) $\frac{1}{2}[(ab)+(a)-(b)-(1)]$ b) $\frac{1}{2}[(ab)-(a)+(b)-(1)]$
   c) $\frac{1}{2}[(ab)-(a)-(b)+(1)]$ d) $\frac{1}{2}[(ab)+(a)-(b)-(1)]$
8. If the same factorial effect is compounded in all the replications it is known as
   a) partial confounding b) Complete confounding
   c) balanced confounding d) orthogonal confounding
9. If N is the incidence matrix of BIBD then
   a) every row sum is r b) every row sum is k
   c) every column sum is r d) every column sum is kr

Contd…

10. In BIBD, Necessary condition for a symmetric with 'v' as even if that (r – λ) must be

a) Perfect rectangular b) perfect Circle

c) Perfect Square d) perfect triangle

PART – B **(5 x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Define (i) Treatment (ii) Experimental unit (iii) Block (iv) yield

(OR)

b) What are the main sources of experimental error and state the essentials of good design.

12. a) Explain the merits and Demerits of CRD.

(OR)

b) State the assumptions of ANOVA Test and explain the fixed and Random effect model.

13. a) Estimate the concept of missing observation in RBD.

(OR)

b) Distinguish between RBD and LSD.

14. a) Discuss the factorial and confounding factorial experiment.

(OR)

b) Explain Yate's table for 2^2 Factorial experiment.

15. a) Discuss the main objectives of constructing BIBD.

(OR)

b) State and prove Fisher's inequality.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Explain the basic principles of design of experiments.

17. Derive the statistical analysis of one – way classification.

18. Explain: i) Efficiency of RBD Relative to CRD.

ii) Efficiency of LSD Relative to CRD.

19. Derive the 2^3 factorial experiment with Yate's table.

20. Explain Incidence matrix and prove that $(NN^1)^{-1} = \frac{1}{r-\lambda}\left(I_r - \frac{\lambda}{r}\right)E_{rr}$ if BIBD is symmetric.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Statistics **COURSE CODE : 17U6SME3(G)**

COURSE TITLE : Queuing Theory **QN.NO : 8227**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The arrival of customer (with no departure) in system in queuing theory can be stated as
   a) pure death process b) pure birth process
   c) Transient state d) Steady state
2. On a certain day, number of customer in system are 20, and the number of customer in service are 12. Find the number of customer waiting for service
   a) 10 b) 2 c) 8 d) 5
3. In a Queuing system in which the arrivals occur according to the poisson process, and the mean arrival rate λ. The probability of one arrival occurring in a small time interval Δt is equal to
   a) $\lambda.\Delta t$ b) $\lambda^2\Delta t$ c) $(1-\lambda)\,\Delta t$ d) $(1+\lambda)\,\Delta t$
4. If the arrival and departure rates in a public telephone booth with a single phone are ½ and ¼ respectively. Find the probability that the phone is busy.
   a) 3 b) 1/3 c) 2/3 d) 6
5. In (M/M/3) : (∞/FCFS) and $\frac{\lambda}{\mu}=2$ and $P_O=\frac{1}{9}$ What is the probability that an arrival without waiting to get service
   a) $\frac{5}{9}$ b) $\frac{3}{5}$ c) $\frac{6}{9}$ d) $\frac{5}{6}$
6. A two person health clinic has 2 chair for waiting customers. If λ=2 per hour and λe=3 per hour. Then the probability, that the system is empty if
   a) 0.5 b) 0.4 c) (0.2) d) 0.6
7. In (M/M/1) : (N/FCFS) λ^1 is effective arrival rate if
   a) λ(1-Pn) b) $\lambda(1-P_O)$ c) λ (1-Pn) d) $\lambda\,(1-P_O)$
8. In (M/M/1) : if λ=3 per hour and μ=3 per hour, then average length 15 of the queuing system is
   a) 1 b) 1.5 c) 2 d) 2.5
9. In (M/M/1) : (∞/FCFS) and (M/G/1) : 1∞1 GDS) if G=M, then service time follow
   a) Poisson distribution with parameter μ
   b) Poisson distribution with parameter μ+T
   c) exponential distribution with parameter μ
   d) exponential distribution with parameter μ + T

Contd…

10. In (M/G/1) : (∞/GD) Model if ρ=75% and service time $\frac{1}{\mu} = 10.5$ minutes find arrival rate of the service λ

a) 0.1467 hours b) 0.4167
c) 0.6471 hours d) 0.7461

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Define a queue and explain the various queue disciplines.

(OR)

b) Explain the characteristics and classification of Queuing models.

12. a) A person repairing radios finds that the time spent on the radio sets has exponential distribution with mean 20 minutes. If the radio are repaired in the order in which they come in and their arrival is approximately poisson with an average rate of 15 for 8 hour day. What is the repairman's idle time each day? How many jobs are ahead of the average set just brought in?

(OR)

b) In (M/M/1) : (∞/FCF) Derive the expected number of customer in the system.

13. a) A tax consulting firm has 3 counters in its office to receive people who have problems concerning their income, wealth and sales taxes. On an average 48 persons arrive in an 8 hours day. Each tax adviser spends 15 minutes on an average on an arrival. If the arrivals are poissonaly distributed and service times are according to exponential distribution. Find (i) the average number of customer in the system and queue. (ii) the expected number of idle time.

(OR)

b) In (M/M/S) : (∞/FCFS) Derive the probability that an arrival has to wait.

$$P(\mu/s>0) = \frac{S^s}{C!}\frac{\ell^c}{(1-\ell)}P_O \quad \text{Where } \ell = \frac{\lambda}{s/\mu}$$

14. a) In (M/M/I) : (N/FCFS) Find the average number of customer in the queue.

(OR)

b) In a railway marshalling yard, goods trains arrive at the rate of 30 trains per day. Assume that the inter arrival time follows an exponential distribution and the service time is also assumed as exponential with mean of 36 minutes. Find (i) Probability that Yard is empty. (ii) the average queue length, assuming the line capacity of the Yard in 9 trains.

Contd…

15. a) A one man barber shop takes exactly 20 minutes to complete one hair cut. If customer arrive at barbershop in a poisson fashion at an average rate of one every 40 minutes, how long on the average a customer spend in shop? Also find the average time a customer must wait for service?

(OR)

b) A car-manufacturing plant uses one big crane for loading cars into a truck. Cars arrive for loading by the crane according to poisson distribution with a mean of 5 cars per hour. Given that the service time for all cars in constant and equal to 6 minutes. Determine Ls, Lq, Ws and Wq.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Obtain the steady state equation for the model (M/M/1) : (∞/FCFS) and find P_n and P_o.
17. Obtain steady state equations and hence find Pn and Po for the model (M/M/c) : (∞/FCFS)
18. A bank has two tellers working on savings account. The first seller handles withdrawals only. The second teller handles deposits only. It has been found that the service time distributions for both deposits and withdrawls are exponential with mean service time of 3 minutes per customer. Depositors are found to arrive in a poison fashion with mean arrival rate 16 per hours. Withdrawals also arrive in poison fashion with mean arrival rate of 14 per hour. What would be the effect on the average waiting time for the customer, if each teller could handle both withdrawls and deposits?
19. A one-man barbershop has 6 chair to accommodate people waiting for haircut. Assume customer who arrive when all 6 chairs are full, leave without entering the barbershop. Customer arrive at the average rate of 3 per hour and spend an average of 15 minutes in the barbershop. Find
    (i) the probability that customer can directly into the barber chair upon arrival
    (ii) the expected number of customer waiting for haircut.
    (iii) effective arrival rate.
    (iv) the time spend in the barbershop.
20. Derive the Pollazek-Khinchin formula.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Physics **COURSE CODE : 17U1PMC1**

COURSE TITLE : Mechanics Properties of Matter and sound **QN.NO : 8401**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The calculation of the moment of the body due to the loadings involve a quantity called
   a) Moment b) Inertia
   c) Moment of Inertia d) Rotation
2. The parallel axes theorem uses the _____ of the distance.
   a) Square root b) Square c) Cube root d) Cube
3. The force of friction always acts in the direction _____ to that of the applied force.
   a) opposite b)direct
   c)clockwise d)Anti-clockwise
4. Newton's Law of gravitation is given by the expression
   a)$F=\frac{mm'}{r^2}G$ b)F=ma
   c)F=qE+q/cvX B d)None of the above
5. The recovering force per unit area setup inside the body is called ___
   a)Strain b)Force c)Stress d)Mass
6. The ___ is the plane in which the bending takes place and bending couple acts in this plane.
   a) Plane of bending b)Bending
   c)Axis of bending d)Neutral axis
7. The tangent to the streamline at any point gives the ___ of the liquid at that point.
   a)Displacement b)Acceleration
   c)Velocity d)Flow
8. In jaegar's method the continual renewal of liquid air interface helps in avoiding
   a)Contamination b)Oxidation
   c)Ionisation d)None of these
9. A harmonic oscillator with its amplitude progressively decreasing to zero is called,
   a)Harmonic oscillator b)anharmonic oscillator
   c)Simple harmonic oscillator d)Damped oscillator
10. The essential features of good acoustics is
   a) the reverberation should be quite proper i.e) neither too large nor too small
   b) there should be no Echelon effect
   c) there should be resonance within the building d) all the above

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11.a) Obtain an expression for the kinetic energy of rolling on a horizontal plane.

OR

b)State and prove theorem of perpendicular axes for moment of inertia.

12.a)Write short note on Angle and Cone of friction.

OR

b)Derive the expression for Gravitational potential and field due to a uniform solid sphere.

13.a)Derive an expression for the period of oscillation of a torsional pendulum.

OR

b)Derive an expression for the bending moment.

14.a)Write a note on, excess pressure inside a soap bubble.

OR

b)Discuss the rate of flow of a liquid through a capillary tube.

15.a)Deduce the differential equation of a damped harmonic oscillator.

OR

b)Explain the production and Applications of Piezo-electric oscillator.

PART – C (3x10=30)

Answer any THREE questions

16. (i)Discuss the Principle of conservation of linear momentum.
(ii)Find the moment of inertia of a disc of mass 3 kg and radius 50 cm about the axis.

17.(i) Derive an expression for the periodic time of compound pendulum.
(ii) Calculate the time period of an object having mass moment of inertia = 100 Kg-m^2, mass of 10 Kg and the centre of gravity lies at a point 20 cm below the point of suspension.

18.Derive the relation between elastic constant E, G and K.

19.(i)Determine the surface tension by Jaeger's method.
(ii)A soap bubble 50mm in diameter contains a pressure (in excess of atmospheric) of 2 bar.Find the surface tension in the soap film.

20.What are ultrasonic waves? How are they produced? Give an account of their properties and uses.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Physics **COURSE CODE :17U1PSM1/ 2SP& 2SEC (2008-12)**

COURSE TITLE : Physics of Electrical Appliances **QN.NO : 8402**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which of the following fire extinguishers should be used in order to extinguish an electrical fire?
   (a) Water Fire Extinguisher (b) Foam Fire Extinguisher
   (c) Wet Chemical Fire Extinguisher (d) Carbon Dioxide Fire Extinguisher
2. Fuse is a device which is used for _____
   (a) protection (b) amplification
   (c) impedance matching (d) none of above
3. The emf of the dry cell is about
   (a) 0 V (b) 0.5 V (c) 1 V (d) 1.5 V
4. Secondary's cells are
   (a) lead acid cell (b) alkaline cell
   (c) both (a) and (b) (d) none of these
5. The units for inductance is _____
   (a) Farad (b) Coulomb (c) Henry (d) Ohm
6. Capacitor is a device used to_____
   (a) store electrical energy (b) vary the resistance
   (c) store magnetic energy (d) dissipate energy
7. The amount of heat generated in resistance due to the flow of charges is equal to the product of the square of current, resistance and the time duration. This statement is known as
   (a) Ohm's law (b) Joule's law (c) Newton's law (d) Pascal's law
8. In appliances like electric irons, heaters, air-conditioners and refrigerators the temperatures are kept constant by
   (a) stabilizer (b) extension (c) thermostat (d) thermometer
9. Heat from the filament of a lamp is transmitted to the surrounding- mainly through
   (a) Conduction (b) Convection
   (c) Radiation (d) No heat is transfered
10. Which of the following lamp gives nearly monochromatic light?
    (a) Sodium vapor lamp (b) GLS lamp
    (c) Tube light (d) Mercury vapor lamp.

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b)

11. (a)Write a note on first aid should be given to a person affected by fire accident.

(OR)

(b) Write a note on circuit breaker.

12. (a) Distinguish primary cell and secondary cell.

(OR)

(b) Write a note on Mercury cell.

13. (a) With neat diagram explain the principle and working of electric bell.

(OR)

(b) What is capacitor? Write the applications of capacitor.

14. (a) State and explain Joule's law of heating.

(OR)

(b) Explain the working of non-automatic iron box.

15. (a) Briefly explain the principle and working of instant start fluorescent lamp.

(OR)

(b) Describe the working of Mercury vapour lamp.

PART – C **(3x10=30)**

Answer any THREE questions

16. Explain the different types of fire extinguishers.
17. Explain the construction and working of Nickel-Iron battery.
18. Explain the principle and working of mobile crane.
19. Explain the working of automatic electric iron box.
20. Explain the working of LED halogen lamp.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 17U4PAC2**
COURSE TITLE : Mechanics and Properties of matter **QN.NO : 8403**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The momentum of any body is calculated by _____
   a) Dividing mass by volume b) Multiply mass by volume
   c) Multiply mass by velocity d) multiply mass by acceleration
2. Direction of momentum is direction of objects _____
   a) Mass b) acceleration c) velocity d) frictional force
3. Hooke's law states that
   a) the extension is proportional to the load when the elastic limit is not exceeded
   b) the extension is inversely proportional to the load when the elastic limit is not exceeded
   c) the extension is independent of the load when the elastic limit is not exceeded
   d) load is dependent on extension
4. Tensile strain is equal to
   a) Force per unit area b) Force per unit volume
   c) Extension per unit length d) Force per unit length
5. Reynolds number signifies the ratio of
   a) Gravity forces top viscous forces b) inertial forces to viscous forces
   c) Inertia forces to gravity forces d) buoyant forces to inertia forces
6. Property of fluid that describes its internal resistance is known as _____
   a) Viscosity b) Friction c) Resistance d) Internal energy
7. If the temperature of the liquid increases then the surface tension of the liquid will _____
   a) Decreases b) increases
   c) remains the same d) none of the above
8. The angle of contact between pure water and glass is _____
   a) 0° b) 30° c) 180° d) 90°
9. When body falls towards earth its motion is due to
   a) Gravitational force b) Motion due to gravity
   c) Acceleration due to gravity d) Because of zero weight

Contd…

10. When satellite orbits close to a planet, its time period depends upon
    a) The mass of satellite b) Radius of the planet
    c) Mass of the planet d) Density of the planet

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Derive the expression to determine the loss of kinetic energy during collision.

(OR)

b) Derive the expression to determine the moment of inertia of a circular disc.

12. a) Describe the types of stress and strain.

(OR)

b) Derive the relation between the three types of moduli of elasticity.

13. a) Describe the stream lined motion and turbulent motion.

(OR)

b) Discuss about the construction and working of venturimeter.

14. a) Derive an expression to determine the excess pressure at the surface of a bubble.

(OR)

b) Determine the surface tension of liquid by capillary rise method.

15. a) Determine the gravitational constant by Boy's method.

(OR)

b) Discuss about the various types of satellites.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. State and prove parallel and perpendicular axes theorem.
17. Determine the young's modulus of a given beam using uniform bending method.
18. Explain an experiment to determine the viscosity of high viscous liquid.
19. Determine the surface tension of a liquid using Jaeger's method.
20. Derive the variation of acceleration due to gravity (g) with altitude, depth, rotation of the earth.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Physics **COURSE CODE : 17U2PSM2**

COURSE TITLE : Numerical Methods **QN.NO : 8406**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The equation of fitting a straight line is y = _____
   a) a + b b) ab c) ax + b d) ax/b
2. The equation $y = ax^2 + bx + c$ is used to find fitting a _____
   a) Curve b) Parabola c) Straight line d) Exponent curve
3. The Bisection method is also known as _____ method.
   a) Newton's b) Iteration c) Bolzano d) Algebraic
4. Newton's-Raphson method is also referred to as the method of _____
   a) Tangents b) Algebraic c) Iteration d) Transcendental
5. Gauss-Jordan method, the coefficient matrix is reduced to a _____
   a) Triangular matrix b) Null matrix
   c) Square matrix d) Diagonal matrix
6. In Gauss elimination method, original equations are transformed by using _____ operations.
   a) Column b) Row c) Mathematical d) Subset
7. Error in the trapezoidal rule is of the order
   a) h b) h^2 c) h^3 d) h^4
8. The process of computing the value of a function inside the given range is called
   a) interpolation b) extrapolation c) integration d) differentiation
9. In which of the following method, we approximate the curve of solution by the tangent in each interval
   a) Picard's method b) Euler's method
   c) Newton's method d) Runge kutta method
10. In modified Euler method, we will average the _____
    a) points b) slopes c) both a & b d) none of the above

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11.a) Explain the principle of least squares.

(OR)

b) By the method of least squares find the best fitting straight line to the data given below:

x:	5	10	15	20	25
y:	16	19	23	26	30

12. a) Find a real root of the equation $x^3 + x^2 - 1 = 0$ by iteration method.

(OR)

b) Compute the real root of $x \log_{10} x = 1.2$ correct to three decimal places using Newton's-Raphson method.

13. a) Solve the system of equations

$28x + 4y - z = 32$

$x + 3y + 10z = 24$

$2x + 17y + 4z = 35$ using Gauss elimination method.

(OR)

b) Using Gauss-Jordan method, solve the following equations

$2x_1 + x_2 + 4x_3 = 4$, $x_1 - 3x_2 - x_3 = -5$, $3x_1 - 2x_2 + 2x_3 = -1$.

14. a) Find the value of $\int_0^{\pi/2} \sqrt{1 - 0.162 \sin^2 x}\, dx$, using Simpson's one third rule.

(OR)

b) Using Lagrange's interpolation formula, find y (10) from the following table

x:	5	6	9	11
y:	12	13	14	16

15. a) Using improved Euler's method find y at x = 0.1 & x = 0.2 given $\frac{dy}{dx} = y - \frac{2x}{y}, y(0) = 1.$

(OR)

b) Using modified Euler method, find y(0.2), y(0.1) given $\frac{dy}{dx} = x^2 + y^2; y(0) = 1.$

PART – C (3x10=30)

Answer any THREE questions

16. i) Fit a parabola, by the method of least squares, to the following data & also estimate y at x = 6. (5 mark)

X:	1	2	3	4	5
Y:	5	12	26	60	97

ii) Fit a curve of the form $y = ab^x$ to the data (5 mark)

X:	1	2	3	4	5	6
Y:	151	100	61	50	20	8

Contd…

17. Find the positive root of $x^3 - x = 1$ correct to four decimal places by bisection method.
18. Find the inverse of the matrix $\begin{pmatrix} 8 & -4 & 0 \\ -4 & 8 & -4 \\ 0 & -4 & 8 \end{pmatrix}$ using Gauss Jordan method.
19. Evaluate $\int_0^1 e^{-x^2} dx$ by dividing the range of integration into 4 equal parts using (i) Trapezoidal rule, (ii) Simpson's one third rule.
20. Obtain the values of y at x = 0.1, 0.2 using Runge Kutta method of second order for the differential equation $\frac{dy}{dx} = -y$, given y (0) = 1.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME :B.Sc., **COURSE CODE: 17U6PAC4**

COURSE TITLE : Optics and Electricity **QN.NO : 8407**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Which of the following materials are used for making lenses?
   a) quartz b)fused silica c) plastics d) all of them
2. In the visible region of spectrum, the deviation produced for the violet rays of light is
   a) dose not occur b) maximum c) minimum d) zero
3. The Ruby laser was demonstrated by
   a) Huygen's b) C.H. Townes c) T.H. Maiman d) De'Broglie
4. What is the need to achieve population inversion?
   a) To excite most of the atoms
   b) To bring most of the atoms to the ground state
   c) To achieve stable condition
   d) To reduce the time of production of laser
5. The technique by which image is obtained from a hologram is called
   a) Formation b) Construction c) Reconstruction d) Projection
6. The principle of optical fiber communication is
   a) Frequency modulation b) Population inversion
   c) Doppler effect d) Total internal reflection
7. The inverse square law of electrostatic force relates
   a) Strongly relates with charges only
   b) Strongly relates with distance only
   c) Strongly relates with charges and distance
   d) None of these
8. The capacity of a parallel plate capacitor is C. Its capacity, when the separation between the plates is halved will be
   a) 4C b) 2C c) C/2 d) C/4
9. Which of the following material has a negative temperature coefficient of resistance?
   a) Copper b) Aluminum c) carbon d) Brass
10. The substance which have a large number of free electrons and offer a low resistance is called
    a) insulator b) inductor c) semi-conductor d) conductor

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11.a) Comment on direct vision spectroscope.

(OR)

b) What is equivalent focal length? Discuss the theory related with equivalent focal length of the two thin lenses.

12. a) How the stimulated emission differ from spontaneous emission.?

(OR)

b) Mention any two applications of laser.

13. a) What is hologram? Discuss the principle used in hologram.

(OR)

b) Explain the working of fiber optic communication system.

14.a) State and prove gauss's theorem.

(OR)

b) Derive an expression for effective capacitance of series and parallel combination.

15.a) Obtain the Wheatstone's bridge conditions with a neat diagram.

(OR)

b) Explain the working principle of potentiometer. How to calibrate the low range voltmeter with potentiometer?

PART – C **(3x10=30)**

Answer any THREE questions.

16. a) Discuss the optical defects in lenses.

b) A convex lens of focal length 24 cm (μ= 1.5) is totally immersed in water (μ= 1.33). find its focal length in water.

17. Explain the working of He-Ne laser with suitable diagrams.

18. Illuminate the propagation of light through an optical fiber.

19.a) Derive an expression for the electric field due to an infinite long straight wire.

b) Two charges 10^{-6} C and 10^{-8} C repel each other with a force 256 N. calculate the distance between them.

20. Explain the theory of Carey Foster's bridge. Obtain the expression for the determination of the temperature coefficient of resistance.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Physics **COURSE CODE : 17U3PNM1**

COURSE TITLE : Communication Systems **QN.NO : 8413**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. The part of electromagnetic spectrum lying within the frequency range of 100 MHz to 300 GHz is called
   a) Radio wave b) Micro wave c) Visible light d) X rays
2. Radio waves are very much useful in the field of
   a) Medicine b) Satellite communication
   c) Cooking d) fibre optic communication
3. The encoding of signal wave information in a carrier wave by varying the instantaneous frequency of the wave is called
   a) Frequency modulation b) Amplitude modulation
   c) Pulse code modulation d) Pulse width modulation
4. When the modulating frequency is doubled, the modulaton index is _____ in FM system
   a) doubled b) halved c) constant d) None of the above
5. In TV transmission, sound or audio signal is _____ modulated
   a) Amplitude b) Frequency c) Phase d) Angle
6. What determines right intensity in a CRT?
   a) voltage b) current
   c) momentum of e^{-ns} d) Fluorescent screen
7. The Process of converting the analog sample into discrete form is called
   a) modulation b) multiplexing c) Quantization d) sampling
8. Geostationary satellite is an earth or orbiting satellite that revolves in the same direction as the earth rotates from
   a) West to East b) East to West c) North to south d) South to North
9. Which part of the following is called as the heart of CRO
   a) cathode ray tube b) sweep generator
   c) Trigger circuit d) Amplifier
10. An ammeter is connected in _____ with a device to measure its current.
    a) Parallel b) Series c) Shunt d) None of the above

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Describe the various parts of electromagnetic spectrum in the ascending order of frequency.

(OR)

b) List out the uses of microwaves.

12. a) A carrier wave of frequency 10 MHz and peak value 10v is amplitude modulated by a 5Hz sine wave of amplitude 6v. Determine the modulation index.

(OR)

b) The maximum deviation allowed for a certain FM broadcast is 75 KHz and the maximum modulation frequency allowed is 15 KHz. Calculate the deviation ratio and the maximum bandwidth requirements.

13. a) Describe briefly the process of TV transmission and reception.

(OR)

b) What are the advantages of digital communication over analog communication?

14. a) Describe the principle used in Radar communication.

(OR)

b) What are the basic parts of satellite communication?

15. a) Describe the action of ammeter as a current measuring device.

(OR)

b) Describe the action of voltmeter as a voltage measuring device.

PART – C (3x10=30)

Answer any THREE questions

16. Discuss in detail the Principle of Radio Communication.
17. With a neat block diagram explain amplitude modulation in detail.
18. Give a detailed description of basic design of Radar System.
19. Compare and contrast analog and digital communication.
20. Discuss in detail the construction and working of cathode ray oscilloscope.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Physics **COURSE CODE : 17U3PNM1**

COURSE TITLE : Solar system & Solar energy **QN.NO : 8415**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. When viewed from the Earth the light from distant Galaxies shows red shift. This infers that the distant Galaxies are
   (a) revolving around the sun. (b) revolving around the Earth
   (c) moving toward the Earth (d) moving away from the Earth
2. A star like a sun will eventually
   (a) explode like a super nova (b) become a black hole
   (c) change into a white dwarf (d) become a neutron star
3. Which planet has a least distance between the two foci?
   (a) mars (b) venus (c) mercury (d) Earth
4. The EM radiation are given off by the stars is from
   (a) Nuclear fusion (b) Thermal energy
   (c) Nuclear fission (d) radioactive decay
5. Earth's rate of rotation per day is approximately
   (a) 90° (b) 180° (c) 10° (d) 190°
6. Which object in our solar system has greatest density?
   (a) Jupiter (b) Earth (c) Moon (d) Sun
7. Global and diffuse solar radiation can be measured by _____
   a) thermal actinometer (b) heat pumps
   c) thermoelectric pyranometers (d) oscilloscopes
8. Which of the following is generally used to measure direct solar radiation?
   a) Pyranometer b) Actinometer c) Pyrheliometer (d) IC tester
9. In which collector the efficiency is maximum _____
   (a) Flat plate (b) Line focusing
   (c) Evacuated tube (d) Paraboloid dish
10. The solar heater function is to convert the solar energy in to _____.
   (a) radiation (b) Thermal energy
   (c) Electrical energy (d) None of these

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11.(a) Write a note on Galaxies and their types.

OR

(b) Describe the parallax method to find the distance between the planets

12. (a) Explain big bang theory of the universe.

OR

(b) Explain the Steady state theory of the universe.

13. (a) Describe structure of the sun.

OR

(b) Write a note on the solar radiation on the Earth's surface.

14 .(a) Explain sunshine recorder with a diagram.

OR

(b) Explain Pyranometer with a diagram.

15. (a) Describe solar water heating system.

OR

(b) Explain solar distillation

PART – C (3x10=30)

Answer any THREE questions

16. Explain the size, temperature and atmosphere of the planet.

17 .Explain the birth and death of a star.

18 .Explain the structure of the sun and solar radiation at the earth's surface

19. Explain Pyrheliometer and compare with Pyranometer.

20. Write the principle of solar cell. Explain the principle and working of solar cooker.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Physics **COURSE CODE: 17U4PMC4**

COURSE TITLE : Introduction to Classical Mechanics **QN.NO : 8416**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The angular momentum is conserved in the absence of an external _____
   a) torque b) force c) velocity d) mass
2. In the linear harmonic oscillator, the frequency of oscillation is given by ____
   a) $\sqrt{\frac{k}{m}}$ b) $\sqrt{\frac{m}{k}}$ c) $\sqrt{\frac{l}{g}}$ d) $\sqrt{\frac{g}{l}}$
3. A rigid body moving freely in space has _____ degree of freedom
   a) 3 b) 6 c) 9 d) 4
4. $\frac{\partial L}{\partial q_i}$=
   a) $\dot{q}_i$ b) $\dot{P}_i$ c) P_i d) q_i
5. The Lagrangian (L) is _____
   a) T+V b) 2T c) T-V d) 2V
6. The virtual work done of applied forces for a equilibrium system is _____
   a) minimum b) maximum c) zero d) one
7. When the particle is moving under an attractive inverse square law, force is
   a) $-k/r^2$ b) k/r^2 c) ma d) dp/dt
8. The electrical potential energy of the LC circuit is _____
   a) $q^2/2C$ b) $q/2C$d c) $1/2\ Lq^2$ d) $1/2\ Lq^2$
9. Reduced mass is given by
   a) $\mu = \frac{1}{m_1} + \frac{1}{m_2}$ b) $\frac{1}{\mu} = \frac{1}{m_1} + \frac{1}{m_2}$ c) $\mu = m_1 + m_2$ d) $\frac{1}{\mu} = m_1 + m_2$
10. The square of the period of revolutions proportional to the cube of _____
    a) Semi major axis b) Semi minor axis
    c) time period d) radius

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Define Centre of mass. Show that in absence of external forces, the velocity of centre of mass remains constant.

(OR)

b) State and prove work energy theorem.

12. a) Write a note on Degrees of freedom.

(OR)

b) What type of difficulties arise due to the constraints in the solution of mechanical problems and how these are removed?

13. a) Explain the principle of virtual work.

(OR)

b) Deduce the Newton's equation of motion from Lagrange's equations

14. a) Obtain the equation of motion of a simple pendulum using Lagrangian principle.

(OR)

b) Derive equations of motion for a particle moving under central force.

15. a) Define Kepler's laws of planetary motion and deduce that the areal velocity is constant in planetary motion.

(OR)

b) Calculate the height of an equatorial satellite which is always seen over the same point of earth surface ($G= 6.66 \times 10^{-11}$ SI units; $M= 5.98 \times 10^{24}$ kg)

PART – C (3 x 10 = 30)

Answer any THREE questions.

16.a) Calculate the acceleration of the blocks and tension in the string of the Atwood machine

b) A train contains 3 boxes of each mass M and the engine applies a net force F. find the force on each box.

17. Explain holonomic and nonholonomic giving two examples of each.
18. Derive the Lagrange's equations from D'Alembert's principle.
19. Find the Lagrangian equation of motion for an electrical circuit comprising an inductance L and Capacitance C. the capacitor is charged to q coulombs and current flowing in the circuit is I amperes.
20. Discuss a two body problem reduced into a one body problem. Calculate reduced mass of the hydrogen atom.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Physics **COURSE CODE : 17U4PSM3/ 4SP (2008-12)**

COURSE TITLE : Energy Conversion **QN.NO : 8418**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which one of the following is a conventional source of energy?
   a) Solar Energy b) Wind Energy
   c) Wave Energy d) Coal Energy
2. Which of the following atoms are used in Controlled fission reaction to produce heat energy?
   a) U^{235} and Th^{232} b) U^{238} and Pu^{232}
   c) U^{232} and Pu^{235} d) Pu^{234} and Th^{235}
3. As per the National Aeronautics and Space Administration's (NASA), standard value for the solar constant is
   a) 1253 W/m^2 b) 1453 W/m^2 c) 1353 W/m^2 d) 1653 W/m^2
4. The angle of deviation of the normal to the surface from the local meridian where the zero point being south, east positive and west negative is named as
   a) Zenith Angle b) Surface Azimuth Angle
   c) Incident Angle d) Planar Zenith Angle
5. The mechanism which is used to turn the wind turbine rotor against the wind is termed as
   a) Pitch Control b) Yaw Control
   c) Gearing Control d) Coupling Control
6. The type of vertical axis windmill which is used for high velocity wind flow is named as _____ rotor mill.
   a) Savonius type b) Darrieus type
   c) Sail type d) Rigorous type
7. The solidified hot magma (molten mass) is named as
   a) Molten Rock b) Solidified Rock
   c) Igneous Rock d) Epivolcanic rock
8. In a vapour dominated system, the wells deliver steam at temperatures of about
   a) 50 ºC to 150 ºC b) 100 ºC to 200 ºC
   c) 150 ºC to 250 ºC d) 200 ºC to 300 ºC
9. The ocean thermal energy conversion (OTEC) is uses
   a) Energy difference b) Temperature difference
   c) Potential difference d) Kinetic difference
10. Tidal energy development needs
   a) Huge capacity and long construction time
   b) Huge capacity and low construction time
   c) Low capacity and long construction time
   d) Low capacity and low construction time

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b)

11.a) With essential background, explain about the types of energy sources?

(OR)

b) Write a brief note on Thermal and Breeder reactors?

12. a) Explain in detail about pyrheliometer and its types.

(OR)

b) Write a short note on construction and working of solar cell.

13.a) Describe the classification of Wind Energy Conversion System.

(OR)

b) With a neat sketch, explain the horizontal axis wind machines with two aerodynamic blades.

14. a) Write a short note on types of Geothermal resources.

(OR)

b) With a neat sketch, explain about the basic operation of Flashed – Steam Geothermal system.

15.a) Discuss in detail about the Open Cycle Ocean Thermal Electric Conversion (OTEC) System.

(OR)

b)With essentials, describe the principle of Tidal power generation. Also explain its adapted technological features.

PART – C **(3x10=30)**

Answer any THREE questions

16. With a neat sketch, explain the basic operations of Ocean Thermal Electric Conversion System and Geothermal Energy conversion system.

17. Write a brief note on construction and working of Solar Pumps and Solar Furnace.

18.i) With necessary theory, explain the concept of Power in the Wind. (7 Marks)

(ii) If a wind turbine travels with the speed is 10 m/s and has a blade length of 20 m, then determine the power of the wind. Given density of air $\rho = 1.23$ kg/m^3 (3 Marks)

19.(i) With a neat sketch, explain the construction and working of vapour – dominated geothermal power plant. (5 Marks)

(ii) A 300 MW vapour – dominated hydrothermal power plant uses satuated steam at 31 kg/cm^2 at shut–off. The steam is throttled to a turbine at inlet pressure of 9.55 kg/cm^2. A direct contact condenser operates at a pressure of 0.35 kg/cm^2 with the cooling – tower exist is at 25 ºC. The turbine efficiency is 0.80 and the turbine generator combined mechanical and electrical efficiency 0.9. Calculate the following:

(i). The Steam flow rate in kg/hr and m^3/kg

(ii). The cooling water flow in kg/hr.

Given: $H_1 = H_2 = H_3 = 669.7$ kcal/kg (From Steam Table)

$P_3 = 9.55$ kg/cm^2

$v_{s3} = 0.22$ m^3/kg

$S_3 = 1.580$

$T_3 = 190$ºC (degree of superheat = 13ºC)

From Mollier diagram:

S_{4-s} at 0.34 kg/cm^2 = S_3 or $x_{4-s} = 0.838$

$H_{4-s} = h_s + xL = 72 + 0.838 \times 556 = 538$ kcal/kg (5 Marks)

20. (i). Discuss about the estimation of energy and power in simple Single Basin Tidal System. (6 Marks)

(ii). A simple single-basin type tidal power plant has a basin area of 22 km^2. The tide has a range of 10 m. The turbine stops operation when the head on it falls below 3 m. Calculate the average power generated during one filling/emptying process in MW if the turbine-generator efficiency is 74%. Density of sea water is 1025 kg/m^3. Duration of time for single effect is 6 hours and 12.5 minutes. (4 Marks)

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME :NME – Physics **COURSE CODE: 17U4PNM2**

COURSE TITLE : Discovering Physics **QN.NO : 8420**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Earth revolves around the _____

   a) Moon b) Jupiter c) Mars d) Sun

2. Distance of moon from earth is _____

   a) 10^4 m b) 10^8 m c) 10^{-10} m d) 10^{-8} m

3. Compact Disc to see _____ of sunlight.

   a) Splitting b) polarizing c) joining d) observing

4. During night, we see bright twinkling stars because of _____only.

   a) reflection b) refraction c) diffraction d) scattering

5. ___proved that earth revolved around the sun.

   a) Aristotle b) Copernicus c) Galileo d) Millikan

6. _____presented three laws of planetary motion.

   a) Newton b) Galileo c) Einstein d) Kepler

7. _____ is the shortest wavelength of light.

   a) blue b) violet c) red d) yellow

8. Hubble found that there was _____ in the starlight from distant

   a) bright b) colour c) Shift d) decrease

9. Atom is a indivisible _____

   a) Hydrogen b) particle c) molecule d) proton

10. Alpha particle is having _____ charge.

    a) positive b) negative c) neutral d) excess

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11.a) Why did the apple fall down?

(OR)

b) Explain about elements of good theory.

12.a) Write short note on light is a electromagnetic wave.

(OR)

b) How do sun produce light?

13.a) Explain about the moving body.

(OR)

b) Explain : If sun were absent, there would not be an invisible force of gravitation.

14.a) Explain Einstein theory of relativity. Give example.

(OR)

b) Mention outcome of Michelson Morely experiment .

15.a) Explain alpha particle scattering.

(OR)

b) Explain Heisenberg's uncertainty principle.

PART – C **(3x10=30)**

Answer any THREE questions.

16. Write any ten types of Technology with its specific principle.

17. Explain about Rainbow.

18.Explain Newton's first, second and third law of motion with example.

19.Write scientific reasons for universe is expanding.

20.Brief the Bohr's picture of atom.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., **COURSE CODE : 17U4PAC4**

COURSE TITLE : Renewable Energy Sources **QN.NO : 8421**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Direct Solar energy is used for _____
   a) Water heating b) Distillation
   c) Drying d) All of the above
2. Absorption of Solar radiations at earth's surface occur due to presence of
   a) Ozone b) Water vapours
   c) Carbon di-oxide d) All of the above
3. The function of a solar collector is to convert.....
   a) Solar Energy into Electricity b) Solar Energy radiation
   c) Solar Energy thermal energy d) Solar Energy mechanical energy
4. Solar radiation received at any point of earth is called _____
   a) Insolation b) Beam Radiation
   c) Diffuse Radiation d) Infrared rays
5. The n-type semiconductor is formed by doping _____ valence electrons
   a) Bivalent b) trivalent c) pentavalent d) tetravalent
6. _____ effect converts sunlight to electrical energy
   a) Meissner b) Photovoltaic c) Hall d) wind
7. Wind energy is harnessed as _____ energy with the help of windmill or turbine.
   a) Mechanical b) Solar c) Electrical d) Heat
8. _____ is produced by the anaerobic decomposition of organic materials
   a) Methane b) Carbon dioxide c) oxygen d) Nitrogen
9. Geothermal energy is the thermal energy present
   a) On the surface of the earth b) In the interior of the earth
   c) On the surface of the ocean d) None of the above
10. Closed cycle systems use the fluid having _____
    a) High boiling points b) Low boiling points
    c) High viscosity d) low viscosity

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11. a) Write notes on different types of solar collectors.

(OR)

b) Write the applications of solar energy with its general categories.

12. a) Explain Solar Pumping.

(OR)

b) Write a note on thermal electric conversion systems.

13. a) Describe the construction and working of PN junction diode.

(OR)

b) Give the advantages and disadvantages of photovoltaic solar energy conversion.

14. a) Explain the construction of a wind mill.

(OR)

b) Discuss about the Dry processes of Bio-gas production.

15. a) Describe the methods of ocean thermal electrical power generation.

(OR)

b) Write notes on the sources of geothermal energy.

PART – C **(3x10=30)**

Answer any THREE questions.

16. Explain the construction and working of solar water heating systems.
17. Write in detail about the construction and working of Box type solar cooker.
18. Describe the construction of solar photovoltaic system and give its applications.
19. Illustrate the construction and function of KVIC digester with neat diagram.
20. Explain the construction and working of open type OTEC cycle.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME :B.Sc., Physics **COURSE CODE: 17U5PME1**

COURSE TITLE : Relativity and Quantum Mechanics **QN.NO : 8426**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1.Unaccelerated reference frames in uniform motion of translation relative to one another are called_____

a)Galilean frames b)non-inertial frames

c)theory of relativity d)concept of mass

2.The rest mass of Photon is _____

a)Positive b)finite c)infinite d)Zero

3.The energies of electrons liberated by light depend on the _____of the light.

a)speed b)velocity c)frequency d)work function

4.The total mass of the positron and electron is equivalent to _____ Mev.

a)1.02 b)0.51 c)0.75 d)2.04

5. De Broglie waves concept is a _____ behaves in certain ways as through it has a wave nature.

a)rest body b)moving body c)ideal body d)accelerated body

6. The relation for uncertainty principle is _____

a) $\Delta x \Delta p \geq \frac{h}{4\pi}$ b) $\Delta x \Delta p \geq h^2$ c) $\Delta x \Delta p \leq \frac{h}{4\pi}$ d) $\Delta x \Delta p \geq h^3$

7.Validity of Schrodinger's equation says ,it is obtained using the wave function of a _____ particle.

a)rigid b)fixed c)freely moving d)slow oscillating

8.The tunnel effect actually occurs, notably in the case of alpha particles emitted by certain_____ Nuclei.

a)Carbon b)Non-metal c)Sodium d)Radioactive

9.Orbital quantum number , l – value is _____ in their permissible values.

a) l = 1,2,3 b) $l = 0, \pm 1, \pm 2, \ldots\ldots$

c) l = 0,1,2,…… ,(n-1) d) l = -1,-2,-3

10.Wave functions that are unaffected by an exchange of particles are said to be _____ wave function.

a)symmetric b)antisymmetric c)cyclic d)vibration

Contd...

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11)a. Derive the Einstein's mass energy equivalence relation.

(OR)

b. Explain the concept of I) Relativity of simultaneity II) Addition of velocities.

12)a . Describe the photoelectric effect with neat sketch.

(OR)

b. Derive an expression for Compton shift.

13) a . Derive the relation between Phase velocity and Group velocity.

(OR)

b. Describe Davisson and Germer experiment and analyse the electron incident beam graphs.

14)a. Derive Schrodinger's time dependent equation.

(OR)

b. Explain Finite Potential well in energy levels.

15)a. Derive the relation for Separation of variables.

(OR)

b. Discuss about the Electron probability density and also calculate the probability of finding the electron.

PART – C **(3x10=30)**

Answer any THREE questions.

16) a. Explain Length contraction using Lorentz Transformation equations.

b. How fast would a rocket have to go relative to an observer for its length to be contracted to 99% of its length at rest?

17) a. Write note on Pair Production in quantum mechanics.

b. X- rays of wavelength 10.0pm are scattered from a target. I)Find the wavelength of the X-rays scattered through 45° II) Find the maximum wavelength present to the scattered X-rays III)Find the maximum kinetic energy of the recoil electrons.

18) a . Explain the Particle in a box.

b. An electron is in a box 0.10nm across which is the order of magnitude of atomic dimensions. Find its permitted energies.

19)Describe Harmonic oscillator with I) Zero point energy II) Wave functions .

20) Explain the concept of selection rules in the case of energy level for hydrogen transition.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Physics **COURSE CODE : 17U5PMC6**

COURSE TITLE : Thermodynamics and Statistical Mechanics **QN.NO : 8428**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The SI unit of thermal conductivity is _____
   a) $JSm^{-1}{}^{\circ}c^{-1}$ b) $JS^{-1}m^{-1}{}^{\circ}c^{-1}$ c)$JS^{-1}\ m^{-1}{}^{\circ}c$ d) $JS^{-1}\ m{}^{\circ}c^{-1}$
2. Thermal conduction in metals take places by _____
   a) Free electron b) bound electrons
   c) vibration of molecules d) none of these
3. In Carnot cycle, the first step is _____
   a) Isothermal expansion b) isothermal compression
   c) adiabatic expansion d) adiabatic compression
4. The physics underlying the working of a refrigerator closely resembles the ____
   a) Ice formation b) heat engine
   c) vaporization of water d) vapour compression
5. Entropy remains constant in _____ process
   a) Isothermal b) Isochoric c) Isolated d) Adiabatic
6. Which one of the following represents a reversible process ?
   a) ds<0 b) ds=0 c) ds>0 d) ds=1
7. In Joule- Thomson expansion, heating will take place if the temperature of the gasis _____ than its temperature of inversion
   a) Greater b) lower c) equal d) above all
8. The viscosity of He II is practically_____
   a) Zero b) High c) Low d) One
9. In which the probability of occupation index can tend to zero
   a) Maxwell-Boltzmann b) Fermi-Dirac
   c) Bose-Einstein d) None of these
10. Boson particles obey Pauli's exclusion principle _____
    a) True b) False c) Can't say d) sometimes true

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Discuss Ingen-Hausz experiment to compare the thermal conductivity of different metals.

(OR)

b) Explain the construction and working of an Angstrom's pyrheliometer with neat diagram.

12. a) Describe Carnot's ideal heat engine

(OR)

b) State and prove Carnot's theorem.

13. a) Define entropy. Mention its physical significance.

(OR)

a) Prove that in a T-S diagram the slope of isochoric curve is I and that of isobaric curve is $\frac{T}{C_p}$

14. a) Describe Linde's process for the liquification of gases.

(OR)

b) Define air conditioning system. What are the equipments used?

15. a) Define and explain the terms macro state and micro state with an example.

(OR)

b) Explain the need for introducing quantum statistics.

PART – C (3x10=30)

Answer any THREE questions

16. Discuss the rectilinear flow of heat along a bar of uniform area of cross section with special cases.
17. Describe with necessary theory, the construction and working of a Diesel engine. Explain its merits.
18. Derive Maxwell's thermodynamical general equations connecting the thermodynamic variables
19. Explain the necessary theory of the method of production of two temperature by adiabatic demagnetization of a paramagnetic salt.
20. Derive Maxwell-Boltzmann distribution law.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME :B.Sc., Physics **COURSE CODE: 17U6PME2**

COURSE TITLE : Atomic and Nuclear Physics **QN.NO : 8432**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Which of the Bohr's postulates was incorrect?
   a) Energy of electrons is quantized
   b) Momentum of electrons is quantized
   c) Electrons release energy when shifting from excited state to ground state
   d) Electrons revolve around the nucleus in fixed circular orbits
2. Which of the following orbitals do not exist?
   a) 3p b) 4s c) 2s d) 3f
3. Zeeman effect is the splitting of spectral line in the presence of _____
   a) Electric Field b) Magnetic Field
   c) Inert Environment d) Vacuum
4. At-higher magnetic fields, the splitting of spectral lines is disturbed. This effect is called _____
   a) Stark Effect b) Inverse Zeeman Effect
   c) Paschen-back effect d) Anomalous Zeeman effec
5. Stability is maximum for nuclei contains
   a) even –even b) even-odd
   c) odd-even d) odd-odd nucleons
6. Liquid drop model can account for
   a) magic numbers b) binding energy
   c) spins d) nuclear fission
7. In a syncro cyclotron
   a) magnetic and electric fields are constants
   b) magnetic field is variable ,but electric fields is constants
   c) magnetic field is constant ,but electric fields is variable
   d) magnetic and electric fields are variable
8. Electrons can be accelerated to very high speed (energy) by means of
   a) Thyratrons b) Betatrons c) cyclotron d) magnetrons
9. Leptons are
   a) heavier particles b) lighter particles c) hyperons d) anti particles
10. Baryons are
    a) heavier particles b) lighter particles c) photons d) X-rays

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11.a) Explain Rutherford atom model.

(OR)

b) Explain L-S and J-J coupling.

12. a) State and explain Pauli's exclusion principle as equated to electrons in an atom.

(OR)

b) Explain Stark effect.

13. a) Discuss the general properties of nucleus.

(OR)

b) Explain the tunnel theory of α decay .

14. a) Describe the construction and working of an Ionisation chamber.

(OR)

b) Explain the sources of stellar energy.

15. a) Write short note on Latitude and East West effect.

(OR)

b) Explain the four fundamental interactions.

PART – C **(3x10=30)**

Answer any THREE questions.

16. Explain Bohr atom model. Calculate the radius of energy of the electron in the nth orbit of the hydrogen atom .

17. i) Explain Zeeman effect.

ii) Calculate the wavelength spectrum between the unmodified line of wavelength 6000 A^0 and the modified lines when a magnetic induction of 1 wbm^{-2} is applied in normal Zeeman effect.

18. Explain liquid drop model of the nucleus. Calculate the cubic no of the most nucleus for a given mass number A.

19. Describe G.M counter and explain its working as a particle detector.

20. Explain quark model.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME :B.Sc., Physics **COURSE CODE: 17U6PME3 /6P1 (Upto 2012)**

COURSE TITLE : Solid State Physics **QN.NO : 8433**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Which of the following element is an example for ionic solids?
   a) Sodium chloride b) lead
   c) aluminium d) germanium
2. What is the nature of bonding in CH_4?
   a) covalent b) ionic c) metallic d) disoersion
3. In cubic crystals the atoms are packed in a cubic pattern with _____ different types of repetition.
   a) 3 b) 1 c) 2 d) 4
4. Number of lattices with cubic structure are _____
   a) 3 b) 4 c) 3 d) 1
5. Manganin is an alloy of
   a) 87% Cu, 13% Mn b) 60% Cu, 15% Mn 25% Ni
   c) 80% Cu, 10% Mn 10% Ni d)None of these
6. Which of the following statement is true?
   a) The electrical conductivity of a metal increases with temperature
   b) The electrical conductivity of a semiconductor increases with temperature
   c)The resistivity of a semiconductor increases with temperature
   d) Metals and semiconductors have similar electrical conducting properties
7. According to Debye's theory of specific heat of solids, the frequency of vibration of lattice has
   a) fixed value b. some discrete values
   b) continuous spectrum upto a finite value
   c) continuous spectrum upto infinity
   d) some discrete values
8. At low temperatures, the mean free path andcollision time of an electron in metal are
   a) proportional to 1/T b) proportional to 1/ T2
   c) 1/ T3 d) inependent of T
9. 1 Bohr mageton is _____
   a) 9.27×10^{-27} amp m^2 b) 9.27×10^{-27} amp
   c) 6.27×10^{-27} amp m^2 d) 8.27×10^{-27} amp m^2
10. The _____has no permanent magnetic dipole moment.
    a) diamagnetic b) paramagnetic c) ferrimagnetic d) anti ferrimagnetic

Contd...

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11.a) Explain Ionic bonding.

(OR)

b) Give the properties of Covalent compounds.

12.a) Describe briefly the seven system of crystals.

(OR)

b) Explain ZnS and NaCl cubic structure.

13.a) Explain Meissner effect.

(OR)

b) Give the advantages of semiconductor devices.

14.a) Give the assumptions for the classical theory of Lattice specific heat.

(OR)

b) Obtain the expression for Debye's frequency.

15.a) Writs a short note on magnetization.

(OR)

b) Explain the domain model of Ferromagnetism.

PART – C **(3x10=30)**

Answer any THREE questions.

16. Calculate the Madelung constant for NaCl.

17. Describe Bragg's spectrometer and explain how it is used to determine the wavelength of X- rays.

18. Explain Type I and Type II superconductors.

19. Explain Einstein's theory of specific heat.

20. Explain Langevin's theory of diamagnetism.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Physics **COURSE CODE : 17U6PMC8 / 6P2 (Upto 2012)**

COURSE TITLE : Digital Electronics and Instruments **QN.NO : 8434**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Which of the following is a universal logic gate?
   a) AND b) OR c) Ex-OR d) NOR
2. According to Boolean law, A + 1 = _____.
   a) A b) 1 c) 0 d) A'
3. The 2's complement of 1011011 is _____
   a) 0100011 b) 0110101 c) 0100011 d) 0100101
4. In the toggle mode, a JK flip flop has _____
   a) J =0, K =1 b) J =1, K =1 c) J =0, K =0 d) J =1, K =0
5. A register can be defined as _____
   a) a group of transistors for storing n bit of information
   b) a group of transistors for storing 2 bit of information
   c) a group of flip-flops for storing 1 bit of information
   d) a group of flip-flops suitable for storing binary information
6. How many different states does a 3-bit asynchronous counter have?
   a) 2 b) 4 c) 8 d) 16
7. The op-amp can amplify _____
   a) AC signals only b) DC signals only
   c) Both AC and DC d) Neither AC nor DC
8. A non inverting amplifier has R_i of 1 kΩ and R_f of 10 KΩ. The closed loop voltage gain is ____.
   a) 1 b) 10 c) 11 d) 100,000
9. The sensitivity of the CRO is determined by _____
   a) Trigger sweep b) Vertical amplifier
   c) Horizontal deflecting system d) Operating voltage
10. A dual beam CRO uses _____
    a) two electron guns b) one electron gun
    c) two time base generator circuits d) electronic switch

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11. a) Describe the different types of logic gates with its logic diagram and truth table.

(OR)

b) What is a Karnaugh map? Explain briefly about pairs, quads and octets.

Contd…

12.a) Describe the working of full adder circuit with its neat circuit diagram and truth table.

(OR)

b) Explain how the slave responds to the master in a JK Master-Slave flip-flop.

13.a) Explain the operation of a 3-bit asynchronous counter with its truth table and waveforms.

(OR)

b) Draw the diagram of 4 bit serial in-serial out shift register and describe its operation.

14.a) Draw the schematic diagram of op-amp and describe the ideal characteristics of op-amp.

(OR)

b) Explain how an operational amplifier can be used as an integrator.

15.a) Discuss the important features of cathode ray tubes.

(OR)

b) Explain the procedure for measuring the frequency using Lissajou's method.

PART – C (3x10=30)

Answer any THREE questions.

16.a) Convert the binary number 1011 1100 into its decimal equivalent.

b) Convert the decimal number 65 into its binary equivalent.

c) Convert the octal number 3574 into its binary equivalent

d) Convert the hexadecimal number C5E2 into its binary equivalent,

e) Using Boolean techniques simplify the expression,

$$Y = AB + A(B + C) + B(B + C)$$

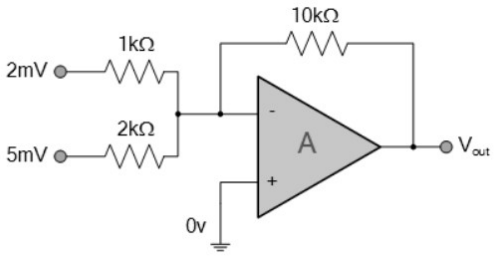
17.Explain the functionality of RS flip-flop with its diagram and truth table.

18.a) Explain the working of a 4 bit binary ladder with its neat circuit diagram.

b) Find the output voltage from a 5 bit ladder that has a digital input of 11010. Assume that 0 = 0V and 1= +10V.

19.a) Describe the working of a unity follower with its neat circuit diagram.

b) Find the output voltage of the adder circuit given below.



20.Draw the block diagram of CRO and explain the functions of each block.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME :B.Sc., Physics **COURSE CODE: 17U6PSM4 /6P3 (Upto 2012)**

COURSE TITLE : 8085 up Architecture and Programming **QN.NO : 8437**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. The process of data manipulation and communication is determined by the logic design of the microprocessor called
   a) Architecture b) external operations
   c) internal operations d) interfacing
2. Which one of the following is a status signal
   a) $\overline{RD}$ b) $\overline{WR}$ c) $\overline{IO/M}$ d) MEMR
3. Which one of the following instruction is not an arithmetic instruction
   a) ADD b) DCR c) SUB d) CMA
4. The results of the arithmetic and logic operations are usually placed in
   a) Accumulator b) H-L pair register
   c) flags d) peripheral devices
5. The instruction used to rotate the accumulator content right
   a) RAR b) RAL c) RRC d) RLC
6. Which one of the 8085 µp instruction is used for register addressing
   a) CMP R b) CMP M c) MOV R, M d) MOV M, R
7. In the 8085 µp, 8-bit registers can be combined as register pairs to manipulate
   a) 8-bit data b) 16-bit data c) 32-bit data d) 24-bit data
8. A counter is designed simply by loading an appropriate number into one of the registers and using the instruction
   a) INR b) DCR c) both a&b d) none of these
9. A group of instructions written separately from the main program to perform a function that occurs repeatedly in the main program is called
   a) loop b) stack c) subroutine d) pointer
10. In an 8085 µp system can be described as a set of memory locations in the R/W memory specified by a programmer in a main program is
    a) loop b) stack c) subroutine d) pointer

Contd...

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11. a) What is a bus? Explain the different buses in a microcomputer system.

(OR)

b) What is meant by demultiflexer ? How will you demultiplex the bus lines $AD_7 – AD_0$?

12. a) Discuss about the addressing modes of 8085 µp.

(OR)

b) What are branch operations? Explain the unconditional jump instruction with a suitable illustrative program.

13. a) Define looping and counting. Explain the concepts of continuous and conditional loop with suitable example.

(OR)

b) Give a note on compare operations of 8085 µp with a suitable illustrative program.

14. a) Comment about the use time delay in 8085 µp. Explain the concept of time delay using one register.

(OR)

b) Draw the flow chart and explain the concept of counter design with time delay.

15. a) Define the term subroutine. Explain the use CALL and RET instructions used in 8085 µp.

(OR)

b) Illustrate the program for the available memory ranges from 2000 H to 20FF H, the contents of various registers when PUSH and POP instructions executed.

PART – C **(3x10=30)**

Answer any THREE questions.

16. Give the detailed block diagram for 8085 µp and its architecture.
17. Explain the arithmetic and logic operations of 8085 µp with suitable example.
18. Illustrate the program with block of transfer of data bytes.
    Problem statement: sixteen bytes of data are stored in memory locations at XX50 H to XX5F H. transfer the entire data to new memory locations starting at XX70 H.
19. Demonstrate time delay sing a loop within a loop technique with necessary flow chart.
20. Write a program for traffic controller with flow chart.

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SEMESTER EXAMINATIONS –APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSE CODE : 17U1CMC1**

COURSE TITLE : General Chemistry - I **QN.NO : 8601**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. In the spectrum of hydrogen atom, the series which falls in ultraviolet region is
   a) Balmer series b) Brackett series c) Lyman series d) Paschen series
2. The effect of electric field on the spectra of atoms is called
   a) Zeeman effect b) Stark effect
   c) Photoelectric effect d) Compton effect
3. Who developed the long form of periodic table?
   a) Niels Bohr b) Lother Mayer c) Mosley d) Mendeleev
4. The element with maximum electron affinity is
   a) I b) F c) Br d) Cl
5. Select the most stable carbonium ion from the following
   a) $(CH_3)_3C^+$ b) $CH_3CH_2^+$ c) $(CH_3)_2CH^+$ d) CH_3^+
6. Among the following, which compound undergo electrophilic addition reaction?
   a) acetone b) ethylene c) methane d) acetaldehyde
7. Which of the following pairs represents isotones?
   a) ${}_1H^1$ & ${}_1H^2$ b) ${}_{10}Ne^{22}$ & ${}_{11}Na^{23}$ c) ${}_6C^{14}$ & ${}_8O^{16}$ d) ${}_{18}Ar^{40}$ and ${}_{19}K^{40}$
8. Radiation is used in cancer treatment to
   a) relieve pain b) obtain images in the diseased region
   c) destroy cancer causing substances d) destroy cancer cells
9. The number of atoms in a unit cell of a face centered cube is
   a) 2 b) 4 c) 6 d) 8
10. In Bragg's equation $n\lambda = 2d\sin\theta$, 'n' represents
    a) the principal quantum number b) the Avogadro's number
    c) the order of reflection d) the number of moles

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Describe the Davison & Germer experiment for the verification of wave nature of electrons.

(OR)

b) State and explain

i) Heisenberg's uncertainty principle ii) Aufbau principle

12. a) Discuss the salient features of long form of periodic table.

(OR)

b) Define ionization energy. How does it vary along the periods and groups in periodic table?

13. a) Enlist the classification of organic compounds with examples.

(OR)

b) Give an account of the following reactions

i) substitution reaction ii) elimination reaction.

14. a) Write the properties of α, β and γ radiations.

(OR)

b) What is nuclear fission? Explain any one application of it with examples.

15. a) With neat diagram explain the structure of diamond & graphite.

(OR)

b) i) Define Miller indices.

ii) Derive the relation $n\lambda = 2d\sin\theta$ in crystallography

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Discuss the origin of quantum numbers and their significance.
17. a) What are *s* block elements? Explain its characteristics of on the basis of their electronic configuration (5)

b) How are electronegativity scales determined by Pauling's method? (5)

18. Discuss about the formation, stability, structure & geometry of carbocations.
19. a) State and explain Group displacement law. (3)

b) Define binding energy of a nucleus. Explain the stability of the nuclei with the help of binding energy curve. (7)

20. a) How is Avogadro's number determined from X-ray diffraction of crystals? Explain. (6)

b) Write a note on Frenkel defect. (4)

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSE CODE : 17U1CSM1**

COURSE TITLE : Industrial Chemistry **QN.NO : 8602**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. _____ is obtained from the products of distillation of coal.
   a) Lead azide b) potassium chlorate
   c) Ammonium Nitrate d) Trinitrotoluene
2. Detonators belong to _____
   a) Secondary explosive b) primary explosive
   c) High explosive d) Propellents
3. Octane number is the measure of _____
   a) Petrol cracking b) diesel cracking
   d) Petrol knocking d) diesel knocking
4. Fire point of a given fuel is _____ than the flash point.
   a) Equal and lesser b) greater c) lesser d) equal and greater
5. The quality of cement tested by
   a) Particle size b) Air permeability
   c) Molten period d) All the above
6. _____ Cement is totally free from iron complex.
   a) quick setting b) white c) Portland d) high - alumina
7. The quality of cement is tested by
   a)Particle size b)Air permeability c) Molten period d) All the above
8. _____ is Paper filler and a coating pigment, which imparts excellent opacity and brightness.
   a) Talc b) day c) Pcc d) Tio_2
9. Toilet soap is a mixture of _____
   a) Fatty acids and glycerides b) potassium salt of fatty acids
   c) Calcium salts of fatty acids d) sodium salt of fatty acids
10. Which among the following is known as inert detergent?
    a) Anionic detergent b) cationic detergent
    c) Syndets d) non – ionic detergent

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Give a brief account on (i) Lead azide (ii) Ammonium nitrate

(OR)

b) Discuss the working mechanism of primary explosive with an example.

12. a) What is petroleum? List out its constituents with composition.

(OR)

b) Differentiate cetane number and octane number with their importance

13. a) What do you meant by setting of cement?

(OR)

b) Explain the factors affecting the quality of cement.

14. a) What are the raw materials for paper industry?

(OR)

b) What is calendaring? Write note on their applications.

15. a) Explain the following process. (i) oxoprocess (ii) welsh process

(OR)

b) Describe the biodegradability of surfactants.

PART – C (3x10=30)

Answer any THREE questions

16. Explain the manufacturing process of safety matches.

17. a) What is synthetic petrol? How it is prepared? **(5)**

b) Explain the process involved in the refining of petroleum. **(5)**

18. a) List out the raw materials needed for cement manufacture. **(3)**

b) Describe the reactions taking place in the kiln in cement manufacture. **(7)**

19. Discuss in detail the manufacturing process of paper.

20. a) Discuss the cleaning action of detergents. **(4)**

b) What are the principal groups of synthetic detergents? **(6)**

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SEMESTER EXAMINATIONS –APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 17U1CAC1**

COURSE TITLE : Ancillary Chemistry - I **QN.NO : 8603**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The presence of three unpaired electrons in the nitrogen atom can be explained by
   a) Pauli's exclusion principle b) Hund's rule
   c) Aufbau principle d) Uncertainty principle
2. The maximum number of electrons in a principal shell are……
   a) n b) n^2 c) $2n^2$ d) $3n^2$
3. The formula of ethanoic acid is……..
   a) CH_3CHO b) CH_3COCH_3 c) CH_3COOH d) CH_3CH_2COOH
4. Which one of the following is an amine group?
   a) -OH b) -CO- c) $-NHCOCH_3$ d) $-NH_2$
5. …….is an example of ionic bond
   a) NaCl b) CH_4 c) $CH_2= CH_2$ d) $[Co(NH_3)_3Cl_3]$
6. HCl is an example of ……..
   a) s-s overlapping b) s-p overlapping
   c) p-p overlapping d) none of these
7. The substance which is held on to the solid surface is termed……
   a) adsorbent b) adsorbate c) interface d) sorbent
8. Which of the following involves multilayer formation?
   a) Chemisorption b) physisorption
   c) absorption d) none of these
9. The reaction catalyzed by one of the products formed is an example of
   a) homogenous b) heterogenous c) auto d) negative catalyst
10. The phenomenon of negative catalysis is also known as
   a) auto catalysis b) inhibition
   c) self catalysis d) enzyme catalysis

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11.a) Describe Sommerfeld extension of Bohr theory of structure of atom.

(OR)

b) Explain the following terms:
(i) Hund's Rule (ii) Pauli's exclusion principle

12.a) Discuss about the classification of organic compounds.

(OR)

b) What are functional groups? Briefly discuss the various functional groups in organic chemistry.

13.a) Describe the types of bonds.

(OR)

b) Explain the three types of overlapping.

14.a) Write the notes on:
(i) adsorption (ii) occlusion (iii) absorption (iv) adsorbent

(OR)

b) Distinguish between physisorption and chemisorption.

15.a) Explain the difference between homogenous and heterogeneous catalysis.

(OR)

b) Explain the following terms:
(i) positive (ii) negative (iii) auto catalysis

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. What do you understand by quantum number? Explain the four quantum numbers and also explain their significance.

17. Illustrate the type of organic reaction with suitable examples.

18. Define hybridization. Discuss the sp^3 hybridization with suitable example.

19. (i) What are the factors influencing adsorption process?
(ii) List out the four applications of adsorption.

20. Write notes on: (i) catalytic poison (ii) Acid base catalysis

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SEMESTER EXAMINATIONS –APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSE CODE : 17U2CMC2**

COURSE TITLE : General Chemistry - II **QN.NO : 8604**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. At constant temperature, the volume of a given mass of a dry gas is inversely proportional to its pressure. This is
   a) Boyle's law b) Charles law
   c) Avogadro's law d) Dalton's law
2. Which of the following relationship between C_p and Cv is correct?
   a) C_p x Cv =R b) C_p +Cv = R c) C_p / Cv =R d) C_p – Cv = R
3. In the equation $\hat{A}\Psi=E\Psi$, 'E' is called
   a) Eigen value b) Eigen operator
   c) Eigen function d) Hermitian operator
4. Which of the following is not the condition to be satisfied by an eigen wave function?
   a) The function should be finite
   b) The function should be single valued
   c) The function should be continuous
   d) The function may not be normalized
5. Which of the following is not an ionic compound?
   a) NaCl b) CaF_2 c) MgO d) NH_3
6. Which of the following hybridization has linear shape?
   a) sp b) sp^3 c) sp^2 d) dsp^2
7. An example for an aromatic compound is
   a) Ethane b) Propane c) Benzene d) Butene
8. The negative part of the addendum attaches to the carbon atom which contains the least number of hydrogen atoms is known as
   a) Markownikoff's rule b) Peroxide effect
   c) Saytzeff's rule d) Hofmann rule
9. Which of the following is not an example for salt-like hydride?
   a) LiH b) NaH c) CaH_2 d) NH_3
10. Which of the following is not belonging to alkaline earth metals?
    a) Be b) Mg c) Na d) Ca

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Define the following: i) Most probable velocity ii) RMS velocity iii) Collision frequency iv) Mean free path (2+2+1.5+1.5)

OR

b) Explain any one method for the liquefaction of gases.

12.a) i) Write down the significance of wave function. (3)

ii) Define the Laplacian and Hermitian operators. (4)

OR

b) Describe briefly the angular and radial parts of the wave functions.

13. a) Explain the Born-Haber cycle.

OR

b) Discuss briefly the MO diagram of O_2 molecule.

14. a) How are alkanes prepared by Wurtz reaction and Kolbe's electrolytic method?

OR

b) Discuss the mechanism of E_1 with suitable example.

15. a) Describe the covalent hydrides and interstitial hydrides with suitable examples.

OR

b) Explain the diagonal relationship between Be and Al.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. What are real and ideal gases? Derive the Vander Waal's equation of state.
17. Derive the Schrodinger wave equation. Using this equation, derive an expression for the energy of a particle in one-dimensional box.
18. a) Explain any two factors which favour the formation of covalent bonds. (4)

b) Discuss the geometry of H_2O and SF_4 using VSEPR theory. (6)

19. Describe briefly the 1,4- addition and 1,2- addition reactions of alkadienes with suitable examples.
20. a) Give the preparation, any two uses of Lithium aluminium hydride and Plaster of Paris. (5)

b) How is beryllium extracted from its important ore? (5)

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SEMESTER EXAMINATIONS –APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSE CODE : 17U2CSM2**

COURSE TITLE : Metallurgy & Food Chemistry **QN.NO : 8606**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Calcinations is used in metallurgy for the removal of-----
   a) moisture b) CO_2 and H_2S c) H_2O and H_2S d) H_2O and CO_2
2. Roasting is generally done in the case of --- ores
   a) oxide b) sulphide c) silicate d) carbonate
3. Copper can be extracted from---
   a) dolomite b) kupfernical c) Malachite d) galena
4. The process of zone refining is used in the purification of -----
   a) Si b) Al c) Cu d) Ag
5. The substance intentionally added that preserve flavor and improve taste is known as
   a) Food adultrant b) Food additive c) contaminant d) Food material
6. Which of the following is the functionof food additive?
   a) To maintain nutrient value b) Controlling acidity
   c) Controlling basicity d) All the above
7. Which stage does adulteration take place in?
   a) Producer b) Distributor c) Retailer d) All the above
8. Which among the following is an adultrant/
   a) urea b) pesticide c) Both a and b d) sugar
9. hydrogenation of oil is catalyzed by
   a) Ni b) Ti c) Sn d) Pb
10. Which among the following is not a source of vegetable oil?
    a) palm kernel b) butter c) olive d) coconut

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11.a) Explain alumino thermic reduction with suitable example.

(OR)

b) i) Bring out the differences between ores and minerals
ii) What is meant by calcinations?

12. a) Sketch and explain the features of Ellingham diagram.

(OR)

b) What is electrolytic refining? Explain with a diagram.

13.a) Give a detailed account on food colours

(OR)

b) Write a note food flavours:

14. a) What are food adulterants? Explain their classes with suitable examples

(OR)

b) Mention some contaminants in foods and their health effects.

15. a) List out the compositions and applications of oils and fats

(OR)

b) Illustrate the effect of prolonged heating on nutrient values of oils and fats

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16.Explain the different types of concentration process in metal extraction.
17.Explain how aluminum is extracted from bauxite ore
18.What are food additives? How are they classified? Explain their critical limit and uses.
19.Define the term deterioration .Explain the process of deterioration by microorganism and water.
20.Write a note on:
a) Hydrogenation of oil
b) Role of oils and fats in cooking

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 17U2CAC2 / 17U4CAC2**

COURSE TITLE : Ancillary Chemistry - II **QN.NO : 8607**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Across period atomic size decreases due to
   a) shielding effect b) photoelectric effect
   c) increase in nuclear force of attraction
   d) decrease in nuclear force of attraction
2. Energy required to remove an electron from outermost shell is called
   a) potential energy b) kinetic energy
   c) mechanical energy d)ionization energy
3. In pH , the p stands for
   a) Potential b) Proton c) Primitive d) process
4. A buffer solution comprises which of the following?
   a) A weak acid in solution b) A strong acid in solution
   c) A weak base in solution
   d) A weak acid and its conjugate base in solution
5. Identify the simplest alkane
   a) Methane b) Methene c) Ethane d) Ethene
6. Alkynes cannot be prepared from
   a) Ketones b) Alcohols c) Aldehydes d)Other alkynes
7. Which of the following is an example of monosaccharide?
   a) Galactose b) Sucrose c) Lactose d) Maltose
8. Which of the following is true about monosaccharides?
   a) They cannot be hydrolyzed b) They can be hydrolyzed
   c) They have sour taste d) They are insoluble in water
9. Which of the following carbohydrates is a triose?
   a) Glucose b) Ribose c) Ribulose d) Glyceraldehyde
10. Lactose is a disaccharide of which of the following sugar units?
    a) Glucose and fructose b) Glucose and galactose
    c) Glucose and sucrose d) Glucose and ribose

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Explain the characteristics of long form of periodic table.

(OR)

b) Describe the characteristics of d-block elements.

12. a) Explain the following terms:

i) Normality ii) Molarity iii) Molality

(OR)

b) Derive Henderson's equation.

13. a) Write a note on the preparation and properties of ethylene.

(OR)

b) Discuss the preparation and properties of dimethyl ether.

14. a) What are carbohydrates? How are they classified?

(OR)

b) Explain the configuration of glucose.

15. a) Differentiate between glucose and sucrose.

(OR)

b) Discuss the structure, properties and uses of starch.

PART – C (3x10=30)

Answer any THREE questions

16. Explain the following periodic properties:

i) Atomic radii ii) Ionic radii

iii) Ionization energy iv) Electron affinity

v) Electron negativity

17. What is meant by pH? Discuss the applications of common ion effect in detail.

18. Explain the preparation, properties and uses of methanol and ethanol.

19. Define mutarotation? How will you convert the following?

i) Glucose to fructose ii) Fructose to glucose

20. Describe briefly about the manufacture process, properties and uses of sucrose.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 17U3CAC1**

COURSE TITLE : Ancillary Chemistry - I **QN.NO : 8610**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The presence of three unpaired electrons in the nitrogen atom can be explained by
   a) Pauli's exclusion principle b) Hund's rule
   c) Aufbau principle d) Uncertainty principle
2. The maximum number of electrons in a principal shell are……
   a) n b) n^2 c) $2n^2$ d) $3n^2$
3. Which of the following represents the electronic configuration of an inert gas?
   a) $1s^2,2s^2, 2p^6$ b) $1s^2,2s^2, 2p^3$ c) $1s^2,2s^2, 2p^5$ d) $1s^2,2s^2, 2p^0$
4. Which one of the following is the spherical shape orbital?
   a) s b) p c) d d) f
5. Which one of the following is an alcohol group?
   a) -OH b) -CO- c) $-NHCOCH_3$ d) $-NH_2$
6. The formula of acetic acid is……..
   a) CH_3CHO b) CH_3COCH_3 c) CH_3COOH d) CH_3CH_2COOH
7. Cl_2 is an example of ……..
   a) s-s overlapping b) s-p overlapping
   c) p-p overlapping d) none of these
8. …….is an example of co-ordinate bond
   a) NaCl b) $[Co(NH_3)_3Cl_3]$ c) $CH_2= CH_2$ d) CH_4
9. Which of the following is not a reversible process?
   a) Chemisorption b) physisorption c) absorption d) none of these
10. The substance which is held on to the solid surface is termed……
    a) adsorbent b) adsorbate c) interface d) sorbent

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11.a) Explain the Rutherford model of atom and their defects.

(OR)

b) Describe the postulate of Bohr model of atom.

12.a) Discuss the following terms: (i) Hund's rule of maximum multiplicity (ii) Aufbau principle.

(OR)

b) Write notes on: (i) Heisenberg's uncertainty principle (ii) Electronic Configuration

13.a) Describe the classification of organic compounds.

(OR)

b) Explain the various functional groups in organic chemistry.

14.a) Describe the types of chemical bonds.

(OR)

b) Illustrate the three types of overlapping.

15.a) What are the factors influencing adsorption process?

(OR)

b) List out the Difference between physisorption and chemisorption.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16.How does Bohr's model explain the atomic spectrum of hydrogen?

17.Explain the shape of orbitals.

18.Clarify the type of organic reaction with suitable examples.

19. Define hybridization. Discuss the sp^3 hybridization with suitable example.

20. Describe the applications of adsorption.

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SEMESTER EXAMINATIONS–APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 17U3CAC3/17U5CAC**

COURSE TITLE : Ancillary Chemistry - III **QN.NO : 8611**

TIME : 3 Hours **MAX.MARKS :75**

PART–A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which one of the following is an anti-sterility vitamin?

   a) Vitamin-A b) Vitamin – E c) Vitamin – D d) Vitamin – K

2. Deficiency of which one of the following vitamin causes Xerophthalmia in humans.

   a) Vitamin B1 b) Vitamin C c) Vitamin A_1 d) Vitamin D

3. Which one of the following is required for normal pregnancy in female?

   a) Progesterone b) Equilenine c) Testosterone d) Androsterone

4. Which one of the following is secreted by thyroid gland?

   a) Adrenaline b) Cortisone c) Testosterone d) Thyroxine

5. Which one of the following amino-acid is optically inactive?

   a) Alanine b) Glycine c) Valine d) Isoleucine

6. Which one of the following is a globular protein?

   a) Insulin b) Collagen c) Fibroin c) Myosin

7. The principle behind working of nuclear reactor is:

   a) Nuclear fusion b) Uncontrolled Nuclear Fission

   c) Controlled Nuclear Fission d) None of these

8. Which of the following radioactive element is used to shrink thyroid?

   a) Iodine -131 b) samarium-153 c) Iridium-192 d) Phosphorus -32

9. If a photochemical reaction has higher quantum yield than unity, it indicates_____ reaction:

   a) Irreversible b) reversible c) Chain d) None of these

10. Photosynthesis is a _____

    a) Photoreduction of CO_2 b) Photooxidation of CO_2

    c) both (a) and (b) d) none of these

Contd...

PART–B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Define vitamins. Describe their classification.

(OR)

11. b) What are the symptoms of the disease caused by the deficiency of vitamin A? Discuss the role of vitamin A in night vision.

12. a) What are thyroid gland hormones? Describe the source and importance of thyroxine hormone.

(OR)

12. b) What are hormones? Give one example of male sex hormone. Draw its structure. Describe its important functions.

13. a) How are amino acids related to proteins? Describe the important properties and reaction of proteins.

(OR)

13. b) Define protein? Describe its classification.

14.a) Briefly explain the following:
i) Group displacement law ii) Carbon dating. (3+4)

(OR)

14. b) Compare and contrast nuclear fission and nuclear fusion

15. a) Briefly describe Jablonski diagram with a neat sketch.

(OR)

15. b) Compare and contrast thermal and photochemical reactions.

PART–C (3 x 10 = 30)

Answer any THREE questions.

16. a) What do you understand by the term "vitamin B complex"? Discuss the role of various members of this group to eliminate the disease caused by their deficiency.
b) What is meant "anti-hemorrhagic" factor? Give the symptoms of the diseases caused by its deficiency. (5+5)

17. Write an essay on the role of progesterone and estrogen as female sex hormones.

18. Write notes on:
i) Amino acids ii) Peptide linkage iii) Zwitter ion (3+3+4)

19. Briefly discussion the applications of radioactivity in:
i) Medicine ii) Agriculture iii) Industry (3+3+4)

20. State and explain the following:
i) Grothus-Draper's law ii) Stark-Einstein's law iii) Quantum yield (4+4+3)

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SEMESTER EXAMINATIONS –APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSE CODE : 17U3CSA1/ 17U5CSA2**

COURSE TITLE : Applied Chemistry **QN.NO : 8612**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The hardness of water is expressed in _____
   a) ml b) mol.l-1 c) mg d) ppm
2. Which among the following do not form precipitate with hard water?
   a) Soap b) Soap oil c) Detergent d) All the above
3. The secondary nutrient in fertilizers are _____
   a) Sulfur b) calcium c) Magnesium d) all the above
4. Ammonium phosphate is an example of _____
   a) Natural fertilizer b) Chemical fertilizer
   c) Both a and b d) Insecticides
5. A condensation polymer among the following is_____
   a) Dacron b) PVC c) Polystyrene d) Teflon
6. The monomer of PVC is_____
   a) Vinylene chloride b) Vinyl chloride
   c) Ethylene d) Propylene
7. Which among the following is the monomer of polystyrene is_____
   a) ethylene b) styrene c) Stilbene d) HCHO
8. Polyacrylonitile is the polymer of_____
   a) CH2=CH-Cl b) CH2=CH-CN c) CH2=CH-COCH3 d) CH2=CH-CHO
9. Chemical action corrosion converts metal into metallic component as
   a) Hydroxide b) Oxide c) Sulfide d) All the above
10. Which type of chemical reaction is observed at cathode in electrochemical corrosion?
    a) oxidation b) reduction c) redox d) None

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) What is meant by temporary and permanent hardness? Summarize the disadvantages of hard water.

(OR)

b) Illustrate reverse osmosis in purification of water.

12. a) Describe the role of various elements in plant growth.

(OR)

b)What are fertilizers? How are they classified?

13. a) Define the terms Monomer and polymer. Illustrate with examples.

(OR)

b)How are polymer classified?

14. a) Explain the preparation and uses of polyurethane.

(OR)

b)What is Kevlar? Give its preparation and uses.

15. a) What is meant by corrosion? Illustrate different types of corrosion.

(OR)

b)State the various factors affecting corrosion process

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Define the term degree of hardness? Explain the Softening of hard water using Zeolite process
17. Explain the functions of the following:
    a) ammonium Sulphate b) urea, calcium cyanide
    c) super phosphate d) triple super phosphate
18. Outline the mechanism of radical polymerization
19. Describe the preparation, properties and uses of the following polymers:
    a) polyethylene b) Polystyrene c) polyacrylonitrile
20. Write a note on;
    a) Electroplating b) Corrosion inhibitors

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Chemistry **COURSE CODE : 17U3CNM1**

COURSE TITLE : Chemistry in day Today life **QN.NO : 8613**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The chemical preservative is used in syrups and Jams

   a) Benzoates b) sorbates c) acetates d) citric acid

2. Which of the following is an artificial sweetener?

   a) sucrose b) lactitol c) saccharin d) sorbital

3. _____ moisture level of water present in cakes and dates

   a) low b) high c) intermediate d) both a & b

4. Which of the following is incidental adulterant?

   a) sand b) mud c) water d) pesticide residue

5. _____ is the function of sodium carbonate for the preparation of soap

   a) builder b) surfactant c) fragrance d) buffering agent

6. Which of the following is prepared from $CuSO_4$ and lime?

   a)dithiocarbamate b)Bordeaux mixture c) DDT d) BHC

7. Plant micronutrient is

   a)carbon b) boron c) Mg d) S

8. Which of the following is not an nitrogenous fertilizer?

   a) ammonium sulphate b) urea

   c) ammonium nitrate d) super phosphate.

9. Dielectric constant of milk is

   a) 1.3 b) 3.1 c) 2.1 d) 2.5

10. The best source of ____ in ice cream for high quality flavor is fresh sweet milk

    a) butter fat b) milk solids c) butter oil d) ghee

Contd..

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) How will you preserve food by low temperature method?

(or)

b) Write note on: Legal safe guards

12. a) Explain any three foods deterioration by microorganism

(or)

12. b) How is prevent food adulterants?

13. a) Write the preparation and uses of BHC.

(or)

13. b) Discuss the cleansing action of soap.

14. a) What are the role of urea and superphosphate in plant growth?

(or)

14. b) List out the fertilizer manufacturing units in india.

15. a) Write the physical properties of milk.

(or)

b) Explain in detail about ice cream.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain the natural and artificial colouring agents
17. Describe any five food adultrants and their health effects.
18. a) Discuss the classification of pesticides on the basis of action?
    b) How is soap manufactured by hot process?
19. Explain the detail major and minor nutrients.
20. a) Write a note on: Effect of heat on milk b) Describe about cream.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSE CODE : 17U4CMC4**

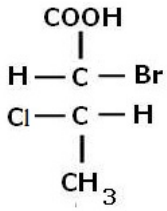
COURSE TITLE : Organic and Physical Chemistry **QN.NO : 8614**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Compounds having same sequence of covalent bonds but differ in relative position of the atoms or groups in space are called _____
   a) Stereo isomers b) metamers
   c) Functional isomers d) Structural isomers
2. A pair of Stereoisomers which are not mirror images of each other are called _____
   a) Enantiomers b) Diastereomers c) Metamers d) Recemates
3. If any two atoms or groups bonded to a chiral carbon atom are interchanged on Fisher projection formula, the resulting isomer is called _____
   a) Diastereomer b) Enantiomer c) Recemate d) Metamer
4. The R-S notation to chiral carbon C-2 and C-3 in the following structure will be



   a) 2S, 3R b) 2R, 3S c) 2S, 3S d) 2E, 3R
5. Which is the most stable conformation of n-butane?
   a) Eclipsed b) Gauche c) Fully eclipsed d) Antiform
6. If three substituents attached to chiral carbon atom are rotated in a cliockwise direction without changing the position of fourth substituent, the resulting structure will be stereo chemically _____
   a) Equivalent b) un equivalent c) Enantiomer d) none of these
7. The Tyndall effect is not observed in
   a) suspensions b) true solutions c) emultions d) colloidal solution
8. The diameter of a colloidal particle is of the order
   a) 10^{-3}m b) 10^{-6}m c) 10^{-15}m d) 10^{-12}m
9. Which of the following can act as a protective colloid?
   a) gelatine b) silica gel
   c) oil-in-water emulsion d) all three

Contd…

10. The flocculation value of NaCl is _____m mol lit^{7}.
    a) 52 b) 50 c) 31 d) 33

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Discuss geometrical isomerism of maleic and fumaric acids.

(OR)

b) What are the rules for assigning E or Z configurations of geometric isomers?

12. a) What are diastereomers? Bring out the difference between enantiomers and diastereomers.

(OR)

b) Outline any two methods for resolution of racemic mixture.

13. a) What are conformers? Describe the different conformations of n-butane with energy diagram.

(OR)

b) Explain the following terms i) configurational isomers and
ii) conformation isomers

14. a) Explain the phenomenon of electrophoresis and its application.

(OR)

b) Explain the following i) Tyndall effect ii) Brownian movement

15. a) What is Hardy-Schulze rule and what are the principles involved in mechanism of coagulation?

(OR)

b) What are gels and emulsions? Give two examples.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Explain the following terms:
    i) Chirality ii) symmetry operation
    iii) optical isomerism iv) geometrical isomerism.

17. Compare physical and chemical properties of
    a) enantiomers b) diastereomers

18. Discuss the conformations of cyclohexane along with energy diagrams.

19. Discuss the characteristics of true solutions, colloidal solution and suspension.

20. Discuss the applications of colloid chemistry.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSE CODE : 17U4CSM3**

COURSE TITLE : Polymer & Water Treatment **QN.NO : 8615**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which compound form linear polymer due to H-bond?
   a) H_2O b) NH_3 c) HBr d) HCl
2. ____ is an example of co-polymer.
   a) Buna-S b) PAN c) Polythene d) PTFE
3. The commercial name of polyacrylonitrile is _____
   a) Dacron b) Orlon (acrilan) c) PVC d) Bakelite
4. 4. The monomeric unit of PVC is _____
   a) chloroprene b) ethylene c) vinyl chloride d) acrylonitrile
5. Find out the following polymers which is thermoplastic?
   a) Natural rubber b) Teflon c) Neoprene d) Bakelite
6. Among the following polymer, the strongest intermolecular forces of attraction are present in ___
   a) thermoplastics b) thermosetting polymers
   c) elastomers d) fibres
7. The source of Arsenic in water is
   a) Industrial waste b) Fertilizers
   c) Phosphate rocks d) All of the above
8. BOD stands for
   a) biochemical oxygen demand b) british oxygen demand
   c) british oxygen depletion d) biological oxygen depletion
9. Hardness of water is expressed in terms of equivalent amount of
   a) H_2CO_3 b) $MgCO_3$ c) $CaCO_3$ d) $Na_2 CO_3$
10. Which is the most common used coagulant?
    a) Coal b) Ferric sulphate c) Limestone d) Alum

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) i) Define the term polymer with examples.
ii) Distinguish between homochain polymers & heterochain polymers.

(OR)

b) Write notes on the following polymers .
i) homo polymer ii) block polymer iii) graft polymer

12.a) Write the preparation & uses of PE.

(OR)

b) How will you prepare PTFE? Write its uses.

13.a) Write short notes on i) Elastomers ii) Fibres

(OR)

b) Give a detailed account on plasticizers & flame retardants.

14.a) Explain the following pollutants with examples.
i) Inorganic water pollutants ii) Thermal pollutants.

(OR)

b) i) List out the important sources of water.
ii) Define the following pollutants with examples.
a) Organic pollutants b) Radioactive materials

15.a) How will you estimate the hardness of water by EDTA method?

(OR)

b) Explain the desalination of water by Reverse Osmosis method.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Write notes on the following polymers with examples.
i) linear ii) branched iii) cross - linked

17. Write the preparation & uses of : i) PS ii) PAN iii) PVC

18. i) Distinguish between thermoplastics & thermosetting plastics.
ii) Define the term colorants

19. Discuss the experimental determination of BOD & COD.

20. Describe how sterilization of water is carried out by using
i) chlorine ii) bleaching powder iii) ozone.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 17U4CAC4**

COURSE TITLE : Ancillary Chemistry-IV **QN.NO : 8618**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The technique which is used to separate water and alcohol is
   a) Crystallization b) Sublimation
   c) Fractional distillation d) Filtration
2. Which of the following technique is used to purify the impure iodine?
   a) Filtration b) Sublimation
   c) Distillation at reduced pressure d) Crystallization
3. In thin layer chromatography, the mobile phase is
   a) Liquid b) solid c) semisolid d) silica gel
4. Which of the following is used as the stationary phase in column chromatography?
   a) Ether b) Silica gel c) Ethanol d) Nitrogen
5. Wilson's disease is due to the excess of
   a) Sodium b) Chromium c) Calcium d) Copper
6. The metal ion which is used in 'Ionic Pump' is
   a) Sodium b) Copper c) Chromium d) Barium
7. Which of the following is not an example for lyophilic sols?
   a) Gum b) Starch c) Protein d) $Fe(OH)_3$
8. Light scattering by particles in a colloid or particles in a fine suspension is known as
   a) Tyndall effect b) Colloidal effect
   c) Brownian movement d) Dialysis
9. An electrostatic precipitator used to remove the dust particles from industrial waste gases, by attracting them to charged grids or wires is
   a) Cottrell precipitator b) Chrome tanning
   c) Cation exchanger d) Chromatography
10. In gels, the dispersed phase is
    a) Liquid b) solid
    c) both liquid and solid d) none of the above

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) What is sublimation? Explain briefly with suitable example.

(OR)

b) Explain the basic concept of crystallization with suitable example.

12. a) What is meant by chromatography? Explain the principles of adsorption and partition chromatography.

(OR)

b) Write down any five applications of chromatography.

13. a) Explain the role of Na^+ and K^+ ions in biological system.

(OR)

b) Write down the role of Mg^{2+} and Ca^{2+} ions in biological system.

14. a) Explain briefly the Tyndall effect and Brownian movement.

(OR)

b) What are lyophobic and lyophilic sols? Explain briefly the main differences between them.

15. a) What are the two types of emulsion? Explain them in details.

(OR)

b) What are gels? How are they classified? Write down any two methods to prepare gels.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. How are the organic compounds purified by distillation and fractional distillation? Explain them with suitable examples.
17. Discuss briefly the principle and applications of column chromatography
18. Write down the biological functions and toxicity of chromium, copper and arsenic.
19. What are colloids? How are they purified by dialysis and electro-osmosis.
20. Discuss the applications of colloids in the fields of foods, rubber plating, chrome tanning and medicine.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME- Chemistry **COURSE CODE : 17U4CNM1**

COURSE TITLE : Chemistry in Day Today Life **QN.NO : 8620**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Slow freezing process is also known as
   a) Dehydro freezing b) Quic freezing
   c) Sharp freezing d) Freezing
2. _____ is any substance not naturally present in a food but added during its preparation and remaining in the finished product.
   a) Food adulteration b) Food additives
   b) Future foods d) PFA
3. Normal freezing point of milk is
   a) -0.60^0C b) -0.45^0C c) -0.55^0C d) -0.35^0C
4. The maximum permissible residue allowed for DDT is _____
   a) 1ppm b) 2ppm c) 3ppm d) 4ppm
5. Hime – sulphur mixture is a
   a) Fungicides b) moth repellant
   c) mosquito repellant d) pesticides
6. Soapless soaps are
   a) Disinfectants b) Sealing wax c) Detergents d) None of these
7. The plant nutrient which promotes the rapid growth of leaves
   a) Potassium b) Nitrogen c) Phosphorus d) Calcium
8. The various chemical substances derived from plants and animals and used as fertilizers are called_____
   a) Chemical fertilizers b) Manures
   b) Phosphatic fertilizers d) none of these
9. Casein contains
   a) 9.1% calcium and 6.7% carbohydrates
   b) 8.6 % calcium and 4.7 % carbohydrates
   c) 9.4% calcium and 4.7% carbohydrates
   d) 8.2% calcium and 5.7% carbohydrates
10. Fresh milk has a pH of about _____at 25^0C.
    a) 4.5 – 4.7 b) 5.5 – 5.7 c) 6.5 – 6.7 d)7.5 – 7.7

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) What is food preservation? Explain the principle of food preservation.

(OR)

b) Explain the following

i) Natural and artificial coloring agents ii) Sweetening agents

12. a) i) Define food deterioration.

ii) Explain the food deterioration by microorganism.

(OR)

b) Write a note on incidental adulterants.

13. a) Give the preparation and uses of the following insecticides

i) DDT ii) BHC

(OR)

b) Explain the disposal of detergents waste in water resources and its effects.

14. a) What are minor nutrients? Explain the role of various elements in plant growth.

(OR)

b) Write a note on fertilizers manufacturing unites in India.

15. a) Describe the composition of milk.

(OR)

b) Explain the effect of heat on milk.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. a) Discuss the preservation by low temperature methods.

b) Explain the role of chemical preservatives in food preservation.

17. Write short notes on

a) Water and food preservatives b) Prevention of food adulterants.

18. a) How is soap manufactured by mills process.

b) Explain the cleansing action of soap

19. Describe in detail the manufacture and uses of the following fertilizers.

a) Urea b) Superphosphate c) Mixed fertilizers

20. Discuss the following milk products

a) Butter b) Ice cream c) Milk powder

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSE CODE : 17U6CME2**

COURSE TITLE : Organic Chemistry-II **QN.NO : 8625**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Phenol is
   a) Acidic b) Neutral c) Basic d) None of these
2. In which medium favorskii rearrangement occurs?
   a) Ring expansion b) Ring contraction
   c) Ring fusion d) Isomers
3. Which of the following is a product formed in Claisen condensation?
   a) β ester b) β ketone c) β keto ester d) β diketone
4. Formation of aromatic ketone forms from benzene and CH_3COCl by _____
   a) Friedel- Craft's alkylation b) Friedel- Craft's dealkylation
   c) Friedel- Craft's acylation d) Friedel- Craft's hydroxy alkylation
5. Phenanthrene is a fused polycyclic compound contains ---- benzene ring.
   a) 2 b) 3 c) 4 d) 5
6. Which of the following is not a five membered ring?
   a) Pyridine b) Pyrrole c) Furan d) Thiophene
7. Which of the following is a vat dye?
   a) Indigo b) Alizarin c) Methyl orange d) Congo red
8. In keto- enol form, presence of which type of hydrogen is must?
   a) Alpha b) Beta
   c) Gamma d) Any position of hydrogen
9. The different types of energies associated with a molecule are
   a) Electronic energy b) Vibrational energy
   c) Rotational energy d) All of the above
10. The region of electromagnetic spectrum for nmr is
    a) Microwave b) Radio frequency c) Infra red d) UV rays

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Explain the effect of substituents on acidity of phenol.

(OR)

b) Write a note on Fries rearrangement.

12. a) Discuss in detail about Claisen condensation.

(OR)

b) Write a method of preparation, properties of cinnamaldehyde.

13. a) Discuss the structure of naphthalene.

(OR)

b) Outline the chemistry of furan.

14. a) Mention the classification of dyes according to their structure and applications.

(OR)

b) Write notes on i) Chromophore ii) Auxochrome

15.a) Explain the different types of electronic transitions.

(OR)

b) Describe the factors influencing chemical shift.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16.Explain the following reactions of phenols.

i) Schotten –Baumann reaction

ii) Riemer – Tiemen reaction

iii) Kolbe – Schmidt reaction

iv) Houben – Hoesch reaction

17. a) Discuss briefly about Benzilic acid rearrangement (5)

b) Give the general method of preparation and properties of the following.

i) Phthalic acid ii) Phthalimide (2.5 + 2.5)

18.Illustrate the chemistry of pyridine with examples.

19.a) Demonstrate the preparation of the following.

i) Malachite green ii) Indigo (2.5 + 2.5)

b) Explain Keto – enol tautomerism (5)

20.Write notes on

i) Lambert law (2)

ii) Finger print region (4)

iii) Coupling constant (4)

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSE CODE : 17U6CME3**

COURSE TITLE : Inorganic Chemistry-II **QN.NO : 8626**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The common ore of titanium is

a) Monazite b) Pyrolusite c) Ilmenite d) Carnolite

2. The compound that gets oxidized even on exposure to air is

a) $Co_2(SO_4)_3$ b) $NiSO_4$ c) $FeSO_4$ d) $Ni(CO)_4$

3. Iron is rendered passive by all of the following except

a) Acidified $KMnO_4$ b) Conc. HNO_3

c) Acidified $K_2Cr_2O_7$ d) Conc. H_2SO_4

4. Which among the following metals does not dissolve in aqua regia?

a) Pt b) Au c) Ag d) Ir

5. Among the lanthanides, the one obtained by synthetic method is

a) Pr b) Lu c) Pm d) Gd

6. A stable 4^+ oxidation state is formed by

a) Lanthanum b) Cerium c) Europium d) Gadolinium

7. The formation of co-ordination compounds is a characteristic property of

a) Alkali metals b) Transition metals

c) Zero group element d) Alkaline earth metal

8. EDTA stands for

a) Ethylene diamminetetraacetate b) Ethyl diamminetetraacetate

c) Ethylene diamminetriaceticacid d) Ethylene diamminetetraaceticacid

9. The magnetic moment of $[Co(NH_3)_6]$ Cl will be equal to

a) 4.9 B.M b) Zero c) 6.9 B.M d) 4.0 B.M

10. In a square-planar complex, the d-orbital with the highest energy will be

a) d_{xy} b) d_{xz} c) $d_{x^2-y^2}$ d) d_{z^2}

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Give the preparation, properties and uses of V_2O_5 and TiO_2.

(OR)

b) Give the preparation, properties and uses of $KMnO_4$ and MnO_2.

12. a) How is tungsten extracted from its ore.

(OR)

b) Write a note on the types of platinum.

13. a) What is lanthanide contraction? How would you account for it.

(OR)

b) How is thorium extracted from monazite sand.

14. a) What are the basic postulates of valence bond theory?

(OR)

b) Name the different kinds of isomerism possible in co-ordination complexes. Give one example of each kind.

15. a) Bring out clearly how the crystal field theory explains satisfactorily the magnetic properties of complexes of transition metals.

(OR)

b) Give the preparation and structure of $Ni(CO)_4$ and $Cr(CO)_6$.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. How does titanium occur in nature? How is it extracted from its ore. Discuss its general chemical behaviour.

17. Give the preparation, properties and uses of the following compounds:
(a) Sodium nitroprusside (b) Chloroplatinic acid

18. Describe briefly the various methods used for the separation of lanthanides.

19. What are the important postulates of Werner's theory of co-ordination compounds? Also account for the non-ionic nature of the complex $CoCl_3.3NH_3$.

20. Discuss the consequences of Jahn-Teller effect on the electronic spectra of octahedral complexes.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSE CODE : 17U6CMC8**

COURSE TITLE : Physical Chemistry - II **QN.NO : 8627**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The equivalent conductance of a solution of an electrolyte
   a) increases with dilution b) decreases with dilution
   c) does not vary with dilution d) remains constant
2. Kohlrausch's law can be expressed as
   a) $\lambda\infty = \lambda a - \lambda c$ b) $\lambda\infty = \lambda c - \lambda a$
   c) $\lambda\infty = \lambda a + \lambda c$ d) $\lambda\infty = \lambda a \times \lambda c$
3. The site of oxidation in an electrochemical cell is _____
   a) the anode b) the cathode
   c) the electrode d) the salt bridge
4. Electrochemical cell convert
   a) mechanical energy into electrical energy
   b) potential energy into electrical energy
   c) kinetic energy into electrical energy
   d) chemical energy into electrical energy
5. Photochemistry deals with the study of_____ .Which is the false statement?
   a) photons b) photos
   c) reaction which proceeds with the absorption of UV light
   d) reaction which proceed with the absorption of IR light
6. "It is only the absorbed light radiations that are effective in producing a chemical reaction". This is the statement of _____
   a) Lambert law b) Lambert-Beer law
   c) Grothus-Draper law d) Stark-Einstein law
7. For an electrolyte, AB which is sparingly soluble in water, the solubility is related to its solubility product by the relation _____
   a) $K_{sp} = \sqrt{s}$ b) $K_{sp} = s^2$ c) $K_{sp} = 4s^2$ d) $K_{sp} = s^3$
8. The ionic product of water is_____
   a) 1×10^{-7} b) 1×10^{-10} c) 1×10^{14} d) 1×10^{-14}
9. Which of the following belongs to C_{3v} point group?
   a) $AlCl_3$ b) NH_3 c) SO_3 d) BBr_3
10. The wavenumbers are expressed in _____
    a) sec^{-1} b) $cm\ sec^{-1}$ c) cm^{-1} d) $cm^2 sec^{-1}$

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) State and explain Faraday's laws of electrolysis.

(OR)

b) Define transference number. How will you determine it by moving boundary method?

12. a) Construct and explain the working of calomel electrode.

(OR)

b) Derive Nernst equation of electrochemical cell.

13. a) Discuss the laws of photochemistry.

(OR)

b) Write a note on

i) Photosensitization

ii) Flash photolysis

14. a) Define buffer solution. Explain the mechanism of action of acid buffer.

(OR)

b) Derive Henderson's Hasselbalch equation.

15. a) Discuss the rotational spectra of a diatomic molecule.

(OR)

b) Write a note on symmetry elements and symmetry operations.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Discuss Debye Huckel theory of strong electrolytes.

17. i) Calculate thermodynamic quantities ΔG, ΔH, ΔS and K for cell reactions.

ii) Describe the working of $H_2 – O_2$ fuel cell.

18. Draw Jablonski diagram. Explain the various photophysical processes.

19. Account for the theory of acid – base indicator based on the action of phenolphthalein and methyl orange.

20. i) Explain Franck - Condon principle.

ii) Discuss the mode of vibrations in H_2O and CO_2.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSE CODE : 17U6CSM4**

COURSE TITLE : Analytical and Biochemistry **QN.NO : 8630**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Chromatography is a _____ term.
   a) Greek b) German c) Latin d) Swedish.
2. HPLC stands for _____.
   a) High Pressure Liquid chromatography
   b) High Performance Liquid Chromatography
   c) both (a) and (b)
   d) Highly Placed Liquid Chromatography
3. An example for the prodrug is ____.
   a) Aspirin b) Omniprazole c) Pyruvic acid d) Both a and b.
4. Para acetamol is ____.
   a) 4-hydroxy acetanilide b) 2-hydroxy acetanilide
   c) 4-nitro phenol d) 4-amino phenol
5. Which of the following error is caused by poor calibration of the instrument?
   a) Random error b) Gross error c) Systematic error d) Precision error
6. How many significant figures are in the number 2,000?
   a) 4 b) 3 c) 2 d)1
7. ____ is used for the identification and rejection of data.
   a) Q test b) accuracy c) T test d) precision
8. Most of the researchers use confidence interval as ____.
   a) 90% b) 95% c) 98% d) 85%
9. _____ is commonly **used** as a fuel gas.
   a) methane b) ethane c) acetylene d) sulphur dioixde.
10. **AAS** can be used in _____ fields.
    a) pharmacology b) biophysics c) archaeology d) all

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Write notes on the classification of chromatographic methods.

(OR)

b) Define and explain the following terms in chromatography:

i) Stationary phase ii) Mobile phase iii) Eluent

12. a) Elaborate on antipyretic drugs.

(OR)

b) Discuss about analgesics.

13.a) Explain determinant and indeterminant error.

(OR)

b) Define the terms i) correlation coefficient ii) mean deviation iii) standard deviation.

14.a) Differentiate the terms precision and accuracy

(OR)

b) Write a short note on confidence limits.

15.a) Differentiate atomic absorption and atomic emission

(OR)

b) Discuss any three important applications of atomic absorption spectroscopy.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain the principle and applications of i) Column Chromatography ii) Thin layer chromatography.

17. Illustrate the factors affecting drug designing.

18. Define significant figures. Discuss the rules for identifying the significant figures.

19. Explain about Q test and T test in error analysis.

20. Discuss in detail about the instrumentation of AAS.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 17U6CAC4**

COURSE TITLE : Ancillary Chemistry-IV **QN.NO : 8631**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. If ΔG for a reaction is negative, the change is _____
   a) Reversible b) Spontaneous
   c) Non-spontaneous d) Equilibrium
2. According to third law of thermodynamics, the entropy of a crystalline substance at absolute zero is taken as
   a) maximum b) 100 c) zero
   d) different at different temperatures
3. Which one of the following is used as standard for other electrons?
   a) SHE b) Daniel cell
   c) Electrolytic cell d) None of these
4. When one coulomb of electricity is passed through an electrolytic solution, the mass deposited in the electrode is equal to
   a) equivalent weight b) molecular weight
   c) electrochemical equivalent d) one gram
5. Which one of the following is an example of gel colloid?
   a) Paint b) Ink c) Curd d) Cloud
6. An emulsion is a colloidal solution of _____
   a) two solids b) two liquids
   c) two gases d) one solid and one liquid
7. The alkaloid _____ is present in tobacco plant
   a) Conine b) Pipernine c) Nicotine d) Quinine
8. Which one of the following alkaloid is extracted from black pepper?
   a) Nicotine b) Morpline c) Pipernine d) conine
9. Which terpenoid is obtained from the oil of peppermint?
   a) Citral b) Geraniol c) Menthol d) Farnesol
10. The example for triphenyl methane dye is _____
    a) Methyl orange b) Malachite green
    c) Bismark brown d) Crystal violet

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) State first law and zeroth law of thermodynamics.

(OR)

b) Explain the characteristics of free energy G.

12. a) Define the terms: Specific conductance, equivalent conductance and molar conductance.

(OR)

b) What is single electrode potential? Write a note on standard hydrogen electrode.

13. a) How will you determine the charge of sol particles by electrophoresis?

(OR)

b) Explain the cleansing action of soaps.

14. a) How is piperine extracted from pepper?

(OR)

b) Define alkaloid. Write the biological actions of conine and piperine.

15. a) Write note on :

(i) Isoprene rule (ii) Isolation of terpenoids

(OR)

b) How are the following prepared?

(i) Methyl orange (ii) Crystal violet

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Derive the relationship between Gibbs free energy and entropy of an isothermal process.

17. Derive Nernst equation.

18. Explain briefly on the following:

a) Electroosmosis b) Cottrell precipitator

c) Dialysis

19. Discuss the structure of nicotine.

20. a) Establish the structure of citral.

b) How is malachite green prepared?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Chemistry **COURSE CODE : 17P2CMC4**

COURSE TITLE : Organic Chemistry - II **QN.NO : 8705**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. For nucleophilic addition on C=C-Z, if Z is electron withdrawing substituent, then reactivity is enhanced while reactivity is inhibited for electrophilic addition. The reason is:
   a) Reduction in electron density of C=C
   b) Increase in electron density of C=C
   c) Polarization of C=C d) All of these
2. Perkin reaction involves reaction between aromatic aldehyde and _____
   a) Acid anhydride with no α-hydrogens b) Aromatic acids
   c) Acid anhydride with at least 2 α-hydrogens d) Aliphatic acids
3. The reason for optical activity of allenes are:
   a) asymmetric carbon
   b) perpendicular dissymmetric planes
   c) chiral centre d) all of these
4. Which one of the following is a meso compound
   a) trans-1,2-dichlorocyclopropane b) cis-1,2-dichlorocyclobutane
   c) trans1,3-dichlorocyclobutane d) cis-1,2-dichlorocyclopropane
5. Ruthenium tetraoxide converts epoxy alcohols to _____
   a) epoxy aldehydes without maintaining stereochemistry
   b) cleaves epoxides to give diols
   c) epoxy acids without affecting epoxides, while maintaining stereochemistry
   d) cleaves epoxides to give acids
6. Thallium nitrate is used for oxidation of alkenes to _____
   a) aldehydes b) ketones c) acids d) acetals
7. Baeyer Villeger rearrangement of cyclohexanones results in
   a) ε-caprolactone b) ester
   c) β-caprolactone d) cyclopentanone
8. Curtius rearrangement results in formation of _____ from acyl azides.
   a) esters b) acids c) isocyanate d) none
9. reversal of polarity of a functional group in retro-synthesis refers to
   a) bidentate b) umpolung
   c) ambidentate d) none of the above

Contd…

10._____ is used for protection of carbonyl group

a) acid b) base c) thiols d) dithiane

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Write a short note on Sharpless asymmetric epoxidation

(OR)

b) Briefly explain with mechanism

i) Claisen condensation ii) Benzoin condensation (3+4)

12. a) Write a brief note on optical activity of allenes and biphenyls.

(OR)

b) Explain homotopic, enantiotopic and diastereotopic ligands with one suitable example each.

13. a) Briefly describe the mechanism of Birch reduction. Taking suitable examples comment on the nature of the products influenced by substituent on the aromatic ring.

(OR)

b) Explain Wolf-Kishner reduction and Clemmenson reduction with mechanism. Give suitable examples.

14. a) Briefly explain with following mechanisms

i) Beckmann rearrangement ii) Favorskii rearrangement (4+3)

(OR)

b) Briefly explain with following mechanisms

i) Wagner-Meerwin rearrangement ii) Dienone- phenol rearrangement (4+3)

15.a) Explain with example the role of chemo-selectivity and functional group inter-conversion in retro-synthesis.

(OR)

b) Explain Robinson annulations reaction using retro - synthesis.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16.Briefly describe the following with suitable examples:

a) Hydroboration reaction

b) Michael reaction

c) Wittig reaction (4+3+3)

17.Write a short note on conformational analysis of:

a) Disubstituted cyclohexanes

b) Decalins (5+5)

18.Explain with mechanism and suitable examples, the reduction of:

a) Azo group

b) Oxime group

c) Nitroso group (3+4+3)

19.Briefly describe with mechanism:

a) Hofmann rearrangement

b) Sommelet-Hauser rearrangement

c) Schmidt reaction (4+3+3)

20.Describe retro-synthetic analysis of longifolene in detail.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Chemistry **COURSE CODE : 17P2CMC5**

COURSE TITLE : Inorganic Chemistry-II **QN.NO : 8706**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. In which of the following systems one axis of symmetry and one plane of symmetry is present?
   a) monoclinic b) cubic c) orthorhombic d) hexagonal
2. The total number symmetry elements is
   a) 22 b) 23 c) 24 d) 25
3. The limiting ratio for cubic site is
   a) 0.155 b) 0.255 c) 0.732 d) 0.414
4. In zinc blende structure, the sulphide ions are arranged _____ type of packing
   a) bcc b) hcp c) fcc d) ccp
5. A transistor can be used as
   a) triode b) super conductors
   c) anode d) insulators
6. Which of the following elements gives p-type semiconduction?
   a) arsenic b) Indium c) antimony d) iridium
7. The half life period of 14c isotope is
   a) 5000 yrs b) 6200 yrs c) 5528 yrs d) 4528
8. In nuclear reactors, the control rods are made up of cadmium because cadmium
   a) absorbs excess nuetron b) absorbs excess protons
   c) absorbs excess mesons d) absorbs excess electrons
9. The conjugate base of ammonia is _____
   a) NH^-_2 b) NH^+_4 c) NH^-_4 d) NH^{2-}
10. According to Lux-Fllod concept, an acid is a substance which accepts the
    a) electron b) oxide ion c) proton d) hydrogen

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Discuss the various elements of symmetry in a cubic crystal.

(OR)

b) Lead is fcc and its atomic radius is 0.175nm. What is its unit cell edge length?

12. a) Discuss the structure of fluorite with a neat diagram.

(OR)

b) What is radius ratio? Derive the radius ratio for octahedral site.

13. a) Explain the types and conductivity mechanism of super conductors.

(OR)

b) Describe the different types of thermoelectric effects.

14. a) Explain the working of Scintillation counters.

(OR)

b) Write a note on nuclear waste disposal.

15. a) Discuss briefly the reactions which take place in liq.ammonia.

(OR)

b) Explain the reactions which take place in liq.SO_2.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. a) Write short notes on glide panes and screw axis.

b) Compare neutron and electron diffraction techniques.

17. a) Compare the structures of graphite and diamond.

b) What is spinel? Mention their types. Discuss its structure.

18. a) Explain the Free electron theory of solids

c) Explain Hall effect and Meissner effect.

19. a) Explain different types of nuclear reactions with suitable examples.

b) What are nuclear reactions? Mention their types. Discuss the mechanism of release of energy in nuclear fission reaction

20. Discuss the Pearson concept of HSAB. Discuss its bonding and applications.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Chemistry **COURSE CODE : 17P2CMC6**

COURSE TITLE : Physical Chemistry -II **QN.NO : 8707**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. BF_3 molecule belongs to _____ point group.
   a) C_{3v} b) D_{3h} c) D_{3d} d) C_{2v}
2. Centre of inversion is absent in the following point group.
   a) D_{2h} b) D_{4h} c) T_d d) D_{6h}
3. Trans – N_2F_2 belongs to the _____ point group.
   a) C_{2v} b) D_{2h} c) C_{2h} d) D_{3h}
4. Which of the molecule is chiral?
   a) CHFClBr b) H_2O c) NH_3 d) $CH_2 = C = CH_2$
5. If E_a of a reaction is zero, k is equal to
   a) Infinity b) 0 c) A d) A^{-1}
6. The collision theory of chemical reactions is based on
   a) Kinetic theory of gas b) Thermodynamic theory
   c) quantum theory d) particle theory
7. The relaxation time τ for the reaction A $\underset{k_{-1}}{\overset{k_1}{\rightleftharpoons}}$ B is given by
   a) $1/(k_1 + k_{-1})$ b) $1/(k_1 + 2k_{-1})$ c) $1/(2k_1 + k_{-1})$ d) $1/(2k_1 + 2k_{-1})$
8. The pressure corresponding to the upper explosion limit in hydrogen-oxygen reaction is --------.
   a) 100 mm b) 10mm c) 1000 mm d) 760 mm
9. The ensemble in which the independent assemblies have same energy, volume and the number of systems.
   a) Uniform b) micro canonical
   c) canonical d) grand canonical
10. The statistical distribution law $n_i = g_i/e^{\alpha+\beta\varepsilon i}$ corresponds to which of the statistics.
   a) Maxwell-Boltzmann b) Bose-Einstein
   c) Fermi-Dirac d) none of these.

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Discuss the Great Orthogonality theorem.

(OR)

b) Explain the different types of symmetry operations.

12. a) Explain the symmetry selection rule for IR and Raman spectra.

(OR)

b) Discuss the general methods for identifying AO combinations for hybrid orbitals.

13. a) Discuss the Lindemann theory of unimolecular reactions.

(OR)

b) Write about primary and secondary salt effects.

14. a) Discuss the kinetics of opposing reactions.

(OR)

b) Illustrate the technique used in studying kinetics of fast reactions.

15. a) Derive an expression for Boltzmann distribution law.

(OR)

b) Derive an expression for rotational and vibrational partition function.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain the four main areas of a character table by taking an example.
17. Explain the formation of hybrid orbitals for BF_3 and CH_4 molecules.
18. Discuss in detail the ARRT of bimolecular reactions.
19. Discuss the lower and upper limits in the hydrogen-oxygen explosion reaction.
20. Derive an expression for Fermi – Dirac statistics.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Chemistry **COURSE CODE : 17P2CME2**

COURSE TITLE : Bio-Chemistry **QN.NO : 8708**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. A single hemoglobin can accept _____ O_2 molecules
   a) 2 b) 3 c) 4 d) 5
2. Non-heme proteins are _____ learning proteins but not containing porphyrims
   a) Iron b) cobalt c) Magnesium d) Zinc
3. Nitrogen fixation is carried out by the enzyme _____
   a) Maltase b) Nitrogenase c) Lactase d) Erepsim
4. Superoxide dismutase converts superoxide to _____ and _____
   a) hydrogen peroxide, oxygen b) hydrogen, oxygen
   c) hydrogen, oxygen d) hydrogen, water
5. A drug that binds to a receptor and produces a biological response is an _____
   a) agonist b) diagonist c) migonist d) sigonist
6. Lead modification is done to _____ the pharmacological activity
   a) reduce b) improve c) modify d) find
7. Which one of the following is not the component of DNA.
   a) Adenine b) Quanine c) Cytosine d) Uracil
8. The message embedded in MRNA is read by transfer RNA in a process called _____
   a) Transcription b) translation
   c) polymerase d) coding strand
9. The colour of 6 nm gold particles is
   a) blue b) golden c) yellow d) red
10. In the manufacture of CdTe nanocrystals, excess of _____ is used to prevent oxidation of telluride
    a) Fe b) Cd c) Te d) H_2

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) i) What is the active site structure present in cytochrome C? Illustrate its functions.
ii) What is meant by Bhor effect? **(5+2)**

(OR)

b) i) How are copper protein classified and how do they differ from each other?
ii) Why is the designation P-450 to the cytochrome? What is the type of reaction carried by this enzyme? **(5+2)**

12. a) Discuss in detail the function of essential and trace elements in biological systems.

(OR)

b) Elaborate poisoning and inhibition of enzyme activity.

13. a) i) Narrate the significance of drug metabolism in medicinal chemistry.
ii) What is QSAR? Mention its uses. **(4+3)**

(OR)

b) i) Explain the induced fit theory of drug activity.
ii) Write a note on prodrug. **(5+2)**

14. a) Describe the structure and function of rRNA.

(OR)

b) Explain the chemical and enzymatic hydrolysis of nucleic acids.

15. a) i) Give an account of the magnetic properties of nanomaterials.
ii) Write a note on sol-gel method in nanomaterials synthesis. **(3½+3½)**

(OR)

b) What is AFM? Explain its basic principle. What are its advantages and disadvantages over SEM.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Discuss in detail about the structure and work function of hemoglobin and myoglobin.

17. a) Narrate the salient features of photo synthetic process.
b) Describe a metal ion detoxification reaction.
c) Give the probable difference in the pockets present in carboxy peptidase and carbonic anhydrase. **(5+3+2)**

18. Discuss the factors that affecting modes of drug administration, absorption, metabolism and elimination.

19. a) Give an account of transcription of DNA.
b) Describe briefly the polymorphic nature of DNA.

20. a) Describe in short the structural, electromagnetic and chemical applications of carbon nanotubes. **(5+5)**
b) What are carbon nonotubes? How are they classified?
c) Write briefly about the bonding in carbon nonotube. **(6+2+2)**

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Chemistry **COURSE CODE : 17P4CMC10**

COURSE TITLE : Organic Chemistry - IV **QN.NO : 8716**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The anthocyanins showed blue colour in _____ medium.
   a) Neutral b) Acidic c) Basic d) None
2. Which one of the following is a sesquiterpene?
   a) Squalene b) Rubber c) Zingiberene d) Limonene
3. Chemically steroids contain the carbon framework of a hydrogenated_____
   a) Phenanthrene b) Cyclopentanophenanthrene
   c) Cyclopentenophenanthrene d) Perhydrophenanthrene
4. On dehydrogenation with selenium, cholesterol gives a mixture of _____
   a) Cholestanone and chrysene
   b) Cholestenone an cholesterylacetate
   c) Diel's hydrocarbon and chrysene
   d) Cholestenone and chrysene.
5. IUPAC name of pyridine is _____
   a) Diazine b) Triazine c) Azine d) Oxole
6. Which one of the following is not a benzo-fused five membered heterocyclic compound?
   a) Indole b) Benzofuran c) Benzothirophene d) Pyrazole
7. Which one of the following method is used to detect the presence of alkoxy group in alkahoid?
   a) Hofmann method b) Zerewitinoff method
   c) Zeeman method d) Zeisel method
8. Nicotine belongs to _____group alkahoid
   a) Indole b) Isoquinoline
   c) Pyrrolidine-Pyridine d) Piperidine
9. What is the atom economy in the following reaction?
   CH_3-CH_2-CH=CH_2+H_2 $\xrightarrow{\text{Ni catalyst}}$ CH_3-CH_2-CH_2-CH_3
   a) 80% b)100% c) 60% d) 30%
10. Which one of the following is not a polysaccharide?
    a) Lactose b) Starch c) Cellulose d) Inulin

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) i) Give the synthesis of zingiberene.
ii) How is UV spectroscopy useful in the structure elucidation of terpenes? (4+3)

(OR)

b) i) Give two methods of synthesizing flavones.
ii) How was the position of the carbonyl group in abietic acid established? (4+3)

12. a) i) Write the conversion of cholesterol to androsterone.
ii) Explain the chemical evidences for the position of angular methyl groups in cholesterol. (3+4)

(OR)

b) Discuss the biosynthesis of steroid.

13. a) i) How is indole synthesised?
ii) How will you convert Pentamethylene diamine hydrochloride into pyridine?

(OR)

b) i) Write a short note on tautomerism in aromatic heterocycles.
ii) Explain why pyridine does not give Friedel – crafts reaction?

14. a) Explain Hofmann method of degradation of alkaloids.

(OR)

b) Give the total synthesis of PGE2

15. a) Discuss the structure of starch.

(OR)

b) Explain in brief the types and applications of ionic liquids.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Give the structural elucidation of caffeine.

17. Elucidate the structure of estrone.

18. Describe the chemistry of aziridine and benzothinophene.

19. Discuss the structure, stereochemistry and synthesis of quinine.

20. Discuss in detail the twelve basic principles of green chemistry.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Chemistry **COURSE CODE : 17P4CMC11**

COURSE TITLE : Inorganic Chemistry - IV **QN.NO : 8717**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. In an inner-sphere electron transfer reaction, which of the following ligands could not act as a bridging ligand?
   a) 1,10-phenanthroline b) 4,4'-bipyridine
   c) pyrazine d) bis(4-pyridyl)methane
2. Anation reaction is:
   a) the substitution of an uncharged ligand by an anionic ligand
   b) the substitution of an uncharged ligand by another uncharged ligand
   c) the substitution of an anionic ligand by another anionic ligand
   d) the substitution of an anionic ligand by an uncharged ligand
3. Which of the following is an incorrect statement?
   a) First step in photochemistry is excited state (photoexcitation)
   b) Photochemical reactions are caused by absorption of ultraviolet only
   c) When a molecule or atom in the ground state (S_0) absorbs light, one electron is excited to a higher orbital level
   d) it is possible for the excited state S_1 to undergo spin inversion
4. The quantum efficiency of a photochemical reaction is defined as _____
   a) ratio of molecules decomposed in a given time to the number of quanta absorbed in the same time
   b) number of molecules decomposed in a given time
   c) number or quanta absorbed percent time
   d) ratio of' molecules decomposed in a given time to the number of quanta emitted in the same time
5. Lanthanide contracation is caused due to _____
   a) The appreciable shielding on outer electrons by 4f electrons from the nuclear charge.
   b) The appreciable shielding on outer electrons by 5d electrons from the nuclear charge.
   c) The effective nuclear charge from Ce to Lu
   d) The poor shielding on outer electrons by 4f electrons from the nuclear charge.

Contd…

6. Which of following Lanthanide element has +2 and +3 general oxidation state.
   a) La b) Nd c) Ce d) Eu
7. In Ziegler-Natta catalysis the commonly used catalyst system is:
   a) $TiCl_4$, $Al(C_2H_5)_3$ b) $(\eta^5\text{-}Cp)_2TiCl_2$, $Al(OC_2H_5)_3$
   c) $VO(acac)_2$, $Al_2(CH_3)_6$ d) $TiCl_4$, BF_3
8. Which metal centre does not obey the 18-electron rule?
   a) Fe in $Fe(\eta^5\text{-}C_5H_4COMe)_2$ b) Co in $Co_2(CO)_8$
   c) Ru in $[Ru(\eta^6\text{-}C_6Me_6)_2]^{2+}$ d) V in $V(CO)_6$
9. In a metal alky compound, which σ-bonded R group could undergo β-hydrogen elimination?
   a) Et b) CH_2Ph c) CH_2CMe_3 d) Me
10. The catalyst used for the oxidation of ethylene to acetaldehyde is:
   a) $Ru(PPh_3)_3Cl$ b) $PdCl_2$ and CuCl
   c) $TiCl_4$ and $AlEt_3$ d) $Co_2(CO)_8$ and H_2

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Discuss the polarization theory of Trans effect with suitable examples

(OR)

b) Write briefly on the tunnelling mechanism of electron transfer reactions, citing suitable illustrations.

12. a) Write the mechanism of photo substitution reactions in metal complexes with examples.

(OR)

b) Illustrate with examples of charge transfer transition in metal complexes

13. a) Compare the lanthanides and actinides with reference to their oxidation state and magnetic properties.

(OR)

b) Discuss the ion exchange, solvent extraction methods of lanthanides.

14. a) Explain the use of IR spectra to study the back bonding in metal carbonyls with suitable examples.

(OR)

b) Discuss the structural variation in the ethylene and acetylene complexes with MO diagram.

15. a) Discuss the mechanism of hydrogenation using Wilkinson's catalyst?

(OR)

b) Discuss the hydroformylation from olefin by using Cobalt and Rhodium metal catalyst.

Contd…

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. a) Discuss the pi-bonding theory of Trans effect. **(5)**
    b) What are ANATION reactions? Suggest a suitable mechanism. **(5)**
17. Suggest a suitable mechanism for the photochemical conversion and storage of solar energy by using a photosensitizer. Explain the Role of TiO_2 in solar energy conversion.
18. Explain the following:
    a) the variation in the size of lanthanides.
    b) the less tendency of lanthanides in complex formation in contrast to d-block element.
    c) the absorption bands of lanthanide ions are sharp.
    d) oxidation states other than +3 are observed in lanthanides. **(2+3+2+3)**
19. a) Discuss the bonding in Ferrocene with MO diagram. **(6)**
    b) Describe the structure of metal nitrosyls. **(4)**
20. Explain the catalytic mechanism of Ziegler-Natta catalyst for the stereo regular polymerization of olefin.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Chemistry **COURSE CODE : 17P4CMC12**

COURSE TITLE : Physical Chemistry - IV **QN.NO : 8718**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. According to the Debye-Huckel theory of strong electrolytes, an ion moving in an atmosphere of oppositely charged ions experience a drag. This effect is known as the
   a) Asymmetric effect b) Concentration effect
   c) Inter ionic effect d) Electro phoretic effect
2. An equation relating the mean activity coefficient to the ionic strength of the solution is
   a) Debye-Huckel equation b) Debye-Huckel Onsager equation
   c) Debye-Huckel limiting law equation d) Debye-Huckel Bronsted equation
3. Difficult to monitor and very dangerous form of corrosion
   a) Galvanic b) Pitting c) Crevice d) Stress
4. The storage battery generally used in electric power station is
   a) Nickel-cadmium battery b) Zinc carbon battery
   c) Lead-acid battery d) All the above
5. All actual heat transfer processes are
   a) Irreversible
   b) take place through a finite temperature difference
   c) Both a and b d) None
6. A compound which is found in all living cells and plays a key role in energy transformations
   a) ADP b) ATP c) chlorophyll d) Granum
7. What is the highest enthalpy of adsorption for chemical adsorption?
   a) 100 KJ mol^{-1} b) 200 KJ mol^{-1} c) 300 KJ mol^{-1} d) 400 KJ mol^{-1}
8. The Freundlich adsorption isotherm can be used to model
   a) Multilayer adsorption b) Monolayer adsorption
   c) Both a and b d) None of the above
9. Heat energy received by the earth from the sun is due
   a) Convection b) Radiation
   c) Reflection of ligh d) Transmission of light

Contd…

10. Which of the following is an example of homogeneous catalysis?
    a) Enzyme catalysis
    b) Hardening of animal and vegetable oils
    c) Haber's process
    d) Cracking of heavy oils for a synthesis of gasoline

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Explain the following :
    i) Wien effect ii) Debye-Falkenhagen effect

(OR)

    b) How will you determine the activity coefficients by using Bronsted equation?

12. a) Derive Butler-Volmer equation for an electrode process involving one electron transfer and deduce Tafel equation.

(OR)

    b) What are fuel cells? Explain the working of H_2-O_2 fuel cells and its uses.

13. a) Discuss the Prigogine's principle of minimum entropy production.

(OR)

    b) Write a note on Bioenergetics.

14. a) Derive Gibbs-adsorption isotherms.

(OR)

    b) How is BET adsorption isotherm useful in determining surface area of adsorbent?

15. a) Discuss the radiolysis of water.

(OR)

    b) Write a note on dosimetry.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Derive Debye-Huckel-Onsagar conductance equation and its experimental verification.

17. Discuss the following theories of electrical double layer
    a) Helmholtz model b) Stern model

18. Describe the Phenomenological laws and Onsager's reciprocal relations.

19. a) Explain the kinetics and mechanism of unimolecular reaction.
    b) Write the Langmuir-Hinshelwood mechanism.

20. Derive Michaelis - Menton equation for enzyme-catalysed reactions and explain the concentraction of substrate is high and low.

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Reg. No:											PG

THE MADURA COLLEGE (Autonomous), MADURAI – 625 011

(AFFILIATED TO MADURAI KAMARAJ UNIVERSITY)

RE-ACCREDITED (3rd Cycle) WITH "A" GRADE BY NAAC

No of Pages	8

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Chemistry **COURSE CODE : 17P4CME3**

COURSE TITLE : CSIR-NET-GATE-SET Examinations Preparations **QN.NO : 8719**

TIME : 3 Hours **MAX.MARKS :75**

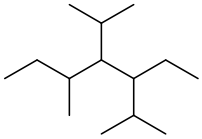
PART – A (25 x 1 = 25)

Answer all Multiple choice questions by choosing the correct option.

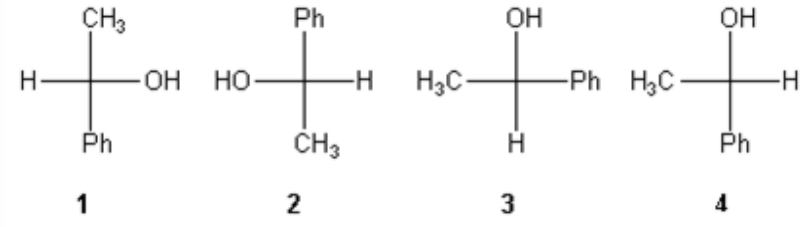
1. In the molecules H_2O, NH_3 and CH_4.
   a) The bond angles are same b) The bond distances are same.
   c) The hybridizations are same d) The shapes are same.
2. Cis and Trans complexes of the type $[PtA_2X_2]$ are distinguished by
   a) Chromyl chloride test b) Carbylamine test
   c) Kurnakov test d) Ring test
3. Which of following elements are include in Lanthanoide series?
   a) La to Lu b) Ce to Lu c) La to yb d) Ce to yb
4. Which of following is general electronic configuration of Lanthanoides?
   a) $[Xe]4f^{0-14}5d^{o-1}6s^2$ b) $[Xe]4f^{1-14}5d^{1-2}6s^2$
   c) $[Xe]4f^{1-14}5d^{o-1}6s^2$ d) $[Xe]4f^{1-14}5d^{o-1}6s^{1-2}$
5. The final product of the reaction $[Mn(CO)_6]^+ + M\ eLi \rightarrow$ is:
   a) $[Mn(CO)_6]^+ Me^-$ b) $[Mn(CO)_5 Me]$
   c) $[Mn(CO)_6]$ d) $[(MeCO)Mn(CO)_5]$
6. The total number of Cu–O bonds present in the crystalline copper(II) acetate monohydrate is:
   a) 10 b) 6 c) 8 d) 4
7. Thermogram in calorimetric DTA is obtained by plotting
   a) ΔH versus temperature b) ΔH versus volume
   c) ΔH versus weight d) ΔT versus temperature
8. The actual base pairs present in the double helical structure of DNA containing adenine (A), thymine (T), cytosine (C) and guanine (G), are
   a) AG and CT b) AC and GT c) AG and AC d) AT and GC
9. High dose of dietary supplement $ZnSO_4$ for the cure of Zn deficiency
   (a) reduces myoglobin
   b) increases iron level in blood
   c) increases copper level in brain
   d) reduces copper, iron and calcium levels in body

Contd…

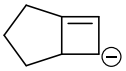
10. The recoil energy of a Mossabauer nuclide of mass 139 amu is 2.5 MeV. The energy emitted by the nucleusinkeV is:
    a) 12.5 b) 15.0 c) 20.5 d) 25.0
11. The De broglie wavelength of a particle having kinetic energy is given by
    a) $\lambda = \frac{h}{\sqrt{E_k}}$ b) $\lambda = \frac{h}{\sqrt{2mE_k}}$ c) $\lambda = \frac{h}{\sqrt{mE_0}}$ d) $\lambda = \frac{h}{\sqrt{2mE_0}}$
12. The possible J values for 3D term symbol are
    a) 2 b) 3 c) 4 d) 5
13. State which of the following molecules can show a pure rotational microwave spectrum
    a) N_2 b) H_2 c) COS d) HCl
14. The dipole moment is maximum for
    a) HF b) HCl c) HBr d) HI
15. Which gas is adsorbed to maximum extent on the given surface?
    a) NH_3 b) H_2 c) N_2 d) O_2
16. The correct IUPAC name of the following hydrocarbon is

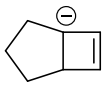
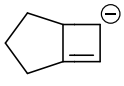
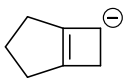


    a) 4,5-diisopropyl-3-methylheptane b) 3-methyl-4,5-diisopropylheptane
    c) 5-ethyl-4-isopropyl-3,6-dimethylheptane d) 3-ethyl-4-isopropyl-2,5-dimethylheptane
17. Which of the following Fischer projections is different from the other three?



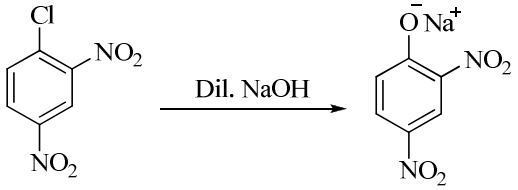
    a) 1 b) 2 c) 3 d) 4
18. A resonance form of the allylic carbanion shown below is



    a)  b) 
    c)  d) All of these

Contd…

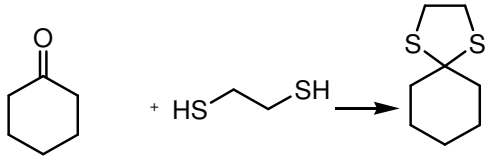
19. This transformation proceeds through.



a) electrophilic addition
b) benzyne intermediate
c) activated nucleophilic substituion
d) oxirane

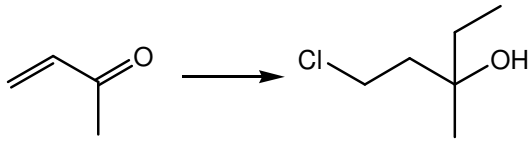
20. Identify the one which does not come under the organic addition reaction
a) Hydration
b) Dehydration
c) Halogenation
d) Hydrohalogenation

21. The suitable catalyst for this reaction is



a) BF_3/Et_2O b) NaOEt c) Tungsten d) Dibenzoyl peroxide

22. The most appropriate reagent in the conversion of the following compound is



a) (i) EtMgBr (ii) HCl
b) (i) $(C_2H_5)_2CuLi$ (ii) HCl
c) (i) C_2H_5Li (ii) HCl
d) (i) HCl (ii) EtMgBr

23. Nitration of pyrrole is best carried out using:
a) ammonium nitrate.
b) nitric acid.
c) acetyl nitrate.
d) concentrated nitric and sulfuric acids.

24. If you wanted to form 2,3,4,5-tetrabromopyrrole from pyrrole, which of the following conditions would be the best choice?
a) HBr at 298 K.
b) Br_2 with $AlBr_3$ as a Lewis catalyst.
c) Br_2 at 273 K.
d) Br_2 in the presence of a radical initiator.

25. A compound C_8H_6 decolorizes Br_2 in CCl_4 and gives a white precipitate with Tollen's reagent. It has sharp band at 3300 cm^{-1} and weak bands at 3085, 2110 cm^{-1}. What is this compound?
a) Phenyl acetylene
b) Phenyl propylene
c) Phenyl ethylene
d) Octene

PART – B (15x 2 = 30)

Answer any FIFTEEN questions.

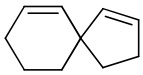
26. The molecule with highest number of lone-pairs and has a linear shape based on VSEPR theory is:
a) CO_2 b) I_3^- c) NO_2 d) NO_2^+

Contd…

27. The spin-only magnetic moment and the spectroscopic ground state term symbol of manganese center in $[MnF_6]^{3-}$ ion respectively, are
    (a) 4.9 BM and ^5D (b) 4.9 BM and ^4F
    (c) 3.9 BM and ^3D (d) 4.9 BM and ^3F
28. The pair of lanthanides with the highest third-ionization energy is:
    (a) Eu, Gd (b) Eu, Yb (c) Dy, Yb (d) Lu, Yb
29. The reactive position of nicotinamide adenine dinucleotide (NAD) in biological redox
    reactions is
    (a) 2-position of the pyridine ring (b) 6-position of the pyridine ring
    (c) 4-position of the pyridine ring (d) 5-position of the pyridine ring
30. The STYX code of B_4H_{10} is:
    (a) 4120 (b) 4220 (c) 4012 (d) 3203
31. The use of dynamic inert atmosphere in thermogravimetric analysis (TGA)
    (a) decreases decomposition temperature (b) decrease weight loss
    (c) reduces rate of decomposition (d) increases weight loss
32. Under physiological condition, oxygen is binding to deoxyhemoglobin and deoxymyoglobin, the binding curve and its pH dependence, respectively, are
    a) Sigmoidal and pH dependent
    b) Hyperbolic and pH independent; hyperbolic and pH independent sigmoidal and pH dependent
    c) Hyperbolic and pH dependent; hyperbolic and pH dependent sigmoidal and pH independent
    d) Sigmoidal and pH independent
33. A borane (X) is reacted with ammonia to give a salt of borohydride (Y). The ^{11}B NMR spectrum of Y consistsof a triplet and a quintet. The borane X is
    (a) B_2H_6 (b) B_3H_9 (c) B_4H_8 (d) B_5H_9
34. For Gaussian wave function $\psi(x) = Ne^{\left(\frac{-x^2}{2\sigma^2}\right)}$ limit of x is $-\infty < x < \infty$ then value of N.
    a) $\frac{1}{\pi\sigma^2}$ b) $\pi\sigma^2$ c) $\frac{1}{\sqrt{\pi\sigma^2}}$ d) $\sqrt{\pi\sigma^2}$
35. In the solid state PCl_5 exist as an ionic solid composed of PCl_4^+ cations and PCl_6^- anions but the vapour is molecular. To what point groups do the ionic species in the solid belong
    a) T_d only b) O_h only c) T_d and O_h respectively d) O_h and T_d respectively
36. The term symbol for O_2^+ is
    a) $^1\mu$ b) $^1\sum$ c) $2\pi_u$ d) 3φ

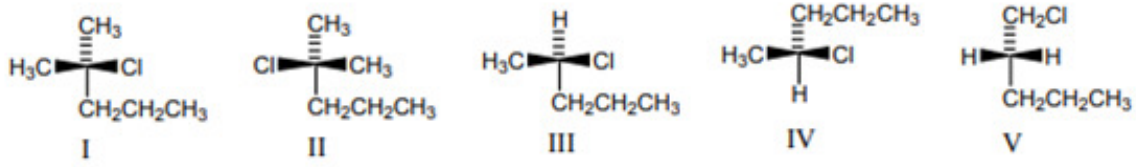
Contd…

37.IUPAC name of the following compound is



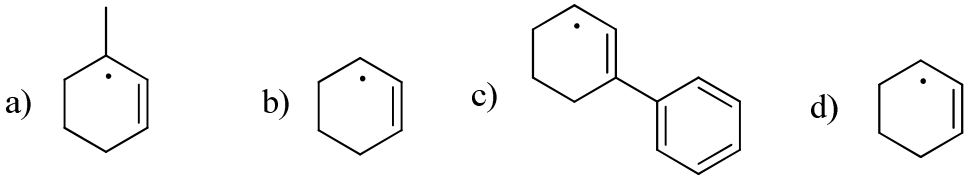
a) spiro [4, 5] deca-1,6-diene
b) spiro [5, 4] deca-1,6-diene
c) 1,6-diene spiro [4,5] decane
d) 1,6-diene spiro [5,4] decane

38.Which of the following is the pair of enantiomer from the following substance?

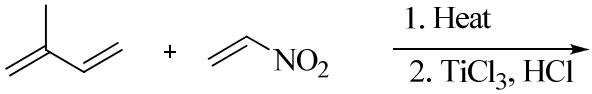


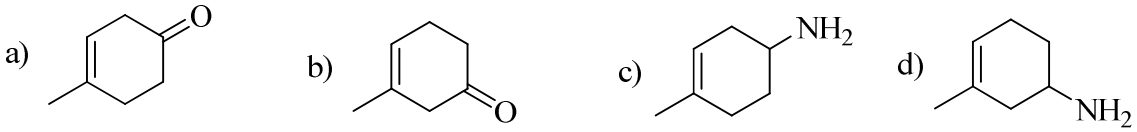
a) I and II
b) II and III
c) III and IV
d) I and V

39.Most stable radical is

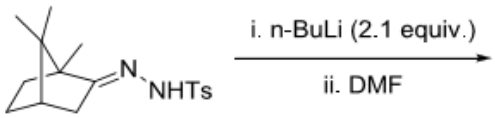


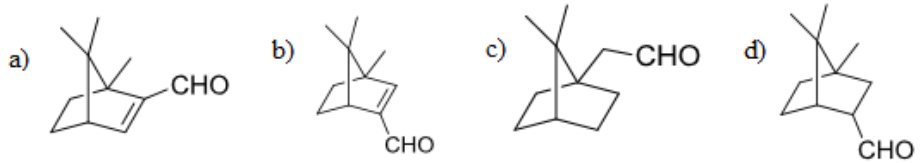
40.The major product formed in the following reaction is





41.The major product formed in the following reaction is ……



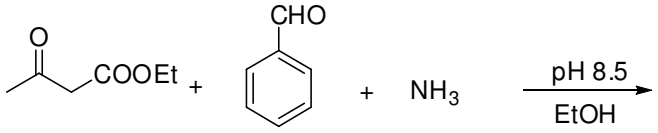


42.In the reaction of cyclopentadiene with acrylate ester giving Diels-Alder reaction products, the interacting frontier orbitals are

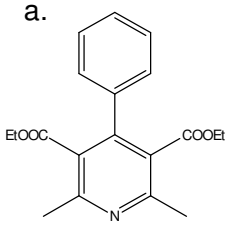
a) HOMO of a diene and LUMO of a dienophile
b) HOMO of a dienophile and LUMO of a diene
c) HOMO of a diene and HOMO of a dienophile
d) LUMO of a diene and LUMO of a dienophile

Contd…

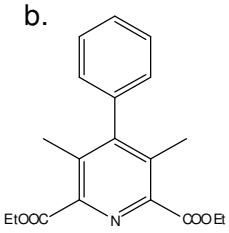
43. The major product in the following reaction is



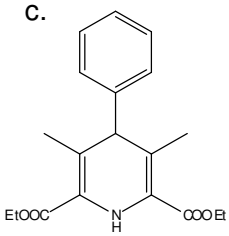
a.



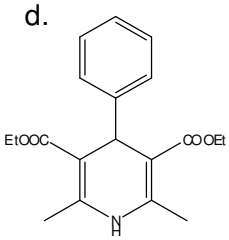
b.



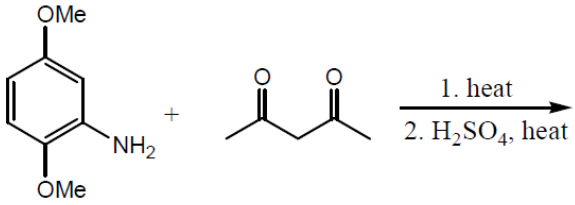
c.



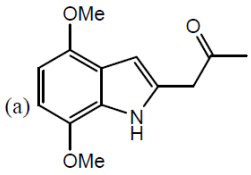
d.



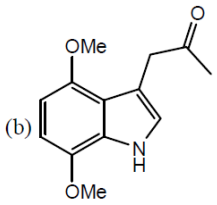
44. The major product formed in the following reaction is



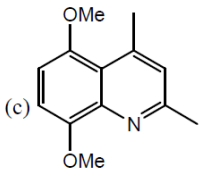
(a)



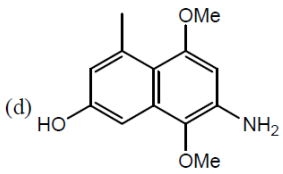
(b)



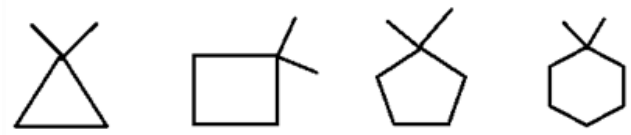
(c)



(d)



45. What will be the strength of coupling between geminal protons in the following molecules?



a) Decrease as the size of ring increase
b) Increase as the size of ring increase
c) Remains same
d) No relation between the size of the ring & coupling

Contd…

PART – C (5 x 4 = 20)

Answer any FIVE questions.

46. The number of lone pair(s) of electrons on the central atom in $[BrF_4]^-$, $XeF_6$and $[SbCl6]^3$
are, respectively,
(a) 2, 0 and 1 (b) 1, 0 and 0
(c) 2, 1 and 1 (d) 2, 1 and 0

47. The g values for Ce^{3+} ($4f^1$) and Pr^{3+} ($4f^2$) are, respectively
(a) 3/7 and 2/5 (b) 5/7 and 4/5
(c) 6/7 and 3/5 (d) 6/7 and 4/5

48. The molar extinction coefficient of B (MW = 180) is 4 x 10^3lit mol^{-1} cm^{-1}. One liter solution of C which contains 0.1358 g pharmaceutical preparation of B, shows an absorbance of 0.411 in a 1 cm quartz cell. The percentage (w/w) of B in the pharmaceutical preparation is:
a) 10.20 b) 14.60 c) 20.40 d) 29.12

49. Match the metalloproteins in column–A with their function in column–B

Column–A	Column–B
I. Oxyhemocyanin	A. hydrolysis of C-terminal peptide bond
II. Carbonic anhydrase	B. methylation
III. Cytochrome P450 C.	C. Conversion of CO2 to H2CO3
IV. Carboxy-peptidase A	D. oxdiation of alkene
	E. oxygen stroage
	F. oxygen transport

The correct answer is

(a) I – F; II – C; III – D; IV – A (b) I – E; II – C; III – A; IV – F
(c) I – F; II – B; III – C; IV – A (d) I – E; II – D; III – C; IV – A

50. The configuration [Ne] $2p^1$ $3p^1$ has a ^3D term. Its levels are
a) $^3D_{3/2}$, $^3D_{1/2}$ b) $^3D_{5/2}$, $^3D_{3/2}$, $^3D_{1/2}$
c) $^3D_3$, $^3D_2$, $^3D_1$ d) $^3D_3$, $^3D_2$, $^3D_1$, $^3D_0$

51. Match column I and II and select the correct answer

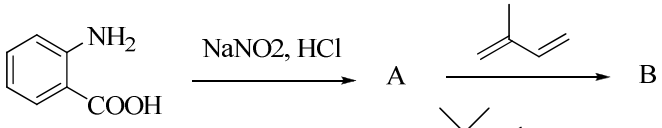
Column I		Column II
A.	XeF_5^+	1. Tetrahedral
B.	SiF_5^-	2. Square planar
C.	AsF_4^+	3. Trigonal bipyramidal
D.	IcI_4^-	4. Square pyramidal
		5. Octahedral

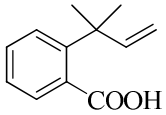
Contd…

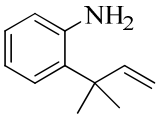
	A	B	C	D
a	1	2	5	3
b	4	3	1	2
c	1	3	5	2
d	4	2	1	3

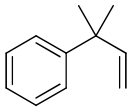
52. The lattice parameter of an element stabilized in a fcc structure is 4.04 Å. The atomic radius of the element is:
a) 2.86 Å b) 1.43 Å c) 4.29 Å d) 5.72

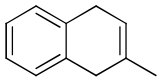
53. The intermediate A and the major product B in the following conversion are



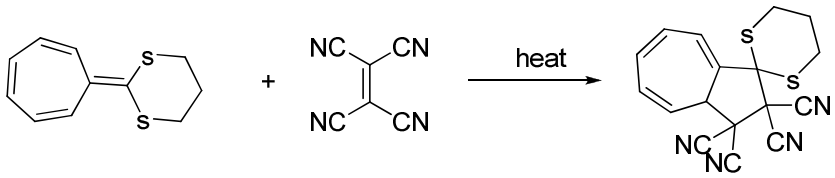
a) A is a carbocation and B is 

b) A is a carbanion and B is 

c) A is a free radical and B is 

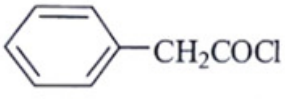
d) A is a benzyne and B is 

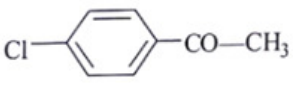
54. The following is an example of

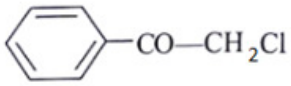


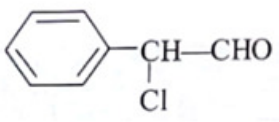
a) [3+2]cyclo addition b) [4+2]cyclo addition
c) [6+2] cyclo addition d) [8+2]cyclo addition

55. A compound of molecular formula C_8H_7ClO shows a prominent band in its IR spectrum at 1690 cm^{-1}. ^1H NMR spectrum revealed only two major types of protons in the ratio of 5: 2. Which one of the following structures best fits the above data?

a) 

b) 

c) 

d) 

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Botany **COURSE CODE : 17U1BMC1**

COURSE TITLE : Cryptogams **QN.NO : 8801**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The gametes are structurally and functionally alike that are _____
   a) Orgamous b) Isogamous c) Anisogamous d) perigamous
2. Which one of the following is heterotrichous alga?
   a) *Caulerpa* b) *Cladophora* c) *Nostoc* d) *Fritschiella*
3. Helotism is found in _____
   a) Algae b) Lichen c) Bryophytes d) Pteridophytes
4. Apothecium is a reproductive structure of _____lichen.
   a) Crutose b) Foliose c) Fruticose d) Leprose
5. Sunken sporophyte is formed in oogonial cavity of _____
   a) *Riccia* b) *Marchantia* c) *Anthoceros* d) *Funaria*
6. The plant body of Bryophytes are _____
   a) Gametophyte b) Sporophyte c) Zoospores d) Akinetes
7. Which of the following is primitive stelar condition in Pteridophytes?
   a) Eustele b) Haplostele c) Solenostele d) Siphanostele
8. Sporocarp is a reproductive structure of _____
   a) *Lycopodium* b) *Marsilea* c) *Pteris* d) *Psilotum*
9. Birbhal sahni Institute of Palaeobotany is located at
   a) Lucknow b) Pune c) New Delhi d) Hyderabad
10. Which one of the following is not a fossilization process?
    a) Compression b) Lyopholization c) Impression d) Petrifaction

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Describe the structure of Heterocyst.

(OR)

b) List out the economic importance of *Algae.*

12. a) Enumerate the Salient features of Lichens.

(OR)

b) Explain the special vegetative structures in Lichens.

13. a) Discuss the classification of Bryophytes by Rothmalar.

(OR)

b) Describe the gametophytic structure of *Riccia.*

14. a) Analyse the stellar evolution in Pteridophytes.

(OR)

b) Give an account on the L.S. of *Lycopodium* cone.

15. a) Explain the importance of geological time scale.

(OR)

b) How do you determine the age of fossils?

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Critically analyze the reproduction in *Polysiphonia.*

17. Write a detailed account on structure and reproduction of *Usnea.*

18. Elaborate the life cycle of *Funaria.*

19. Illustrate the reproductive structure of *Marsilea.*

20. Discuss the anatomical features of *Lepidodendron.*

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Botany **COURSE CODE : 17U1BSM1**

COURSE TITLE : Horticulture **QN.NO : 8802**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Growing of Vegetable species alone in specific locations is called
   a) arboriculture b) pomology c) gardening d) olericulture.
2. The capacity of soil nourishment and sustain plant growth is known as
   a) soil fertility b) soil composition
   c) humus d) volatization
3. Choose the technique to remove the unwanted branches in plants using large scissors
   a) pruning b) cutting c) layerage d) graftage
4. The green house construction requires which of the following?
   a) wooden b) iron c) thick glasses d) all of the above
5. Growing ornamental plants to maintain various shapes along the border of garden is called
   a) Pergdas b) pillars c) trellies d) tobiary
6. Potted plants hung down from the roof or wooden frames are called as_____
   a) hanging baskets b) bonsai c) repotting d) potting on
7. Guava is propagated by means of
   a) cutting b) grafting c) budding d) all of these
8. Choose the botanical name of mullai
   a) Jasminum auriculatium *b) Jasminum sambac*
   c) Jasminum grandiflorum *d) Jasminum indicum*
9. Which soil pH is generally preferred in the cultivation of mango?
   a) 6.0-8.0 b) 6.5-8.5 c) 7.2-9.5 d) 6.5-8.0
10. Pickles are usually rich with _____
    a) Probiotics b) antioxidants c) minerals d) All of these

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) List out the scope and importance of horticulture.

(OR)

b) Explain the soil profile with neat diagram.

12. a) Enlist the tools used for ornamental gardening.

(OR)

b) Write short notes on arboratum.

13. a) Enumerate the important components in indoor gardens.

(OR)

b) Compare and contrast symmetrical and asymmetrical garden.

14. a) Discuss the propagation methods of *Nerium*.

(OR)

b) Expound the propagation method of pome granate.

15. a) Trace the nutritional fact and health benefits of value added products

(OR)

b) How do you prepare jams of popular fruits?

PART – C (3x10=30)

Answer any THREE questions

16. Elucidate the various divisions of horticulture.
17. Discuss the types of green house. Mention its significance.
18. Outline the layout of kitchen garden with suitable crops.
19. Analyze the cultural practice of jasmine and its significance.
20. Comprehend the varieties and cultivation of mango in Tamil Nadu.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 17U1BAC1**

COURSE TITLE : Algae, Bryophytes and Pteridophytes **QN.NO : 8803**

TIME : 3 Hours **MAX.MARKS : 75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which of the following p[lant group is oddman out from the plant kingdom?
   a) Algae b) Fungi c) Bryophytes d) Pteridophytes.
2. Sexual reproduction is absent in
   a) Nostoc b) *Caulerpa* c) *Cladophora* d) Ulva
3. The Tetrasporophyte of *Polysiphonia* is _____ filament.
   a) Haploid b) Diploid c) Triploid d) Tetraploid
4. Agar – Agar is obtained from
   a) Gelidium b) *Gracillaria* c) *Kappaphycus* d) All the above
5. Pyrenoid protein is found in the chloroplast of _____
   a) Riccia b) *Marchantia* c) *Anthoceros* d) *Funaria*
6. A Thread like chain of vegetative cells that forms the earliest stage of gametophyte development.
   a) Gemmae b) Protonema c) Elaters d) Peristomillm
7. The evolutionary significance of *Pteriodophytes* are
   a)Vascular evolution b) arboreal habit
   c) heterospory d) All the above
8. *Selaginella* is _____ form of Pteridophyte.
   a) Homosporous b) Heterosporous c) Isoporous d) Pseudosporous
9. The number of leaflets in *Marsilea quadriplia* is
   a) 2 b) 4 c) 6 d) 8
10. *Marsilea* petiole consists of _____ stele.
    a) Amphiphloic siphano b) Ectophloic siphano
    c) Endophloic siphano d) Dictyo

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11.a) Mention the various divisions of plant kingdom with its characters.

(OR)

b) Classify the algae according to Fritsch.

12.a) Describe the vegetative thallus of *Polysiphonia*.

(OR)

b) Enlist the economic importance of algae.

13.a) Enumerate the general characters of Bryophytes.

(OR)

b) Elucidate the sporophytic structure of *Funaria*.

14.a) Give the outline of Pteridophytes classification by Smith.

(OR)

b) Explain the anatomical structure of *Selaginella* rhizophore.

15.a) Expound the structure of sporocarp of *Marsilea*

(OR)

b) Discuss the sporophytic generation of *Marsilea*.

PART – C (3x10=30)

Answer any THREE questions

16. Explicit the life cycle of *Caulerpa.*

*17.*Critically discuss the reproductive structures of *Polysiphonia.*

18.Write an account on Rothmalar system of Bryophytes classification.

19.Narrate the reproduction in *Selaginella.*

20.Illustrate the stelar variations in Pteridophytes**.**

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Botany **COURSE CODE : 17U2BMC2**

COURSE TITLE : Anatomy and Embryology **QN.NO : 8804**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The length is increased by
   a) mass meristem b) plate meristem
   c) apical meristem d)superficial meristem
2. Chlorenchyma is usually found in
   a) cortex b) pericycle c) both of these d) pith
3. In the stem of a monocot bundle the xylem is
   a) V-shaped b) the radial rows c) J-shaped d) in concentric rings
4. When the protoxylem elements lie towards the periphery, they are called
   a) radial b) exarch c)endarch d) mesarch
5. Gaseous exchange between air and internal tissues of old corky stem takes place through
   a) sieve plates b) pits c) stomata d) lenticels
6. Baloon like outer growth of parenchyma into the lumen of vessel is known as
   a) tunica b) tylose c) phellogen d) histogen
7. The male gametophyte in monocots is the
   a) tetrad b) nucellus c) megaspore d) microspore
8. Stalk of the ovule is called as
   a) hilum b) tigellum c) funicle d) none of these
9. Double fertilization is characteristics only of
   a) gymnosperms b) dicots c) ferns d) algae
10. The role of double fertilization in angiosperms is to produce
    a) endosperm b) integuments c) cotyledons d) endocarp

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Discuss the structure and functions of xylem elements.

(OR)

b) Expound the various theories of root apex organization.

12. a) Sketches the internal structure of dicot stem.

(OR)

b) Compare and contrast the internal structure of Isobilateral and Dorsiventral leaf.

13.a) Elucidate the growth in the stelar region of dicot stem.

(OR)

b) Illustrate the anomalous secondary growth in *Boerhaavia* stem.

14.a) Assign the structure of microsporangium.

(OR)

b) Bring out the structure and types of ovule.

15. a) Evaluate the biological significance of triple fusion and double fertilization.

(OR)

b) Classify the types and importance of endosperms.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Give an account on simple permanent tissue.

17. Narrate the nodal anatomy in angiospermic plants.

18. Illustrate the anomalous secondary growth in *Dracaena* stem

19.Analyze the development of *polygonum* type of embryo sac studied by you.

20.Describe the structure and development of dicot embryo.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Botany **COURSE CODE : 17U2BSM2**

COURSE TITLE : Biodiversity **QN.NO : 8806**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The term Alpha diversity refers to
   a) Genetic diversity b) Community and ecosystem diversity
   c) Species diversity d) Diversity among the plants
2. Biodiversity is of importance as it offers
   a) Stability of ecosystems b) Stability of atmosphere
   c) Stability of species d) Stability of research
3. Endemic species are
   a) Rare species b) Species localized in specific region
   c) Cosmopolitan in distribution d) Critically endangered species
4. The largest number of endemic plant species present in the region of
   a) Himalayan Region b) Malabar Region
   c) Western Ghats d) Gangetic Plains
5. Global warming can be controlled by
   a) Reduced deforestation, cutting down use of fossil fuel
   b) Reduced reforestation, increasing the use of fossil fuel
   c) Increasing deforestation, slowing down the growth of human population
   d) Increasing deforestation, reducing efficiency of energy usage
6. Red data book contains data of
   a) All plant species b) All animal species
   c) Economically important species d) Threatened species
7. The Gangotri National Park (GNP) is located in the state of
   a) Chhattisgarh b) Bihar c) Uttrakhand d) West Bengal
8. An advantage of *ex-situ* conservation is
   a) Cheap method b) Conserve large number of species together
   c) Existence in natural habitat d) Genetic process for breeding/long life
9. The headquarter of UNESCO is
   a) Washington DC b) New York c) Paris d) Vienna
10. The founder of World Wildlife Fund was
    a) William Randal Cremer b) Farifield Osborn
    c) Ludvik Rajchman d) Anthony Lake

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Define biodiversity. Write a note on its constraints.

(OR)

b) Write short note on marine biodiversity.

12. a) List out the endemic plants of Tamil Nadu.

(OR)

b) Define Hotspot and add a note on biodiversity hotspots in India.

13. a) Describe Red Data Book and their importance.

(OR)

b) Briefly write a note on categories of IUCN.

14. a) Give a note on medicinal plant conservation areas.

(OR)

b) What is *ex-situ* conservation? Add a note on botanical gardens and seed bank.

15. a) Write a short note on local biodiversity register.

(OR)

b) Mention the importance of WWF and CBD.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Give a detailed account on different levels of biodiversity.
17. Define endemism. Write an essay on endemic centers in Tamil Nadu.
18. Narrate the biodiversity threatening factors and rate of extinction.
19. Write an essay on *in-situ* type of conservation.
20. Write a detailed note on national level biodiversity organizations.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 17U2BAC2**

COURSE TITLE : Plant Physiology **QN.NO : 8807**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. The cellulose fiber tipped into the water, immediat physiological phenomena is ____ .
   a) Diffusion b) Imbibition c) Osmosis d) Plasmo-lysis.
2. The peculiarity of stomatal guard cells have
   a) prominent nucleus b) absence of nucleus
   c) absence of chloroplast d) thin cell wall.
3. Which of the following molecules carries minera across the membrane
   a) lipid b) carbohydrate c) proteins d) Harmon
4. Mass-Flow hypothesis was proposed by
   a) Emst Munch b) Edwin Ton c) Lidenberg
   d) Holdridge
5. Cyclic photophosphorylation starts with
   a) PS-IV b) PS-III c) PS-II d) PS-I
6. The ultimate electron acceptor molecule in electron transport system is ____ .
   a) $\frac{1}{2}O_2$ b) H_2O c) H_2O_2 d) CO_2

Contd...

7. The glyoxylate cycle occurs in _____.

a) Chloroplast b) Mitochondria c) Peroxisomes d) Glyoxysomes

8. Important enzymes involved in nitrogen fixation are _____.

a) Peptidases b) Nitrogenases c) Hydrolases d) Aldolases

9. Parthenocarpy is induced by _____ hormone

a) Auxins b) Cytokinins c) Zeatin d) Ethylene

10. Tobacco is _____ day plant.

a) Long b) short c) Long-short d) Succulent

PART – B **(5 x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) Explain the mechanisms of water absorptions in plants.

(or)

b) Mention the types of transpirations.

12. a) Explicit the cytochrome pump theory.

(or)

b) Expound the role of sugars in plant physiology

13. a) Differentiate cyclic and non-cyclic photo-phosphorylation.

(or)

b) Mention the importance of Glycolysis. contd...

14 a) Justify the dual action of Rubisco.

(or)

b) Mention the significance of HMP pathway.

15-a) List out the role of Auxins in physiology.

(or)

b) Elaborate the concepts of vernalization.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain the mechanisms of stomatal movement evidenced with suitable theories.

17. Elaborate the translocation of sugar by mass-flow hypothesis.

18. Give the outline of Kreb cycle and its significance.

19. Elucidate the biological nitrogen fixation and its importance.

20. Write a critical account on photoperiodism in flowering physiology.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Botany **COURSE CODE : 17U3BMC3**

COURSE TITLE : Cell Biology and Biochemistry **QN.NO : 8809**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Cell theory was proposed by
   a) Robert Hook b) Robert Brown
   b) c) Singer &Nocolson d) Scleden&Schwaan
2. One of the following is cell inclusion
   a) Cytoplasm & Nucleoplasm b) Endoplasmic reticulum & Golgi
   c) Cystolith&Raphides d) DNA & RNA
3. Semi-autonomous organells include
   a) Nucleus & Nucleolus b) Chloroplast & Mitochondria
   c) Endoplasmic reticulum & Ribosomes d)Chromosomes & Genes
4. Interphase refers to
   a) G1 phase + G2 phase + S phase b) G1+G2+ M phase
   c) G1+ S Phase d) G2+ M+S phase
5. Formation of water molecule from the constituent elements of oxygen and hydrogen involves the following bonding
   a)Vanerwalls' bonding b) Electrostatic bonding
   c) Ionic bonding d) Covalent bonding
6. Identify the polysaccharide
   a) Starch b) Glycogen c) Cellulose d) All the above
7. Haemoglobin is having the following structure
   a) Primary b) Secondary c) Tertiary d) Quaterinary
8. Sucrose digesting enzyme is
   a) Pectinase b)Galactosidase c)Invertase d) Amylase
9. Classical phospholipid found in the plasma membrane is
   a) Myosin b) Lecithin c) Collagen d) Tubulin
10. Structural organization of tRNA depicts
    a) Lock & key model b) Crick model
    c) Nicolson model d) Clover model

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11.a) Highlight the chemical composition of plant cell wall with its Significance.

[OR]

b) Illustrate fluid mosaic membrane model and its role in molecular transport .

12.a)"Nucleolus is a ribosome processing machine"– Justify.

[OR]

b) Outline the events of Prophase I with their significance.

13. a) Explain any two chemical bonds and their influence in the biological system.

[OR]

b)Compare homopolysaccharide and heteropolysaccharide .

14. a) Reveal the quaterinary levels protein organization using classical example.

[OR]

b) Compare the primary and secondary structures of protein.

15. a) Depict the structure of a tRNA.

[OR]

b) Explain the structure and function of phospholipid and cholesterol.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16.State the postulates of cell theory and compare the ultra structures of a plant cell and an animal cell with a note on utility values.

17.Relate the functional organization of chloroplast and mitochondria.

18..Examine the physio-chemical attributes of carbohydrates along with their significance.

19. How are enzymes classified ? Elucidate Enzyme kinetics with an expression.

20.Elucidate the functional organization of DNA.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 17U3BAC3**

COURSE TITLE : Plant Anatomy **QN.NO : 8810**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Meristem found inbetween the permanent tissue is called ____ meristem.
   a) Apical b) intercalary
   c) lateral d) pro
2. Tunica-Carpus theory was proposed by _____
   a) Schmidt b) Nageli c) Heinstein d) Easeu
3. Bulliform cells are found only in _____
   a) Dicot b) Monocot c) Gymmsperms d) Algae
4. Tracheary elements are the component of _____
   a) parenchyma b) sclerenchyma c) xylem d) phloem
5. Open collateral vascular bundles are found in _____
   a) monocut b) Dicot c) Grass d) Cyperus
6. Casparian strips are made up of _____
   a) Lignin b) suberin c) cellulose d) Arabinose
7. Interfascicular cambium present between the _____
   a) secondary xylem and secondary phloerm b) Primary xylem and primary phloem
   c) secondary xylom and primary phloem
   d) primary xylem and tracheary parenchyma
8. Lenticels are characteristic features of _____ bark
   a) herbaceous b) climbers c) trees d) root
9. Multiple epidermis is a characteristic features of _____ leaf.
   a) Ficus b) Merium c) Grass d) Onion
10. The position of protoxylem in typical leaf is a condition called _____
    a) endarch b) exarch c) mesarch d) polyarch

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Mention the types of meristems.

(OR)

b) Brief note on Histogen theory.

12. a) Write an account on parenchyma tissue.

(OR)

b) List out the functions of phloem.

13. a) Illustrate the anatomical structure of typical dicot stem.

(OR)

b) Explain the internal structure of monocot root.

14. a) Explicit the seasonal activity of Carnbium.

(OR)

b) Differentiate sap wood and heart wood.

15. a) Describe the anatomy of dorsiventral leaf.

(OR)

b) List out the characters of monocot leaf.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Discuss the theories supported with meristerms.

17. Analyse the various components of Xylern.

18. Critically discuss the structure of dicot root.

19. Explain the anatomical features of monocot stem.

20. Compare and contrast the anatomy of monocot and dicot leaves.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Botany **COURSE CODE : 17U3BSA1**

COURSE TITLE : Horticulture **QN.NO : 8811**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Olericulture refers to the study of _____ crops.
   a) fruit b) vegetable c) oil seed d) cereal
2. Humus rich soil horizon is _____
   a) A b) B c) C d) O
3. Which of the following garden tool is not needed for preparation soil for cultivation?
   a) pick-axe b) hoe c) crow bar d) secateurs
4. Which of the following greenhouse is suitable for commercial cultivation of horticultural crops?
   a) lean-to b) detached c) ridge d) guitter
5. Topiary is belongings to _____ garden.
   a) Ornamental b) Kitchen c) Rockery d) Hanging
6. Mohal garden is an example of _____
   a) symmetrical b) asymmetrical c) terrestrial d) Hanging
7. Drumstick tree can be propagated by _____ cuttings.
   a) root b) stem c) leaf d) fruit
8. Gootee is otherwise called as ____ layering
   a) ground b) air c) girdling d) soil
9. Mango is belonging to _____ family.
   a) Anacardiaceae b) Sapindaceae
   c) Geraniaceae d) Rhamnaceae
10. Which of the following common chemical preservator used for preparation of value added products?
    a) Benzoic acid b) vinegor c) soda d) citric acid

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) List out the scope of horticulture.

(OR)

b) Explain the important components of soil.

12. a) Give an account on suitable tools used in kitchen garden.

(OR)

b) What are the accessories of Green houses?

13. a) Enumerate the values of ornamental gardens.

(OR)

b) Lay-out a kitchen garden and their suitable crops.

14. a) explain the methods for propagation of sapota.

(OR)

b) Describe the cultural practices of Jasmine.

15. a) Write an account on the production of value added products form ground nut.

(OR)

b) Write down the procedure for preparation of Jarns.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Describe the soil profile with suitable diagram.
17. Elaborate the different types of Green houses.
18. Explain the components of ornamental garden.
19. Discuss the different types of layering with suitable example.
20. Write a brief account on cultural practices of mango.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Botany **COURSE CODE : 17U4BMC4**

COURSE TITLE : Ecology **QN.NO : 8812**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The science dealing with study of soil is called
   a) Geology b) pedology c) both of these d) none of these
2. The classification of plant groups on the basis of temperature differenticating four zone such as megatherms was proposed by
   a) Clements b) Raunkiaer c) Odum d) Warming
3. The relationship between a climber and the host corresponds to
   a) neutralism b) commensalism c) parasitism d) mutalism
4. Mycorrhiza is the phenomenon of
   a) antagonism b) parasitism c) endemism d) symbiosis
5. Ecosystems has two components
   a) plants and animals b) weeds and tress
   c) biotic and abiotics d) frogs and men
6. The significance of ecosystem lies in
   a) flow of energy b) cycling of matters c) both of these d) none of these
7. The common source in Indian village is
   a) electricity b) coal
   c) sun d) wood and animal dung
8. Fossil fuels and metallic minerals are
   a) renewable resources b) inexhaustible resources
   c) non-renewable energy resources d) none of these
9. Water pollution is caused by
   a) decay of bodies of aquatic organisms b) rain
   c) growth of phytoplantons d) industrial effluents
10. The main cause of pollution is
    a) man b) plants c) animals d) man and animals

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b)

11.a) Discuss the various sub-divisions of ecology.

(OR)

b)Give an account on soil profile.

12.a) Compare and contrast symbiosis and parasitism.

(OR)

b) Enumerate the salient features of positive interaction.

13.a) Evaluate the biotic and abiotic components of pond ecosystem.

(OR)

b) Focus the functional status of an ecosystem.

14.a) How can minerals resources be conserved?

(OR)

b) Write short notes on i) Global warming ii) Plastic wastes.

15.a) Suggests to control water pollution.

(OR)

b) Examine the sources of air pollution.

PART – C **(3x10=30)**

Answer any THREE questions

16. Analyse the abiotic factors in the environment.

17. Expound the positive interactions among population with suitable examples.

18. 'The flow of energy is unidirectional in an ecosystem' – Discuss.

19. Comprehend the non-renewable resources with suitable examples.

20. Elucidate the sources, effects and control measures of air pollution.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Botany **COURSE CODE : 17U4BSM3**

COURSE TITLE : Crop Diseases **QN.NO : 8814**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Name the process of infection of the actual way in which the disease develops in the plant body
   a) pathogenesis b) etiology
   c) causal organism d) control measures
2. Diseases which occur in severe stage periodically, practically in all regions where a particular crops in grown are known as
   a) endemic b) epidemic c) pendemic d) sporadic
3. The red rot of sugarcane is caused by
   a) *Colletotrichum* b) *Banana virus* c) *Pyricularia* d) *Xanthomonas*
4. Control measures of disease paddy plast is
   a) Remove weed hosts from bunds. b) pruning of twing
   c) use herbicides d) all of these
5. Bacterial blight starts as spots on
   a) leaves and seedlings b) roots and stems
   c) leaf vein and roots d) all of these
6. Name the disease of plant in which leaves, branches, fruits all are affected?
   a) spider mite b) mealybugs c) aphids d) citrus canker
7. Bunchy top of banana plant disease is caused due to:
   a) bacteria b) fungus c) virus d) none of the above
8. Little leaf of brinjal is a ___ disease
   a) bacterial b) fungal c) viral d) mycoplasma
9. Which one of the following is helps in the control of soil borne diseases
   a) crop rotation b) sanitation
   c) environmental manipulation d) eradication of alternative host
10. The following is a systemic fungicide
    a) banizimidazole b) thiram
    c) mercuric chloride d) sulphur

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b)

11.a) Classify the plant diseases base on anatomical and morphological symptoms on host.

(OR)

b) Bringout the major and minor crops in India.

12.a) Assign the disease cycle of paddy blast.

(OR)

b) Point out the etiology and control measures of paddy blast disease.

13.a) Elucidate the symptoms and control measures of angular leaf spot of cotton.

(OR)

b) Expound the etiology and life cycle in angular leaf spot of cotton.

14.a) Enumerate the characteristics of causal organism in bunchy top of banana.

(OR)

b) Summarize the etiology, diseasecycle and control measures of bunchy top of banana.

15.a) Express the various methods of cultural practices in crop diseases.

(OR)

b) Evaluate the chemical methods for control of plant diseases.

PART – C **(3x10=30)**

Answer any THREE questions

16.Outline the classification of plant diseases base on severity of infection and geographical distribution.

17.Give an account on red rot of sugarcane.

18.Trace the symptoms, causal organism and control measures of citrus canker

19.Analyse the diseases little leaf of brinjal.

20.Categorized the biological measures for crop disease control.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Botany **COURSE CODE : 17U4BAC4/ 1B2 (Upto 16)**

COURSE TITLE : Gymnosperms and Angiosperms **QN.NO : 8815**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The characteristic feature of the stomata in gymnosperm is
   a) Deeply sunken pits b) Subsidiary cells
   c) Walls of the guard cells are completely free of lignin
   d) Walls of the guard cells are partly free of lignin
2. Stalked ovules are seen in
   a) Bennettitales b) Cycadales c) Cycadofilicales d) Coniferales
3. The anatomical feature of *Cycas* leaflet indicate that *Cycas is a*
   a) Xerophyte b) Mesophyte c) Gymnosperms d) Conifer
4. What would be the best function attributable to the transfusion tissue seen in *Cycas* leaflet
   a) Mechanical b) Photosynthetic c) Conduction d) Storage.
5. The type of leaf found in *Hibiscus* is
   a) Simple b) Compound c) Trifoliate d) Decompound
6. The type of leaf found in *Citrus* is
   a) Unifoliate b) Bifoliate c) Trifoliate d) Multifoliate
7. The stalk of a flower is
   a) Pedicel b) Petiole c) Stem d) Stamen
8. The bract of a flower is
   a) Modified leaf b) Modified petal
   c) Modified sepal d) Modified shoot
9. The type of stamen found in Fabaceae is
   a) Monothecous b) Monoadelphous
   c) Dithecous d) Diadelphous
10. In Poaceae Culm refers to
    a) Leaf b) Root c) Stem d) Flower.

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Discuss the role of Gymnosperms in industry

(OR)

b) Analyze the role of Gymnosperms in Medicine.

12.a) Explain the morphological features of *Cycas.*

(OR)

b) Describe the corolloid root of *Cycas.* Draw necessary diagram.

13.a) Explain any two kinds of compound leaves.

(OR)

b) Enumerate the kinds of phyllotaxy.

14. a) Discuss the basic rules followed while drawing a floral diagram.

(OR)

b) With labeled diagram describe a typical monocot flower.

15. a) Enumerate the floral characters of Fabaceae.

(OR)

b) Describe the economic importance of Poaceae.

PART – C (3x10=30)

Answer any THREE questions

16. Discuss the general features of Gymnosperms.

17. With labeled diagrams discuss the structure of *Cycas* ovule.

18. Describe any five kinds of inflorescence.

19. Explain the parts of a dicot flower.

20. Describe the vegetative and floral characters of Cucurbitaceae.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : NME – Botany **COURSE CODE : 17U4BNM1**

COURSE TITLE : Plants and Human Welfare **QN.NO : 8817**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Maize grain rich in
   a) Thiamine b) Lysine c) Niacin d) Thymine
2. Major food crops of world belongs to
   a) Leguminosae b) Cruciferae c) Solanaceae d) Graminae
3. Cotton is got from
   a) *Brassica* b) *Arachis* c) *Gossypium* d) *Cocos*
4. The most durable wood is _____
   a) *Shorea robusta* b)*Dalbergia sisso*
   c) *Dalbergia sisso* d) *Cedrus deodara*
5. A plant extensively used in the preparation of a cough syrup
   a) *Digitals* b) *Datura* c) *Adathoda* d) *Hyoscyamus*
6. A plant which is both as spice as well as dye is
   a) Indigo b) Catechu c) Turmeric d) Clove
7. Which chemical is responsible for the flavor of clove
   a) Eryngiol b) Sitosterol
   c) Casterol d) Eugenol
8. King of spices is called
   a) Turmeric b) Pepper c) Clove d) Saffron
9. Coffee is mainly produced in India in
   a) Andhra Pradesh b) Kerala c) Karnataka d) Tamil Nadu
10. Cocoa belongs to the family
    a) Sterculiaceae b) Solanaceae
    c) Rubiaceae d) Graminae

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Write the useful part and uses of Maize.

(OR)

b) Explain the uses of Red gram.

12. a) Give short note on lemongrass oil.

(OR)

b) Give short note on teak wood.

13. a) Write the botanical name and morphology of Turmeric.

(OR)

b) Write short note on *Adadhoda.*

14. a) Explain about the uses of Cardamom.

(OR)

b) Write the importance of garlic.

15. a) Describe the morphology and use of Tea.

(OR)

b) Describe short note on Coffee.

PART – C (3x10=30)

Answer any THREE questions

16. Write the botanical name, morphology and uses of Gooseberry.

17. Discuss in detail about Indigo.

18. Explain the morphology and medicinal uses of *Aloe vera*.

19. Discuss in detail about Clove.

20. Write an essay on Cocoa.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Botany **COURSE CODE : 17U5BMC7**

COURSE TITLE : General Microbiology **QN.NO : 8820**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The disease on the basis of which Robert Koch proposed his postulates was _____
   a) puerperal fever b) Anthrax
   c) Cowpox d) chicken cholera.
2. Archae bacterial cell wall is made up of _____
   a) protein b) glycoprotein c) polysaccharide d) All the above
3. The fungal classification was given by _____
   a) Alexopoulos and mims b) Fritsch
   c) Bergey's manual d) fleming.
4. Fruiting bodies of slime moulds are called _____
   a) acerculus b) sori c) apothecium d) perithecium
5. T4 phage often infect _____
   a) Bacillus b) E coli c) Clostridium d) salmonella
6. The phage DNA on integration with the DNA of the bacterial chromosome are termed as __
   a) Lysogeny b) prophage c) Episome d) virion
7. Infection with HIV will result in a depletion of ____
   a) $CD1^+$ cells b) $CD2^+$ Cells c) $CD3^+$ Cells d) $CD4^+$ Cells
8. Photosynthetic bacteria has chlorophyll and accessory pigments assembled in highly organized arrays called _____
   a) Photosystem I b) photosystem II
   c) antennas d) none
9. Which of the following items would be sterilized by dry heat sterilization.
   a) Intravenous (IV) solution b) plastic IV bags
   c) Glass pipettes d) Rubber gloves.
10. Media containing spores and thermolabile constituents are sterilized by _____
    a) pasteurization b) UV radiation c) dry heat d) tyndallisation

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Briefly explain Whitakers five kingdom concept.

[OR]

b) What are koch's postulates?Explain.

12. a) Describe the general charaters of gymnomycota.

[OR]

b) Write short notes on Economic importance of fungi.

13. a) Salient features of viruses- Explain.

[OR]

b) Give an account on TMV.

14. a) Write short notes on Bacterial growth phase.

[OR]

b) Briefly explain about the special features of photo bacteria.

15. a) Notes on physical methods of steritization.

[OR]

b) Notes on Heavy metals and antibiotics (Periollin)

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Outline the concept of Bergey's manual of systemic bacteriology?
17. Elaborate on fritsch's Classification of Algae.
18. Give an account on lytic and lysogenic cycle.
19. Describe the Meachanism of EDPathway.
20. Explain the Sterilization methods.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Botany **COURSE CODE : 17U6BMC8**

COURSE TITLE : Plant Physiology **QN.NO : 8822**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Who proposed the theory of ascent of sap?
   a) J.C.Bose b) A.Flemming c) Mc.Clung d) J.Lederberg
2. Osmosis involves
   a) Flow of water through a semi permeable membrane
   b) Flow of water without a membrane
   c) Flow of solute without a membrane
   d) Flow of solute through a semipermeable membrane.
3. Stomata of CAM Plants
   a) are always open b) open during the day and close at night
   c) open during the night and close during the day
   d) never open
4. Which element is located at the centre of the porphyrin ring in chlorophyll?
   a) calcium b) magnesium c) potassium d) manganese
5. Respiration differs from combustion in the respect that
   a) all the stored energy in carbohydrate gets released bit by bit due to oxidation
   b) all the stored energy in carbohydrte gets released at once due to combustion
   c) loss of molecular oxygen and gain of molecular hydrogen
   d) comparatively large quantity of energy is produced due to combustion
6. Respiratory quotient (RQ) of germinating seeds rich in fat is
   a) unity b) less than unity c) zero d) more than unity
7. Gibberellins promote
   a) Seed germination b) Seed dormancy
   c) Leaf fall d) Root elongation
8. Hormone primarily connected with cell division is
   a) IAA b) NAA
   c) Cytokinin/zeatin d) Gibberellic acid
9. Which of the following is not short day plant?
   a) Cotton b) Cocklebur c) Xanthium d) Tobacco
10. The process of weakening the seed coat to break dormancy is called
    a) Vernalization b) Scarification c) Photoperiodism d) Startification

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Write notes on ascent of sap.

(OR)

b) Comment on osmosis.

12. a) Describe about photorespiration and its significance.

(OR)

b) Explain about Photosystem-II.

13. a) List out the role of nitrogenase enzyme.

(OR)

b) Explain about biochemistry of nitrogen fixation.

14. a) Enumerate synthetic plant hormones.

(OR)

b) Illustrate about role of ethylene.

15. a) Describe about dormancy of seeds.

(OR)

b) Write notes on Circadian rhythm.

PART – C (3x10=30)

Answer any THREE questions

16. Give an account on movement of stomata. Explain with chemical and modern theories.
17. Determine about C3 pathway.
18. Enumerate Glycolysis and its significance.
19. Illustrate the structure and physiological role of gibberellins.
20. Discuss on photoperiodism in plants.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Botany **COURSE CODE : 17U6BME2**

COURSE TITLE : Molecular Biology and Biotechnology **QN.NO : 8823**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Mark the statement which is INCORRECT about the transcription unit?
   a) It is a transcribed segment of DNA
   b) Eukaryotes have monocistronic transcription unit
   c) Prokaryotes also have a monocistronic transcription unit
   d) Immediate product of transcription is primary transcript**.**
2. Transcription occurs _____
   a) unidirectionally b) bidirectionally
   c) multidirectionally d) both a & b
3. Rearrangement of DNA that involves the breakage and reunion of DNA is called_____
   a) Replication b) Recombination
   c) Translation d) Transcription
4. The IS elements can be identified by the presence of _____
   a) Antibiotic resistance gene b) Endonuclease cleavage site
   c) 50 bp inverted repeat d) Integrase site
5. Name the enzyme which degrades DNA molecule by breaking its phosphodiester bonds?
   a) DNA polymerase b) Nucleases
   c) Ligase d) Reverse transcriptase
6. Which of the following is NOT a cloning vector?
   a) Bacterial plasmid b) Cosmids
   c) Bacteriophage d) E.coli
7. In eukaryotes, which of the following are differences between genomic and cDNA clones?
   a) Only genomic DNA contains genes
   b) Only genomic DNA contains introns
   c) Only cDNA contains a coding region d) None of these
8. RAPD is a _____
   a) DNA sequencing based method b) PCR based method
   c) Restriction digestion based method d) All of these
9. Which of the following is considered as a visual marker?
   a) Antibiotic marker b) Resistance marker
   c) Selectable marker d) Screenable marker
10. Name the enzyme which has silenced to delay the ripening process?
    a) Polygalacturonase b) Glyphosate c) ADA d) P53

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b).

11. a) Give an account on prokaryotic genome organization.

(OR)

b) What is coupled transcription and translation? Explain.

12. a) Write short notes on Transduction.

(OR)

b) Give an account on Sexduction.

13. a) Highlight the role of Polymerase in a cell. Add note on its types.

(OR)

b) Critically comment on Alkaline phosphatase.

14. a) Outline the principles of PCR.

(OR)

b) What are genetic markers? Give an account on RFLP.

15. a) Elaborate the physical gene transfer methods.

(OR)

b) What is totipotency? Add notes on regeneration methods.

PART – C (3x10=30)

Answer any THREE questions.

16. What is operon? Explain about *lac* operon.
17. Write an essay on Transposable elements and its significance
18. Highlight the salient features of vector and its types.
19. Describe the principles and applications of Southern Blotting.
20. Give an elaborative account on Golden Rice.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Botany **COURSE CODE : 17U6BME3**

COURSE TITLE : Bioinformatics **QN.NO : 8824**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The first Bioinformatics database was developed by
   a) Richard Durbin b) Dayhoff c) Michael J. Dunn d) Pearson
2. Internet was developed by
   a) Charles Babbage b) Sivan Ayyadurai
   c) Tim Barness Lee d) Thomson Edison
3. Which of the following is untrue about DNA sequencing?
   a) It is now routinely carried out using the Sanger method
   b) This doesn't make use of DNA polymerases
   c) This involves synthesis of DNA chains of varying length
   d) The DNA synthesis is stopped by adding dideoxynucleotides
4. Which of the following is untrue about comparative genomics?
   a) It is comparison of whole genomes from different organisms
   b) It includes comparison of gene number, gene location, and gene content from these genomes
   c) It provides insights into the mechanism of genome evolution and gene transfer among genomes
   d) It doesn't help to reveal the extent of conservation among genomes.
5. How many phases are there in the MALDI – TOF Spectroscopy?
   a) One b) Two c) Three d) Four
6. Acrylamide percentage present in stacking gel is
   a) 4-5% b) 6-7% c) 8-9% d) 2-3%
7. Which of the following is a protein sequence database?
   a) DDBJ b) EMBL c) Genbank d) PIR
8. Genbank, a nucleic acid sequence database is maintained by
   a) Brookahven Laboratory b) DNA database of Japan
   c) European Molecular Biology Laboratory
   d) National Centre for Biological Information
9. Identify the sequence alignment tool
   a) BLAST b) PRINT c) PROSITE d) PIR
10. When did Needleman-Wunsch first describe the algorithm for global alignment?
    a) 1899 b) 1970 c) 1930 d) 1950

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b).

11. a) Describe the scope and objectives of Bioinformatics.

(OR)

b) Draw the block diagram of a computer

12. a) Explain the basics of structural genomics.

(OR)

b) Examine the principle of Sanger's method of sequencing.

13. a) What do you mean by proteomics? How is it relevant in Bioinformatics?

(OR)

b) Explain the basic principle of 2 – D Gel electrophoresis.

14. a) Classify the databases employed in Bioinformatics.

(OR)

b) Give an account of DDBJ.

15. a) Explain the pair alignment.

(OR)

b) Highlight the features of multiple alignment.

PART – C (3x10=30)

Answer any THREE questions.

16. Discuss the features and applications of WWW.
17. Write an essay on Maxam – Gilbert's method of gene sequencing.
18. Critically examine the working principle and applications of MALDI – TOF.
19. Describe the features and applications of SWISSPROT.
20. Bring out the features and applications of BLAST.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Botany **COURSE CODE : 17U6BSM4**

COURSE TITLE : Forestry **QN.NO : 8827**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. If new plants are planted in an existing forest is termed as _____.
   a) Afforestation b) deforestation c) Trimming d) Pruning
2. Scientific basis of the practice of Silviculture is _____.
   a) forest management b) forest biodiversity
   c) forest ecology d) forest management
3. In mechanical site preparation cuts down the standing vegetation using a large tractor is called as _____.
   a) Shearing b) pruning c) trimming d) thickening
4. Common method used for flat or uncultivated ground is _____.
   a) pit planting b) T-notch planting
   c) slit planting d) Angle-notch
5. Social forestry means
   a) it is forestry of people by the people and for the people
   b) raising and managing trees for the benefits of rural people
   c) the villager's choice of land use. d) both a and b)
6. Essential ingredients for the success of community forestry are _____.
   a) Capabilities of the land b) The villager's choice of land use
   c) Nature of the support the organizational structure provides
   d) All of the above
7. Chipkomovement often called _____.
   a) Afforestation b) love for trees
   c) chipko Andolan d) chipko obession
8. _____ is the scientific study of the relationships that exist between people and plants.
   a) Paleobotany b) Ethnobotany
   c) Palynology d) economic botany
9. Rose wood is made from the species of _____.
   a) *Dalbergia sisso* b) *Azadirachta indica*
   c) *Tectona grandis* d) Terminaliia *arjuna*
10. Hydrocarbon secretion from coniferous trees is called as _____.
    a) resins b) gums c) acids d) oil

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11.a) How will you regenerate the forest by nature and artificial?

(OR)

b) Write short note on causes of deforestation.

12.a) Define plantation forestry.

(OR)

b) Explain the methods of planting patterns.

13.a) Explain the shifting cultivation system practice in agroforestry.

(OR)

b) Write down the benefits of social forestry for the people and domestic animal.

14.a) Describe the scope and role of Indian medicine in Ethanobotany.

(OR)

b) Write an account on Joint Forest Management in brief.

15.a) Write down the economic value of gums.

(OR)

b) Comment on Fire wood and Rose wood.

PART – C **(3x10=30)**

Answer any THREE questions.

16. Give an outline for classification of forests.

17. How will you prepare a site for forest and the choice of plants in plantation?

18. Explain social forestry in detail.

19. Give an account on Chipko movement.

20. Explain the following

a) Teak wood b) lemon grass c) resins (Abies)

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SEMESTER EXAMINATIONS – APRIL 2019

PROGRAMME: M.Sc., Botany **COURSE CODE : 17P1BMC2**

COURSE TITLE : Phanerogams **QN.NO : 8902**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. _____ is referred to sago palm

   a) *Cycas* b) *Agathis* c) *Pinus* d) *Gnetum*

2. Which of the following is living fossil?

   a) *Gnetum* b) *Pinus* c) *Gingko* d) *Araucaria*

3. Standard size of a herbarium sheet is

   a) 40cm x 20 cm b) 38cm x 22 cm c) 44cm x 20 cm d) 42cm x 22 cm

4. _____is not a taxonomic documentation.

   a) Flora b) Indented key c) Monograph d) Revision

5. While describing a new species author designate the basic nomenclatural type is

   a) Holotype b) Isotype c) Lectotype d) Paratype

6. In APG classification _____ is considered as the core level

   a) Family b) Genus c) Species d) Clad

7. Apocarpus ovary is a characteristic feature of _____

   a) Brassicaceae b) Meliaceae c) Sappotaceae d) Magnoliaceae

8. Jamon belongs to which family ?

   a) Myrtaceae b) Asteraceae c) Sapoataceae d) Apocyanaceae

9. Liliaceae belongs to

   a) Calycinae b) Coronariae c) Apocarpae d) Glumaceae

10. Resupination is present in _____

    a) Commelinaceae b) Cannaceae c) Poaceae d) Orchidaceae

Contd...

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) List out the general features of Gymnosperms..

(OR)

b) Discuss the reproductive features of Cycadales.

12. a) Explain the role and importance of Herbaria in botanical research.

(OR)

b) Differentiate Floras and Revisions.

13. a) Give an account on typification with suitable examples.

(OR)

b) Write about the Phylogenetic system of Classification.

14. a) Give the distinguishing features of Magnoliaceae.

(OR)

b) Describe the vegetative and floral characters of Apocynaceae.

15. a) Describe the vegetative and floral features of Aristolocaceae.

(OR)

b) Explain the floral variations in Orchidaceae.

PART – C (3x10=30)

Answer any THREE questions

16. Give an account on economic importance of Gymnosperms.
17. How do you construct phylogenetic trees?
18. Give an outline of Bentham and Hooker's classification and add a note on its merits and demerits.
19. Discuss the floral characters and economic importance of Verbenaceae..
20. Comment on the vegetative and floral characters of Poaceae.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Botany **COURSE CODE : 17P1BMC3**

COURSE TITLE : Mycology and Plant Pathology **QN.NO : 8903**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. A Multinucleate cell of a fungal hypha known as
   a) Septate b) Unseptate c) Coenocytic d) Coenobium
2. Slime moulds are belonging to
   a) Gymnomycota b) Mastigomycota c)Amastigomycota d) Basidiomycota
3. Heterothallism is not the characteristic feature of
   a)*Mucor mucedo* b)*Puccinia graminis*
   c) *Physarum polycephalum* d) *Coprinus comatus*
4. Parasitic fungi absorbs nutrient with the help of
   a) Hasutoria b) Appresoria c) Apothecium d) Perithecium
5. Agaricus belongs to
   a) Oomycetes b) Zygomycetes c) Ascomycetes d) Basidiomycetes
6. Which fungus used for genetic research?
   a)*Neurospora* b) *Rhizopus* c) *Mucor* d) *Saprolegnia*
7. Fungi penetrates into the host by means of
   a) Appresorium b) Rhizoidal hyphae c) Sterigma d)Phialide
8. Which of the following mixture used as fungicide?
   a) CaOH & CuO b) $CuSo_4$ & $Ca(OH)_2$
   c)Na_2Co_3 & $CaCl_2$ d) $NaHCo_3$ & $CaSo_4$
9. Blast disease in paddy is caused by
   a)*Phytopthora infestens* b)*Rhizactonia solani*
   c) *Pyricularia oryzae* d) *Aspergillus oryzae*
10. Yellow mosaic virus usually caused to _____
    a) Paddy b) Cotton c) Bhendi d) Papaya

Contd...

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Distinguish Mastigomycota and Amastigomycota.

(OR)

b) Describe the morphology of basidiocarp.

12. a) Classify fungi based on modes of nutrition.

(OR)

b) Distinguish homothallism and heterothallism.

13. a) Comment on Para-Sexual cycle.

(OR)

b) Bring out the deterioration of leather and paper by fungi.

14. a) Elaborate the methods to control plant diseases. Add a note on their advantages.

(OR)

b) Enlist the various symptoms of plant diseases.

15. a) Give the causal agent, symptoms and control measures of little leaf of brinjal.

(OR)

b) Show the causal organism, symptoms and control method of citrus canker.

PART – C (3x10=30)

Answer any THREE questions

16. Explain the classification of fungi by Alexopoulos and Mims.
17. Describe the methods to prepare fungal culture in laboratory.
18. Give an account on industrial applications of fungi.
19. Discuss the defense mechanism adopted by plants against pathogens.
20. Elucidate the causal organism, disease cycle and control measures of angular leaf spot cotton.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Botany **COURSE CODE : 17P2BMC4**

COURSE TITLE : Developmental Botany **QN.NO : 8907**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. In an anther, the nutritive part is _____
   a) Epidermis b) Endothecium c) Tapetum d) Endothelium
2. Pollination occurs through an insect is known as _____
   a) Entomophily b) Zoophily c) Anemophily d) Hydrophily
3. The product of triple fusion is _____
   a) Embryo b) Endosperm c) Perisperm d) Pollen grain
4. Ovule is modified into _____
   a) seed b) fruit c) carpel d) Locule
5. Tunica carpus theory is proposed by _____
   a) Nageli b) Schmidt c) Hanstein d) Nicolson
6. Parenchyma containing chloroplast is known as _____
   a) Aerenchyma b) Chlorenchyma
   c) Collenchyma d) Selerenchyma
7. In meiosis-I, the crossing over occurs in _____
   a) Laptonema b) Zygonema c) Pachynema d) Diplonema
8. Enzymes are _____ in nature
   a) protein b) sugar c) lipid d) mineral
9. Phyllotaxy denotes an
   a) arrangement of flower b) arrangement of leaves
   c) arrangement of fruits d) arrangement of seeds
10. A cell containing multi nucleate condition is known as
    a) Coenobium b) Coenocytes c) Aplanospore d) Coelom

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b).

11. a) Explain the types of pollination with suitable examples.

(OR)

b) Briefly explain the structure of ovule.

12. a) Write an account on self imcompatibility in plants.

(OR)

b) Comment on Apomixis.

13. a) Elucidate the physiological role of auxins.

(OR)

b) Write short note on karyokinesis.

14. a) Discuss the types of meristem based on its position.

(OR)

b) Bring out the anomalous secondary structure in *Boerhaavia*.

15. a) State the growth differentiation and explain its role in development.

(OR)

b) Narrate the nucleocytoplasmic interactions.

PART – C (3x10=30)

Answer any THREE questions.

16. Describe the different wall layers of an anther.

17. Define endosperm. Mention its types.

18. Write a detailed account on various simple permanent tissues.

19. Explain mitotic cell division with suitable illustration.

20. Discuss ABC model for the development of flower.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Botany **COURSE CODE : 17P2BMC5**

COURSE TITLE : Environmental Biology **QN.NO : 8908**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. _____ is an example for abiotic component
   a) Soil b) Fungi c) Bacteria d) Plants
2. _____ is a producer
   a) Lion b) Sheep c) Grashopper d) Plant
3. Smoke + Fog = _____
   a) Ozone b) Acid rain c) Frnoke d) Smog
4. Tehri dam is located in _____
   a) Delhi b) Jammu c) Kolkatta d) Uttarkhand
5. _____ is an example of heavy metal
   a) Lead b) Silver c) Gold d) Iron
6. Carbon monoxide is _____
   a) CO b) CO_2 c) CO_3 d) CO_4
7. Abbreviate GIS _____
   a) Geographic Information System b) Geometric Information System
   c) Geological Information System d) Gene Information System
8. _____ is an example for *in situ* conservation
   a) Botanical garden b) Seed blank
   c) Genebank d) DNA
9. Gondwana was a _____
   a) supercontinent b) country c) state d) Town
10. Pangaea is the _____ most recent supercontinent
    a) Fourth b) Second c) Third d) Fifth

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b)

11. a) Write short notes on food webs.

(OR)

b) Explain the functions of Grassland.

12. a) Elucidate on the causes and effects of water pollution.

(OR)

b) Comment on the applications of phyto remediation.

13. a) Explain how to manage floods.

(OR)

b) Write notes on Heavy metal toxicity with examples.

14. a) Comment on sacred groves.

(OR)

b) Explain the role of National parks in biodiversity conservation.

15. a) Elucidate on Endemism.

(OR)

b) Write notes on plant distribution.

PART – C **(3x10=30)**

Answer any THREE questions

16. Write in detail about Nitrogen cycle.

17. Comment on the environmental impacts of Kudankulam nuclear power plant.

18. Explain in detail about pollution indicators.

19. Write in detail about cryopreservation.

20. Elucidate on the vegetation types of India.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Botany **COURSE CODE : 17P2BMC6**

COURSE TITLE : Biochemistry **QN.NO : 8909**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which of the following is the storage polysaccharide in plants?
   a) Starch b) Cellulose c) Pectin d) Glucose
2. Which is commonly found disaccharide in preserved fruits?
   a) Sucrose b) Lactose c) Maltose d) Starch
3. Which among the following is the non protein aminoacid?
   a) Arginine b) Ornithine c) Histamine d) Lysine
4. The aminoacid exist as zwitterions when they are in
   a) Solid state b) Acidic solution
   c) Basic solution d) Neutral solution
5. Which one is the non saturated fattyacids?
   a) Palmitic acid b) Stearic acid c) Oleic acid d) Myristic acid
6. The compound lipid is
   a) Phospholipid b) Glycolipid c) Sulfolipid d) All the above
7. The Lock and key model was proposed by
   a) Koshland b) Emil Fisher
   c) Robert Brown d) Michaelis and Menton
8. The non-Protein component attached to a protein is called
   a) Holoprotein b) Apoprotein
   c) Enzyme inhibition d) Prosthetic group
9. Which vitamin is called as antihaemorrhagic vitamin
   a) Vitamin A b) Vitamin D c) Vitamin E d) Vitamin K
10. The enzyme site in the tRNA is
    a) Acceptor arm b) Anticodon arm c) D-arm d) Loop arm

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Write an account on the Physical properties of carbohydrates.

(OR)

b) Explain the schematic representation of Gluconeogenesis.

12. a) List a note on the chemical properties of aminoacids.

(OR)

b) Discuss about the secondary structure of Protein.

13. a) Give an account on properties and functions of Glycolipids.

(OR)

b) Describe about the β-oxidation of fatty acids.

14. a) Comment on the classification of enzymes.

(OR)

b) Lock and Key model of enzyme action – Discuss.

15. a) Write an account on structure of RNA.

(OR)

b) List down the types and biological significance of Vitamins.

PART – C (3x10=30)

Answer any THREE questions

16. Describe about the classification of Carbohydrates.
17. Enumerate the classification of aminoacids with examples.
18. Briefly discuss about the classification of Lipids.
19. Explain in detail about the Michaelis-Menton constant equation.
20. Write an detailed account on structure and Chemical nature of DNA with a neat diagram.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Botany **COURSE CODE : 17P4BME2**

COURSE TITLE : Plant Physiology **QN.NO : 8920**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The transfer of energy from a higher level to a lower level with collision of particles in
   a) Entropy b) Enthalpy c) Free energy d) Homeostasis
2. Which of the following is always a constant?
   a) Turgor pressure b) Osmotic potential
   c) Osmotic pressure d) Diffusion pressure
3. According to cytochrome pump theory, cations are absorbed
   a) actively b) passively c) radially d) Both (a) & (b)
4. The pH of apoplast in phloem loading is comparatively ____ than/to phloem sap
   a) acidic b) basic c) neutral d) similar
5. The colour of chlorophyll fluorescence is
   a) Green b) Violet c) Red d) Blue
6. ATP is produced from NADH due to
   a) Reduction b) Oxidation
   c) Condensation d) Ionization
7. Production of morphologically and physiologically different seeds is called
   a) Heterotrophy b) Heteroblasty
   c) Hetrophylly d) Hetrostrobily
8. This is a gaseous form of growth regulator
   a) Auxin b) Cytokinin c) Giberellin d) Ethylene
9. Short-day plants are more responsive to flowering in this light
   a) Red b) Far-red c) Infra-red d) All of these
10. The characteristic of plants and animals exhibiting a set rhythm of period is called
    a) Entertainment b) Entrainment
    c) Entrapment d) Enrichment

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Write short notes on enthalpy and entropy.

(OR)

b) Explain the osmotic theory of absorption of water.

12. a) Explain the cytochrome pump theory of mineral salt absorption

(OR)

b) Explain the phenomenon of translocation of organic solutes.

13. a) Explain the non-cyclic photophosphorylation.

(OR)

b) Give an account of mitochondrial electron transport.

14. a) What are the adaptive features plants exhibit towards salt stress?

(OR)

b) What are the physiological attributes of cytokinins?

15. a) Write an account of tropic movement.

(OR)

b) Explain the phenomenon of circadian rhythms.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. With a neat sketch explain the apopalstic, symplastic and vacuolar movements of water.

17. Describe the mechanism of loading and unloading of phloem.

18. Describe the reactions of citric acid cycle and add a note on its energetic.

19. Describe the mechanism of plant responses to water stress.

20. Explain the impact of light and dark in long day and short day plants.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Botany **COURSE CODE : 17P4BME3**

COURSE TITLE : Biotechnology **QN.NO : 8921**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Choose the one who invented the term 'Nanotechnnology'
   a) Taru Huego b) Norio Taniguichi
   c) Watson and Crick d) Bateson and Punnett
2. Which concept tells that every living green plant cell has the ability to become as an entire organism?
   a) Tissue culture b) Explant
   c) Totipotency d) Clonal propagation
3. Select the correct sequence of micropropagation protocol
   a) Explants selection → callus induction → plantlets → Hardening-→ field growth
   b) Explants selection → callus induction → Hardening → plantlets → field growth
   c) Explants selection → field growth -→ callus induction → plantlets -→ Hardening
   d) Hardening-→ Explants selection → callus induction → plantlets -→ field growth
4. Which of the following substance is used to produce synthetic seeds?
   a) Calcium oxalate b) Calcium alginate
   c) Calcium nitrate d) Calcium citrate
5. "Cloning Vehicle" is used to term which of the following?
   a) Clones b) Plasmids c) Vectors d) Either (b) or (c)
6. Ti plasmid vectors include which of the following?
   a) binary vectors and cointegrate vectors;
   b) cointegrate vectors and multiple vectors
   c) multiple vectors and binary vectors;
   d) Ti plasmid based vector
7. The ability of cells to take up DNA fragments from surrounding is called
   a) transfection b) transduction c) transformation d) conjugation
8. Which is not a thermostable DNA polymerase enzyme?
   a) taq b) vent c) pfu d) SI nuclease
9. Identify the region of tumorigenic which controls the production of plant growth hormones
   a) AC b) OC c) Ti d) tra
10. Reporter gene is attached to which of the following?
    a) Introns b) Gene markers
    c) Regulatory sequence d) Primers

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b).

11. a) Analyze the National institutes of India and their specialized functions in the field of Biotechnology.

(OR)

b) How do you establish cell suspension culture and list down its advantages.

12. a) Define the term with advantages of the following: i) Explant, ii) surface sterilization and iii) callus tissue.

(OR)

b) Bring out the protocol on anther culture.

13. a) Comment on the characteristic features of restriction enzymes, with specific examples.

(OR)

b) Examine the concept on 'Genomic Library' and its significance.

14. a) Evaluate the Transformation method used in cloning .

(OR)

b) Bring out the method of Western Blotting.

15. a) Illustrate and explain the Ri plasmid structure.

(OR)

b) Comment on the synthesis of 'Golden Rice' and describe its features .

PART – C (3x10=30)

Answer any THREE questions.

16. Write an essay on the plant tissue culture media composition and its preparation method.

17. Critically comment on the somatic embryogenesis and embryoids production.

18. Give a detailed account on recombinant technology and its application.

19. Bring out the PCR technique and its uses.

20. Discuss in detail on the production of transgenic plants using Bt genes.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Botany **COURSE CODE : 17P4BMC9**

COURSE TITLE : Biostatistics and Bioinformatics **QN.NO : 8922**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Who is regarded as the father of biostatistics ?
   a) Karl Pearson b) Fischer c) Francis Galton d) Francis Bacon
2. In biostatistics, group of individuals taken for a study are called
   a) Block b) Population c) Flock d) Herd
3. Which of the following is not a measure of central tendency?
   a) Mean b) Median c) Mode d) Range
4. Binomial Distribution is derived by
   a) Ronald Fishcer b) John Turkey
   c) James Bernoulli d) Karl Pearson
5. The field of Bioinformatics was developed in
   a) 1970s b) 1980s c) 1990s d) 1960s
6. World wide web was invented by
   a) Bill Gates b) Mark Zuckelberg
   c) Tim Barness Lee d) Tom Linson
7. Identify the nucleic acid database
   a) DDBJ b) PIR c) GSDB d) Swiss-prot
8. Chemical cleavage of DNA sequencing is developed by
   a) Maxam Gilbert b) F. Sanger c) Linus Pauling d) Edman
9. Which among the following tool uses k - tubules
   a) FASTA b) BLAST c) BLOSUM d) Swiss-prot
10. RasMol was developed by
    a) Roger Sayle b) MaragaretDayhoff
    c) Smith d) Zimmerman

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11. a) Explain the random sampling method.

(OR)

b) How will you tabulate the data?

12.a) Describe the merits and demerits of mean.

(OR)

b) Explain the testing of hypothesis.

13.a) Examine the objectives of Bioinformatics.

(OR)

b) Explain the features of RAM.

14.a) Classify the biological databases.

(OR)

b) Give an account of Bioinformatics servers.

15.a) Explain the applications of genetic algorithm.

(OR)

b) Bring out the strategies of drug designing.

PART – C **(3x10=30)**

Answer any THREE questions.

16. Discuss any two methods of graphical representation of statistical data.

17. Describe the characteristic features of Normal and Binomial distribution.

18. Draw the block diagram of Computers.

19. Examine the features of protein databases.

20. Explain the features and applications of FASTA.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Microbiology **COURSE CODE : 17U3RNM1**

COURSE TITLE: Microbes in Human Welfare **QN.NO : 9008**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The theory of germ-plasm was proposed by
   a) Ronald Ross b) Alexander c) Wiseman d) Redi
2. Robert Koch's extensive contribution on the knowledge of _____
   a) Malaria b) dysentery c) typhoid d) anthrax
3. Yeast is the main source of
   a) Vitamin B b) fertilizers c) minerals d) none of these
4. Which f the alga produced single cell proptein?
   a) *Spirulina* b) *Nostoc* c) *Ulothrix* d) *Spirogyra*
5. Which of the following is an example of viral disease?
   a) Chloera b) typhoid c) diptheria d) rabies
6. Pulse polio programme is organized in our country for
   a) spread of polio b) cure of polio
   c) Populaiton survey d) eradication of polio
7. Which of the property of orgaism can be used for biofertilizer?
   a) highest biomass b) decomposer c) saprophytes d) efficient Nitrogen fixer
8. Cry gene isolated from
   a) *E.coli* b) *Bacillus substilis*
   c) *Pseudomonas* d) *Bacillus thuringiensis*
9. The sediment of settling tank is called
   a) settlement b) flocculation c) coagulation d) activated sludge
10. Bacteria used in anaerobic breakdown for biogas production are
    a) halophytes b) methanogens c) thermoacidophiles d) all of these

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) List out the Koch's postulates.

(OR)

b) Describe the contributions of Edward Jenner.

12. a) Examine the industrial applications of Yeast.

(OR)

b) Discuss the role of Agaricus in food industry.

13. a) Explain the industrial production of insulin.

(OR)

b) Write short notes on (i) Vaccination (ii) immunization schedule

14. a) How does microbes influence soil fertility?

(OR)

b) Comprehend the biological application of biofertilizers.

15. a) Describe the structure and functioning of Trickling filters.

(OR)

b) Give a brief account on bio-insecticides.

PART – C (3x10=30)

Answer any THREE questions

16. Analyse the theory of spontaneous generation.
17. Critically analyse the role of micro organisms in dairy industry.
18. Outline the industrial production of penicillin.
19. Discuss the role of Organic manure s in agricultural field.
20. Describe the general biochemical process involved in industrial production of ethanol.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Microbiology **COURSE CODE : 17U4RMC4**

COURSE TITLE : Microbial Physiology **QN.NO : 9010**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. The moles obtained nutrition from dead and decaying matter which are called
   a) Saphrophytes b) Parasites
   c) Commensals d) Chemolithotroph
2. If the source of energy for bacteria is from chemical copmpounds they are said to be
   a) Photorophs b) Autotrophs c) Chemotrophs d) Chemolothotroph
3. Erythrocytes will get its ATP energy only by
   a) Glycolysis b) Kreb's cycle
   c) Electron Transport d) HMP shunt
4. The group of bacteria which depends on organic sources in nature for theirenergy requirements. They are said to be
   a) Chemotrophs b) Phototrophs
   c) Heterotrophes d) Organotrophs
5. The main product of glycolysis under aerobic condition is
   a) Pyruvate b) Lactate c) None of these d) Both a and b
6. Energy production in anaerobes is not by _____
   a) TCA cycle b) EMP pathway
   c) Fermentation d) Pentose Phosphate Shunt
7. 3-phosphoglycerate is not the metabolic precursor for
   a) Serine b) Glycine c) Cysteine d) Arginine
8. Which of the following is a non-essential amino acid?
   a) Methionine b) Threonine c) Lysine d) Cysteine
9. Which of the following is an important precursor in purine pathway?
   a) Glycine b) Aspartate c) Glutamine d) Leucine
10. In the first committed step of pyrimidine biosynthesis, the reaction is catalyzed by
    a) Adenylate kinase b) Aspartate transcarbamoylase
    c) Dihyhroorotase d) Cytidylate synthase

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Define autotrophs. Give some example of autotrophs.

(OR)

b) Difference between heterotrophs and chemotrophs.

12. a) What is fermentation?

(OR)

b) Write short note on Aerobic respiration.

13. a) What is reaction of Anabolism?

(OR)

b) Define photosysthetic microbes.Give some examples.

14. a) Write the uses of leucine. What does do to your body?

(OR)

b) Explain chemical structure and properties of methionine.

15. a) Define purine. Give formula and its chemical structure.

(OR)

b) How do you flush uric acid out of your body?

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Give an account on ATP & its significance.
17. Give a detailed account of Krebs cycle and its main functional process.
18. Draw a diagram of C3 cycle and explain it briefly.
19. Give the structure of murein explain it. Write the function of peptidoglycan.
20. Explain mechanism of glyoxylate cycle and its significance.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Microbiology **COURSE CODE : 17U4RSM3**

COURSE TITLE : Biostatistics **QN.NO : 9011**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. It is combining of biological data with calculations
   a) Biology b) Bioinformatics
   c) Biostatistics d) Proteomics
2. Which of the following is primary data
   a) Questionnaire b) Newspaper c) TV d) Journals
3. In a respirometer, the oxygen concentration in four cases was recorded to be
   1) 14.9% 2) 10.8% 3) 12.3% 4) 23.35
   Calculate the arthimetic mean of the above value.
   a) 15.0 b) 15.32 c) 15.12 d) 15.125
4. When several unbiased sample are drawn from the same population, the sampling technique is _____ sampling
   a) Random b) Non-random
   c) Non-probability d) Purposive
5. Sample size depends on
   a) Type of problem studied b) Resources available
   c) Required precision d) All of the above
6. As a matter of fact median is called the
   a) Negative average b) Positive average
   c) Neutral d) Calculated average
7. Data documented and unorganized is called as
   a) Fine data b) Result
   c) Raw data d) Available data
8. _____ is the simplest way of diagrammatic representation of data
   a) Pictogram b) Histogram c) Curves d) Line diagram
9. T-Test was named as student t-test by
   a) William Seeley b) Fisher c) Gossett d) Wallis
10. Chi-square test is applied as a test of _____
    a) Correlation b) Regression
    c) Goodness of fit d) t-Test

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Differentiate the terms population and sample.

(OR)

b) Differentiate primary and secondary data.

12. a) Define Census method of sample collection. List its merits and demerits.

(OR)

b) Explain the types of samples and size of samples with examples.

13. a) The table given below shows the number of colonie of bacteria grown on to agar plates. Calculate the arithmetic mean by using short cut method.

Plate No	1	2	3	4	5	6	7	8	9	10
No. of Colonie	60	70	80	95	100	110	115	130	140	160

(OR)

b) Calculate median of following 6 observations.

75	97	100	120	150	175

14. a) Define histogram, List the steps to prepare a histogram.

(OR)

b) Write the merits of graphic representation.

15. a) What is student t-test? List its features for a single population.

(OR)

b) Define Chi square test. Write its significances.

PART – C (3 x10 = 30)

Answer any THREE questions

16. Describe the uses and limitations of statistics.
17. Explain the five types of random sampling methods.
18. Calculate the standard deviation for the below data by indirect method.

S.No	1	2	3	4	5	6	7	8	9	10
Size	20	22	27	30	31	32	35	40	45	48

19. What is a graph? Give the steps in preparation with its merits and demerits.
20. The haemoglobin content (%) of children fed with 3 different groups are given in the table. Test whether the means of three 3 groups differ significantly.

S.No	**Group I**	**Group II**	**Group III**
1	11.6	11.2	9.8
2	10.3	8.9	9.7
3	10.0	9.2	11.5
4	11.5	8.8	11.6
5	11.8	8.4	10.8
6	11.8	9.1	9.1
7	12.1	6.3	10.5
8	10.8	9.3	10.0
9	11.9	7.8	12.4
10	10.7	8.8	10.7
11	11.5	10.0	--
12	--	9.7	--

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Microbiology **COURSE CODE : 17U4RNM2**

COURSE TITLE : Microbes in Human Welfare **QN.NO : 9013**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Living organisms arising from non-living substances can be called _____
   a) Spontaneous generation b) Germ theory and cell theory
   c) Univocal generation d) Abiogenesis
2. Microorganism was first observed by _____
   a) Leeuwenhoek b) Koch c) Pasteur d) Lister
3. Yeast which is not used for food purposes is _____
   a) Candida albicans b) Candida lipolytica
   c) Candida utilis d) Saccharomyces cerevisiae
4. Normal micro flora in milk is _____
   a) Lactobacillus b) Vibrio c) Mycobacterium d) Nocardia
5. Antibiotics tend to be _____
   a) Primary metabolites b) Secondary metabolites
   c) Tertiary metabolites d) Quaternary metabolites
6. An antibiotic related to alexander is _____
   a) Penicillin b) Ampicillin c) Tetracyclin d) Streptomycin
7. The model organism, which used to study endospore formation, is _____
   a) Bacillus subtilis b) Escherichia coli
   c) Streptomyces aureus d) yeast
8. The primary purpose of sewage treatment plants is to remove the _____from sewage
   a) Organic matter b) Inorganic matter
   c) Stones d) Chemicals
9. Various commercial products of economic value made by microbes are _____
   a) Medicines b) Organic ac ids
   c) Amino acids d) All the above
10. Alcohol fermentation is _____ process
    a) Anaerobic b) Aerobic
    c) Facultative anaerobic d) Micro aerophilic

Contd…

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Describe the history of Microbiology.

(OR)

b) Infer a logical conclusion of Louis Pasteur, Robert Koch Contributions in microbiology.

12. a) Focus the role of microbes in dairy industry.

(OR)

b) Analyze the application of lactobacillus.

13. a) Demonstrate the Industrial production of Insulin.

(OR)

b) Write notes on Vaccines.

14. a) Investigate the Bio insecticides.

(OR)

b) Conclude the Rhizosphere.

15. a) Determinate the production of biogas.

(OR)

b) Indicate the Industrial production of alcohol.

PART – C (3x 10 = 30)

Answer any THREE questions.

16. Detailed notes on Scope of Microbiology.
17. Perspectives of the production of Spirulina.
18. Describe the industrial production of Penicillin.
19. Interpret the production of Bio fertilizer using BGA.
20. Brain storm ideas for the sewage treatment.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE.CODE : 18U4RAC4**
COURSE TITLE : Applied Microbiology **QN.NO : 9021**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer any FIVE questions by choosing the correct option.

1. The method of removal of moisture from food is called _____.
   a) freezing b) drying c) irradiating d) blanching
2. _____ is the process of preserving food by heating and sealing in an air tight container.
   a) Canning b) Pickling c) Freeze drying d) salting
3. _____ disease is caused by *Clostridium botulinum*.
   a) Salmonellosis b) Botulism c) Candiasis d) Typhoid
4. Milk is curdled without acid production when _____ content is coagulated.
   a) rennin b) pepsin c) casein d) pectin
5. Immersion of fruit and vegetable in warm water is called _____.
   a) blanching b) dehydrating c) sealing d) preheating
6. The action of organisms on high protein food would result in _____.
   a) ammonification b) nitrification c) putrification d) calcification
7. Which of the following cyanobacteria is used as biofertilizer?
   a) *Anabaena* b) *Rhizobium* c) *Azolla* d) *Volvox*
8. Optimum pH required for the growth of *Azolla* is _____.
   a) 8 b) 6 c) 4 d) 11
9. The organisms involved in the production of citric acid is _____.
   a) *Saccharomyces chrysogenum* b) *Candida albicans*
   c) *Clostridum botulinum* d) *Aspergillus niger*
10. _____ is the best mold for the production of Penicillin.
    a) *Pencillium notatum* b) *Pencillium chrysogenum*
    c) *Pencillium marneffei* d) *Pencillium citrinum*

Contd…

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Write a note on the role of temperature in food preservation.

(OR)

b) Give an account on the process of canning.

12. a) Describe the process of cheese production.

(OR)

b) Enumerate about sauerkraut.

13. a) How will you identify the contamination of meat and meat products?

(OR)

b) Brief about the spoilage of milk and its allied products.

14. a) Illustrate the importance of biofertilizers.

(OR)

b) Outline the significance of bacterial biofertilizers.

15. a) Discuss the production of citric acid.

(OR)

b) Comment on the industrial production of alcohol.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain in detail about the preservation methods of food.

17. Discuss about the bacterial food borne diseases.

18. Elaborate about spoilage of canned foods.

19. Describe the significance and mass cultivation of algal biofertilizers.

20. Analyze the method of penicillin production in industry.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Microbiology **COURSE CODE : 17U6RME2**

COURSE TITLE : Food Microbiology **QN.NO : 9023**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. *Rhizopus stolnifer* is commonly called as _____.
   a) Bread mold b) green mold c) black mold d) yellow mold
2. Which bacteria oxidize ethanol and acetic acid _____
   a) *Acetobaccter* b) *Aeromonas* c) *Alaligenes* d) *Arthrobacter*
3. Common mold involved in cereal preservation _____
   a) *Aspergillus* b) *Mucor* c) *Rhizopus* d) all of the above
4. Biphenyl vapors control _____ on potato.
   a) *Fusarium* b) *Mucor* c) *Penicillum* d) *Aspergillus*
5. Botulism caused by _____
   a) *Clostridium* b) *Mucor* c) *Acetobacter* d) *Aeromonas*
6. _____ species multiply in high temperature.
   a) *Flavobaterium* b) *Mucor* c) *Aspergilllus* d) *Arthrobacter*
7. Cheddar is _____ type of cheese.
   a) hard b) soft c) black d) red
8. Which species produces spore forming gas producers _____.
   a) *Mucor* b) *Clostridium* c) *Aspergillus* d) *Fusarium*
9. In food sanitation the hazard analysis involves _____ of ingredients and products.
   a) Identification b) culturing c) enumerating d) isolating
10. Ingestion of the enterotoxin formed in food during the growth of _____.
    a) *Staphylococcus* b) *Streptococcus*
    c) Enterobacter d) Arthrobacter

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Discuss the role of bacteria in food microbiology.

(OR)

b) What are the factors affecting the growth of microorganisms?

12.a) Give an account on role of chemical preservatives in food preservation.

(OR)

b) How for the temperature involved in food preservation.

13.a) Discuss the spoilage of fruits occur by microbes.

(OR)

b) Describe the growth of microorganism in meat.

14.a) Write an account on yoghurt.

(OR)

b) Enumerate butter and cheese products.

15.a) Comment on Botulism.

(OR)

b) Explain the food borne disease caused by *Staphylococcus aureus*.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16.Describe the role of Fungi in food microbiology.

17.What are the food additives involved in preservation of food?

18.Explain the vegetable spoilage by microbes.

19.What is the quality control tests involved in milk?

20.Explain food sanitation and its control measures.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Microbiology **COURSE CODE : 17U6RME3**

COURSE TITLE : Biotechnology **QN.NO : 9024**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Largest Biotechnology Company in India is _____
   a) Biocon Limited b) Biopharma c) Bioagri d) Bio-IT
2. *Ti plasmids* are normally obtained from _____
   a) Cornybacterium b) Agrobacterium
   c) Flavobacterium d) Pseudomonas
3. Restriction endonuclease is a protein produced by _____
   a) Fungi b) Virus c) Plasmodium d) Bacteria
4. Microinjection technique was developed by _____
   a) Marshall A. Barber b) Wilson
   c) Batson d) Nicolson
5. Inducible promoters can be regulated by
   a) Positive or negative control b) Positive control only
   c) Negative control only
   d) Neither positive nor negative control
6. Insulin is a
   a) Enzyme b) hormone c) Vitamin d) Mineral
7. Which one of the following is not relate to IPR
   a) Patents b) Copyrights c) Trade secrets d) Import
8. The Head Office of the Patent office is at
   a) Chennai b) Kolkata c) Mumbai d) Delhi
9. Which is the first transgenic plant?
   a) Apple b) Mango c) Brinjal d) Tobacco
10. Which is the first transgenic animal?
    a) Dog b) Rabbit c) Mice d) Camel

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) List out the Characteristics of a cloning vector.

(OR)

b) Bring the applications of biotechnology.

12. a) Explain the types of Restriction enzymes.

(OR)

b) Write down the Advantages of electroporation.

13. a) Write short notes on Expression Vectors.

(OR)

b) Explain the Biosynthesis of Insulin.

14. a) Highlight different forms of IPR.

(OR)

b) Comment on GATT.

15. a) Give the Importance of Biosafety issues.

(OR)

b) Write short notes on Bt-cotton.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Describe the Types of Cloning Vectors.

17. Expound about Agrobacterium mediated gene transfer.

18. Production of recombinant DNA proteins using microbial hosts – Discuss.

19. Give a detailed account on Patenting microorganisms.

20. Comment on Commonly used Animals for Trans-genesis.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Microbiology **COURSE CODE : 17U6RMC8**

COURSE TITLE : Pharmaceutical and Forensic Microbiology **QN.NO : 9025**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. A drug ending in the suffix (azole) is considered a _____.
   a) H b) ACE inhibitor c) Antifungal d) Beta agonist
2. Which is a naturally occurring protein?
   a) Interferons b) Asparine c) Glutamine d) Ethylene
3. Who invented vaccination?
   a) Robert Koch b) Edward Jenner c) Joseph Lister d) Flemming
4. Where is the Pasteur institute of India is situated
   a) Hyderabad b) Ahemedabad c) Delhi d) Ooty
5. The headquarters of WHO is
   a) France b) USA c) Germany d) Switzerland
6. The main function of ISO is
   a) Quantity b) Quality c) Pollution d) Corrosion
7. Which microbe is commonly called as super bug?
   a) *Clostridium sp.* b) *Klebsiella sp.*
   c) *Pseudomonas sp.* d) *Lactobacillus sp.*
8. Forensic science helps to identify the
   a) Patients b) Officials
   c) Criminals d) Diseased persons
9. Biological warfare is commonly called as
   a) Germ warfare b) Chemical warfare
   c) Glass warfare d) Pollution warfare
10. Which is used as biological weapon?
    a) Axe b) Anthrax c) Scissors d) Rake

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Define the terms: i) Pharmacology
ii) Pharmocognosy
iii) Pharmacogenomics.

(OR)

b) Write a note on edible vaccine.

12. a) Give a short notes on development of drug discovery.

(OR)

b) How will you design the pro drug and its applications?

13. a) Describe about the quality control in biopharmaceutical.

(OR)

b) List out the preventive measures of contamination of drugs.

14. a) What are the guidelines for legal proceedings of forensic biology?

(OR)

b) Explain about the microbial ethics.

15. a) Biocrime - Discuss

(OR)

b) Write an account on tools used for forensic microbiology.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Briefly explain about the theuraptic enzymes .

17. Write an essay on role of enzymes in drug discovery.

18. Enumerate the validation and certification of drugs.

19. Describe the opportunities and challenges in forensic science.

20. Discuss about the bioweapon.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Microbiology **COURSE CODE : 17U6RSM4**

COURSE TITLE : Fermentation Technology **QN.NO : 9028**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The technique used to employed for detecting microorganism _____
   a) Spectrophotometer b) Colorimeter
   c) Auxanography d) Radiography
2. _____ is the long term preservation of microorganisms
   a) lyophilization b) overlying by mineral oil
   c) subculture d) low temperature storage
3. Fermentation process converts sugar into
   a) Ethanol b) CO_2
   c) ethanol and CO_2 d) None of the above
4. _____ cells cannot carry out alcoholic fermentation
   a) Human b) Bacteria c) Fungi d) Yeast
5. In which of the following the microorganism grow on the surface of the medium _____
   a) submerged b)solid state c) surface d) batch
6. Which of the following require substrate as support?
   a) submerged b)solid state c) surface d) batch
7. Impeller is called as _____
   a) agitator b) mixer c) drier d) binder
8. Sparger is _____
   a) Introduce air into medium b) Agitator
   c) drier d) growth initiator
9. Source of inoculums used in citric acid production _____.
   a) *Aspergillus niger* b) *A)clavatus*
   c) *Pencillum citrinum* d) all the above
10. α- Amylase produced by _____.
    a) submerged culture b) solid state
    c) surface d) batch

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11.a) How will you preserve the microbial culture for future use?

(OR)

b) Give a brief outline for strain improvement.

12.a) Explain the role of sulphur and nitrogenous components in aerobic respiration.

(OR)

b) Write down the role of CO_2 and electron acceptors in respiration.

13.a) Explain solid state fermentation in brief.

(OR)

b) Write down the purification processes of extracellular products.

14.a) Describe the computer based applications in fermentation technology.

(OR)

b) What are the components of fermentor?

15.a) Explain the production of α- amylase.

(OR)

b) How will you produce Citric acid using fermentation technology?

PART – C **(3x10=30)**

Answer any THREE questions.

16. Explain the screening technique for microbes.

17. Describe the alcoholic fermentation in brief.

18. Explain the extracellular products using fermentation technology.

19. Enumerate the types of bioreactors.

20. Illustrate the production and application of Pencillin.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Microbiology **COURSE CODE : 17P2RMC4**

COURSE TITLE : Microbial Physiology **QN.NO : 9106**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 2 = 20)**

Answer ALL the Questions. Each answer not exceeding 50 words.

1. ATP.
2. Chemolithotroph.
3. Catabolism.
4. Photosystems.
5. Products of heterolactic fermentation.
6. Aerobic fermentation yields more energy-comment.
7. Define gluconeogesis.
8. Comment on electron carriers.
9. Components of peptidoglycan layer.
10. What are essential amino acids?

PART – B **(5 x 5 =25)**

Answer all questions by choosing either (a) or (b).

11. a) What are the common nutrient sources for microbes?

(OR)

b) Draw the chemical structure of ATP.

12. a) Differentiate oxidative and substrate level phosphorylation with examples.

(OR)

b) Write the function of carboxysomes.

13. a) Explain the pentose phosphate pathway.

(OR)

b) Write the pathway of lactic acid fermentation.

14. a) How are diazotrophs classified?

(OR)

b) List out the role of ferredoxins and flavodoxins.

15. a) How are purines synthesized inside a cell?

(OR)

b) Discuss the pathway of valine synthesis.

PART – C **(3x10=30)**

Answer any THREE questions.

16. Classify the microorganisms based on their mode of nutrition. Write one example in each group.
17. Discuss the steps in light reaction of photosynthesis.
18. Explain the TCA Cycle step wise with the substrates, products and enzymes.
19. Describe the mechanism of Nitrogen fixation and the role of nitrogenase.
20. Discuss the pathway of glycine biosynthesis.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Microbiology **COURSE CODE : 17P2RMC5**

COURSE TITLE : Microbial Genetics **QN.NO : 9107**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 2 = 20)

Answer ALL the Questions. Each answer not exceeding 50 words

1. Auxotrophs
2. Mutation
3. Conjugation
4. Pheromones
5. Prophage
6. Lysogen
7. Transposase
8. Transposition
9. Promoter
10. Operon

PART – B (5 x 5 =25)

Answer all questions by choosing either (a) or (b).

11.a) Give an account on complementation.

(OR)

b) Write note on history of microbial genetics.

12.a) Illustrate the mechanism of recombination.

(OR)

b) Discuss F+ to F- transfer through conjugation.

13.a) Describe how co - transduction occurs?

(OR)

b) Explain the lysogenic cycle of bacteriophage with diagram.

14.a) Highlight the structure and applications of Tn5.

(OR)

b) Give an account on retrotransposons.

15.a) Explain the regulation of *trp* operon with diagram.

(OR)

b) Discuss the t-RNA and r-RNA structure in detail.

PART – C (3x10=30)

Answer any THREE questions.

16. Describe the types of mutations with diagram.
17. Elaborate Hfr and F- transfer mechanism with illustration.
18. Explain in detail about generalized and specialized transduction.
19. Give a detailed account on (i) Tn9 (ii) IS element
20. Discuss the regulations of *Lac* Operon with diagram.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Microbiology **COURSE CODE : 17P2RMC6**

COURSE TITLE : Medical Microbiology **QN.NO : 9108**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 2 = 20)**

Answer all questions.

1. Define innate immunity.
2. What is hapten?
3. List out tumour antigen.
4. What is MHC – I molecules.
5. Add a note on histoplasmosis.
6. Bring out the diagnosis of Mycobacterium.
7. What is SARS?
8. List out the clinical features of Giardia infection.
9. Define disinfectant.
10. List out antiparasitic drugs.

PART – B **(5 x 5=25)**

Answer all questions by choosing either (a) or (b).

11. a) Write down the steps involved in classical pathway of complement.

(OR)

b) Add a note on structure of Ig-G

12. a) Discuss about HLA typing.

(OR)

b) Write a short note on autoimmunity.

13.a) Briefly discuss about opportunistic mycoses.

(OR)

b) Write an account on pathogenesis of Salmonella typhi.

14. a) Comment on the pathogenesis and diagnosis of Hepatitis-B infection in human.

(OR)

b) Write down the clinical features, diagnosis and prevention of HIV

15. a) Write down the steps involved in determination antimicrobial activity.

(OR)

b) Add an account on antiviral chemotherapy.

Contd...

PART – C (3x10=30)

Answer any THREE questions.

16. Explain in detail about the various types of hypersensitivity reaction with suitable example.
17. Write an elaborate note on transplantation and its importance in human health.
18. Give a detail note on the general characteristics, pathogenesis, diagnosis, prevention and control of Vibrio cholerae.
19. Elaborate a note on life cycle pathogenesis, clinical diagnosis and prevention of Plasmodium.
20. Illustrate the types, mode of action and applications of various antibiotics.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Microbiology **COURSE CODE : 17P4RMC9**

COURSE TITLE : Microbial Biotechnology **QN.NO : 9116**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 2 = 20)

Answer ALL the Questions. Each answer not exceeding 50 words

1. Restriction enzymes applied in gene cloning.
2. Define Recombination.
3. List the vectors in biotechnology.
4. Describe Cosmids.
5. Transduction.
6. *Agrobacterium.*
7. Gene therapy.
8. Give example for the diseases to treat through stem cell therapy.
9. Transfection.
10. CRY protein.

PART – B (5 x 5 =25)

Answer all questions by choosing either (a) or (b).

11. a) Write down the scope and importance of Biotechnology.

(OR)

b) Bring out the steps involve in gene cloning.

12. a) Write the classification and properties of cloning vectors.

(OR)

b) Comment on M13-Vectors.

13. a) List down the DNA mediated transformation in animal system.

(OR)

b) Write the role of cDNA in gene transfer mechanism in plants.

14. a) Shortly explain the Marshling rDNA to fight against AIDS.

(OR)

b) Give an account on role of skin fibroplast in gene therapy.

15. a) Write about transgenic mice and cattle.

(OR)

b) Write the technique of producing herbicide resistant plants.

PART – C (3x10=30)

Answer any THREE questions.

16. Write an essay on "Gene therapy".
17. Compare restriction map of pBR322 and Ti Plasmid.
18. Write a detail account on production of monoclonal antibodies through genetic engineering technique.
19. Analyse the DNA fingerprinting and forensic studies in detail.
20. Write down the importance of Bt Cotton in Agriculture.

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SEMESTER EXAMINATIONS –APRIL 2021

PROGRAMME: M.Sc., Microbiology **COURSE CODE : 17P4RMC10**
COURSE TITLE : Genomics and Proteomics **QN.NO : 9117**
TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 2 = 20)**

Answer ALL the Questions. Each answer not exceeding 50 words

1. State the significance of repetitive DNA content
2. Expand : a) FISH b) FACS
3. Compare DNA finger printing and DNA foot printing,
4. What is sequence shor-gun?
5. How do you design a DNA chip?
6. Define chromosome walking.
7. Expand : a) PAGE b) MALDI
8. Comment on Rasmol.
9. What is peptide sequencing?
10. State the application of Tandem Spectrometry.

PART – B **(5 x 5 =25)**

Answer all questions by choosing either (a) or (b)

11. a) Compare the organization of prokaryotic and eukaryotic Genomes.

(OR)

b) State the principle, methodology and applications of microarray.

12. a) "PCR is the gene amplifying technology" – Justify

(OR)

b) Propose a protocol for DNA finger printing and add its applications.

13. a) How do you perform transcriptome analysis.

(OR)

b) Highlight the significance of cloning contig approach.

14. a) How are proteomics classified?

(OR)

b) Propose a methodology for SDSPAGE and add its applications.

15. a) Outline the principle and applications of Spectrometry.

(OR)

b) Explain the significance of TAP tag.

PART – C **(3x10=30)**

Answer any THREE questions.

16. What is genome mapping? Examine any three methods of genetic mapping.
17. Elucidate any two methods of DNA sequencing.
18. How do you perform computer based molecular phylogenetics? State its applications.
19. Discuss the principle behind spectrometry, MALDITOF and ESI with respect to their applications.
20. Examine the principle, protocol and applications of gel based proteome profiling.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 17U1ZMC1**

COURSE TITLE : Life and Diversity of Invertebrates **QN.NO : 9201**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. *Plasmodium* is the common representative of

   a) Protozoa b) Porifera c) Coelenterata d) Ctenophore

2. *Entamoeba* causes a disease called

   a) Amoebiasis b) Dengue fever c) Malaria d) Tb

3. *Taenia solium* is included in the phylum

   a) Coelenterata b) Platyhelminthes c) Porifera d) Annelida

4. Which of the following is called filarial worm?

   a) *Leishmenia* b) *Plasmodium*

   c) *Entamoeba* d) *Wuchereia*

5. The excretory organ of earthworm is

   a) Nephridia b) Trachea c) Flame cells d) Book lungs

6. Leech belongs to the class

   a) Hirudinaria b) Cestode c) Turbellaria d) Hydrozoa

7. Cockroach is a

   a) Herbivorous b) Carnivorous c) Omnivorous d) Frugivorous

8. Prawn has _____ pairs of cephalic appendages.

   a) 2 b) 3 c) 4 d) 5

9. _____ is the second larva of star fish.

   a) Dipleurula b) Bipinnaria c) Brachiolaria d) Alima

10. The respiration carried out by molluscan is

    a) Nephridia b) Trachea c) Book lungs d) Pulmonary chambers

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a)Write a brief account on parasitic protozoans.

(OR)

b) Explain the general characters and classification of phylum Porifera upto classes.

12. a) Illustrate the Polymorphism in Hydrozoa..

(OR)

b) Enlist the general characters and classification of Helminthes upto classes with suitable examples.

13. a) Discuss about the reproductive system of Earthworm.

(OR)

b)Explicit the structure of coelom in leeches.

14. a) Give a detailed account on appendages of prawn.

(OR)

b) Explain the types of insect metamorphosis and add a note on the role of hormones.

15. a) Describe the water vascular system in star fish.

(OR)

b) Give an account on Echinoderm larvae and their significance.

PART – C (3x10=30)

Answer any THREE questions

16. Describe the life history of *Plasmodium*.
17. Write down the general characters and affinities of Ctenophora.
18. With suitable diagram, explain Nervous system of Earthworm.
19. Describe the circulatory system of Cockroach with neat diagram.
20. Write down the general characters and classification of phylum mollusca upto classes with suitable examples.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 17U1ZSM1**

COURSE TITLE : Applied Entomology **QN.NO : 9202**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Mother moth examination is conducted for the detection of which disease.
   a) Pebrine b) Grasserie c) Flacherie d) Muscardine
2. What is the life cycle of an adult *Bombyx mori*?
   a) 2 days b) 3 – 4 days c) 6 days d) 8 days
3. What is the scientific name of Mulberry tree?
   a) *Magnifera indica* b) *Desmodium girence*
   c) *Morus alba* d) *Zea maize*
4. Mulberry cultivation is referred as _____.
   a) Apiculture b) Sericulture c) Moriculture d) Sylviculture
5. Queen be is specified for _____.
   a) Administration b) Making hive
   c) Egg laying d) Collection of food
6. Which of the following is the largest bee?
   a) *Apis dorsata* b) *Apis florea*
   c) *Apis indica* d) *Apis mellifera*
7. Lacs are _____.
   a) Artificial elements b) Secretary substances of plants
   c) Secretary substances of Insects d) All of these
8. The composition of Lac is _____.
   a) Glue, Pigments and Sugar b) Wax, Pigments and Glue
   c) Resin, Pigment, Wax and Glue d) Resin, Sugar and Wax
9. What can forensic entomology are used to determine?
   a) Time of death b) Neglect of the elderly
   c) Location of death d) All the above
10. How would forensic entomologist define a flyspeck?
    a) Minute larvae from a fly infestation
    b) Tracking of pooled blood by flies
    c) Any kind of a small discoloration found at the crime scene
    d) The feces from a fly that has fed on blood

Contd...

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. (a) Write about the physical characters of Cocoons?

(OR)

(b) Describe the causative agent, symptoms and control measures of Muscardine disease.

12. (a) Demonstrate the different methods of mulberry leaf harvest.

(OR)

(b) Explain briefly on the role of Central Silk Board in sericulture.

13. (a) Write short note on the structure of Newtoms bee hive.

(OR)

(b) Analyze the importance of Honey.

14. (a) Describe the life history of Lac insects with neat diagram.

(OR)

(b) Brief notes on the composition and uses of Lac.

15. (a) Define Maggots. Illustrate the life cycle of Maggots.

(OR)

(b) Entomology as a tool to solving criminal cases – Justify.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain the life history of silk worm with the help of figures of various stages.
17. Write the humidity, rainfall, temperature and soil suitable for mulberry cultivation.
18. Discuss the characteristics of four well known species of honey bees.
19. Explain the different stages involved in Lac cultivation.
20. What is forensic entomology? Elaborate the use of insects in forensic investigations.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 17U2ZMC2**

COURSE TITLE : Life and Diversity of Vertebrates **QN.NO : 9204**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Prochordates are _____.
   a) Primitive chordates b) Primary chordates
   c) Marine chordates d) Secondary chordates
2. The body covering of ascidian is called_____.
   a) Tunic b) Foot c) Stigmata d) Endostyle
3. The heart of fish is _____ chambered.
   a) Three b) Two c) one d) Four
4. Eel is a_____ fish.
   a) Oceanodromous b) Catadromous
   c) Anadromous d) Potamodromous
5. The term amphibia refers to _____
   a) Single life b) Predatory life c) Parasitic life d) Double life
6. The venom which affects the nervous system is called _____.
   a) Neurotoxin b) Haemotoxin c) Phytotoxin d) Chemotoxin
7. The bones of birds are _____.
   a) Heterocoelous b) Tetraradiate c) Monocondylic d) Pneumatic
8. Which one of the followings is an extinct bird?
   a) Archaeopteryx b) Emu c) Kiwi d) Ostrich
9. Mammals are _____ blooded animals.
   a) Cold b) Warm c) Red d) Water
10. Egg laying mammals are called _____.
    a) Prototheria b) Metatheria c) Eutheria d) Erythroderma

Contd...

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. (a) Write an account on the feeding mechanism of ascidian.

(OR)

(b) Analyze the salient features of amphioxus.

12. (a) Give an account on the parental care of fishes.

(OR)

(b) Highlights the various types of accessory respiratory organs in fishes.

13. (a) Write briefly about the metamorphosis of frog.

(OR)

(b) Highlight the general characters of amphibians.

14.(a) Give an account on flightless birds.

(OR)

(b) List out the classification of aves.

15 (a) Briefly explain the sense organs of rabbit.

(OR)

(b) Write a short account on metatheria.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Give a detailed account on the affinities of amphioxus.

17.Explain in detail about the migration of fishes.

18.How will you identify the poisonous and non poisonous snakes?

19.Describe a detailed account on the flight adaptations of birds.

20.Discuss the adaptations of aquatic mammals.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 17U2ZSM2**

COURSE TITLE : Medical Zoology **QN.NO : 9206**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which among the following is non communicable disease?
   (a) Cholera (b) Measles (c) AIDS (d) Rickets
2. Diseases which are restricted to the particular area are _____ diseases.
   (a) Endemic (b) Epidemic (c) Pandemic (d) None of the above
3. Causative organism for the plague is_____.
   (a) *Yersinia pestis* (b) *Mycobacterium lepri*
   (c) *Plasmodium vivax* (d) *Plasmodim ovale*
4. Elephantiasis is transmitted by _____ species of mosquito.
   (a) Anapholes (b) Culex (c) Aedes (d) All of the above
5. *Entamoeba* causes _____ disease.
   (a) Amoebiasis (b) Giardiasis (c) Malaria (d) Dengue
6. *Trypanosoma* completes its life cycle in _____.
   (a) Man and Pig (b) Man and Tse-tse fly
   (c) Man and Mosquito (d) Man ad Pila
7. The other name of Oncosphere is _____ larva.
   (a) Hexacanth (b)Miracidium (c) Redia (d) Cercaria
8. Pick out the host of Ancyclostoma from the following.
   (a) Pig (b) Man (c) Sheep (d) Goat
9. An insect with piercing and sucking type of moth parts is_____.
   (a) Head louse (b) Bed-bug (c) Mosquito (d) All the above
10. Ticks and Mites belong to the class of
    (a) Arachnida (b) Insecta (c) Myriopoda (d) Crustacea

Contd...

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. (a) With suitable examples distinguish communicable disease from non communicable disease.

(OR)

(b) Write a brief account on biological and mechanical vectors.

12. (a) Comment on pathology and control measures of rabbies.

(OR)

(b)Narrate the symptoms and prophylaxis of Kala - Azar .

13. (a) Elucidate the life-cycle of *Entamoeba* with a relevant sketch.

(OR)

(b)Discuss the pathogenicity and preventive measures of Trypanosomiasis.

14. (a) Briefly explain Taeniasis and its prophylaxis.

(OR)

(b)Give an account on Ancyclostomiasis and its control measures.

15. (a) Comment on head louse and its control.

(OR)

(b)Briefly explain bed-bug and its control.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Write a detailed account on endemic, epidemic and pandemic diseases.
17. Describe the causative organism, mode of transmission, symptoms and control measures of Dengue.
18. Elucidate the life cycle of malarial parasite with a neat labeled sketch.
19. Illustrate the mode of infection, pathogenicity and prophylaxis of Ascariasis.
20. Discuss the general characters, medicinal importance and control measures of ticks and mites.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 17U3ZMC3**

COURSE TITLE : Biochemistry and Biochemical Techniques **QN.NO : 9211**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which is not the function of protein?
   a) It act as a biocatalysts
   b) It helps for the growth and repair of cells
   c) It serves as a structural material of various body parts
   d) Adrenal and sex hormones are synthesized from protein
2. _____ is one of the phospholipids
   a) Lecithins b) Wax c) Oil d) All
3. Certain enzymes are sysntahsised in the inactive form are called
   a) Zymogen b) Apozyme c) Co-enzyme d) None
4. Most of the enzymes are more effective in the following pH
   a) less than 2 b) 5.0 to 9.0 c) 9.0 and above d) 7
5. Which one is not the process of amino acid metabolism?
   a) Deamination b) Transamination
   c) Decarboxylation d) Carboxylation
6. Fatty acid oxidation takes place in which part of the cell
   a) cytoplasam b) Nucleus c) Ribosome d) Mitochondria
7. In which type of chromatography, the stationary phase held in a narrow tube and the mobile phase is forced through it under pressure?
   a) Column chromatography b) Planar chromatography
   c) Liquid chromatography d) Gas chromatography
8. Which of the following is not a type of centrifugation?
   a) Hydro cyclone b) Tubular centrifuge
   c) Microfiltration d) Disk stack separator
9. Which of the following isotopes is not a radioisotope?
   a) Carbon-13 b) Carbon-14 c) Tritium d) Sulphur-35
10. Molecules containing radio-isotopes are employed in
    a) Spectroscopy b) Autoradiography
    c) Chromatography d) Electrophoresis

Contd...

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Explain the types and functions of carbohydrates.

(OR)

b) Classify the Proteins based on the shape, Constitution and nature of molecules present in it.

12.a) Discuss the classification and significance of enzymes.

(OR)

b) What is Enzyme inhibition and explain the types?

13.a) Discuss the Glyconeogenesis pathway of carbohydrate metabolisam.

(OR)

b) Explain the transanimanation and deamination of protein metabolisam.

14.a) The principle and method of polyacrylamide gel electrophoresis.

(OR)

b) Write a short essay on Ph meter.

15.a) Explain any two applications of Tracer.

(OR)

b) Discuss the application of radioactive isotopes .

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Write an essay on Vitamin types, functions and deficiency diseases.

17. Discuss the mechanism of enzyme action in detail.

18. Give an account of Glycolysis and Kreb's cycle.

19. What is Chromatography? Explain the principal, mechanism of Paper and Thin Layer Chromatography.

20. Explain the Dosimetry and its importance in medical field.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 17U3ZAC1**

COURSE TITLE : Essentials of Invertebrates & Chordates **QN.NO : 9214**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. In *Ascaris*, the period of incubation outside the human body is
   a) More than 30 days b) 15-30 days
   c) 8-14 days d) 4-8 days
2. The sexual life cycle of *Plasmodium* is completed in
   a) The gut of mosquito b) RBC
   c) Liver tissue d) The salivary glands of mosquito
3. The *Ligula* is common name of
   a) Maxilla b) Labium
   c) Combination of Glossa and paraglossa
   d) Mandible
4. In sea stars, Madreporite is the opening for;
   a) Digestive system b) Water vascular system
   c) Excretory system d) Circulatory system
5. Which of the following is an example of an anadromous fish?
   a) Striped bass b) Lamprey c) Chinook salmon d) All are correct
6. The golden age of reptiles was
   a) mesozoic era b) palaeozoic era c) proterozoic era d) coenozoic era
7. Which is a poisonous snake?
   a) *Enhydrina* b) *Typhlops* c) *Eryx* d) *Python*
8. Migrating birds are known to
   a) stay very close to home
   b) move south for winter and return to the north in spring
   c) move south and never return north
   d) find new places to live each winter and spring
9. Chondrichthyes includes _____ fishes.
   a) Bony b) Cartilaginous c) Lung d) Armored
10. _____ marsupials were taken as examples of adaptive radiation.
    a) American b) Australian c) Indian d) African

Contd...

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Write a note on parasitic adaptations in Tapeworm .

(OR)

b) What is the difference between a polyp and a medusa with suitable illustrations?

12.a) With a neat diagram explain the mandibulate mouth parts of Insect.

(OR)

b) Brief on respiration in Arthropods.

13.a) Write a note on migration in fishes with an example.

(OR)

b) Write a brief account on golden age of reptiles.

14.a) Enlist the common poisonous and non-poisonous snakes found in southern India.

(OR)

b) Emphasize on flight adaptation in birds.

15.a) Enumerate and explain the exoskeleton in mammals.

(OR)

b) Does a fish have an exoskeleton? Explain.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. How does *Plasmodium* multiply in the human body? Explain in detail

17. Write a detailed account on water vascular system in star fish.

18. What Are the Developmental Stages of a Frog explain with neat diagram?

19. How will you identify poisonous and non-poisonous snakes with illustations?

20. Discuss on adaptive radiation in mammals.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Zoology **COURSE CODE : 17U3ZNM1**

COURSE TITLE : Economic Zoology **QN.NO : 9215**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Natural enemy of apiculture is
   a. Temperature b. humidity c. rainfall d. beetles
2. Droner bee is
   a. Female bee b. queen bee c. worker bee d. male bee.
3. Mulberry silkworm completes its lifecycle in ____ days
   a. 40 b. 60 c. 65 d.45 – 55.
4. The rearing of silkworm is called as
   a. Apiculture b. aquaculture c. tissue culture d. sericulture.
5. The character of carp making it suitable for culture
   a. Grows only in alkaline water b. grows only in fresh water
   c. major producer in the food chain d. tolerates low water quality.
6. Shagreen is the tanned skin of __ fish
   a. Ray b. carp c. shark d. catla.
7. ____ is the rarest among the pearl colour
   a. Yellow b. brown c. pink d. red.
8. Mediterranean breed of poultry is characterized by
   a. High egg production b. excellent flushing
   c. light bodied d. both a&c.
9. Draft breeds are conventionally bred to
   a. Produce meat b. pull load
   c. milk production d. reproduction.
10. Exotic breeds are
    a. Cheaper b. disease resistant
    c. pest resistant d. cross breeding.

Contd...

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Bring out the problems in apiculture.

(OR)

b) Enlist the natural enemies of apiculture.

12 .a) Appreciate the importance of rearing of silkworms.

(OR)

b) Outline the requirement of appliances in the rearing of silkworms.

13 .a) what are the cultivable fishes in pisciculture?

(OR)

b) Discuss in brief the salient features of carp culture.

14 .a) Classify the breeds of poultry.

(OR)

b) Summarize the diseases and control measures of poultry.

15 .a) Outline the principles of dairy farming.

(OR)

b) List out the economically important dairy products.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Illustrate the organization of bee colony

17. Demonstrate the life cycle of mulberry silkworm.

18. Show the economic importance of fishes.

19. Summarize the methods in pearl culture.

20. Categorize the economically important breeds in detail.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 17U4ZMC4**

COURSE TITLE : Cell & Molecular Biology **QN.NO : 9216**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which one of the following is used as fluorescent microscopic stain?
   a) Saffranin b) Crystal violet c) Rhodomine d) Glycerin
2. _____ in electron microscopes used in place of condensers of light microscope.
   a) Electron gun b) Electromagnet c) Electron collector d) Screen
3. Synthesis of steroids and hormones takes place in _____
   a) Rough endoplasmic reticulum b) Smooth endoplasmic reticulum
   c) Ribosomes d) Lysosomes
4. Synthesized proteins will be sorted out in _____
   a) Rough endoplasmic reticulum b) Smooth endoplasmic reticulum
   c) Ribosomes d) Golgi complex
5. Endomitosis will lead to the development of_____
   a) Point mutation b) Giant chromosomes
   c) Deletion mutation d) Frame shift mutation
6. Interrupted synthesis of MAC (mitosis activation complex) proteins will be the key feature of _____
   a) Normal cells b) Cancer cells in proliferation stage
   c) Cancer cells in initiation stage d) Cancer cells in progression stage
7. Combination of nucleotides such as A+T and G+C in DNA has been prescribed by_____
   a) Watson b) Mesolson and Stahl
   c) T.H. Morgan d) Erwin Charcalf
8. 5^1….3^1 proof reading function is the essential feature of_____
   a) DNA gyrase b) DNA polymerase
   c) RNA polymerase d) Helicase
9. Portion of mRNA which consists of more number of protein encoding regions is known as_____
   a) Polymer RNA b) Polycistron
   c) Monocistron d) Non coding RNA
10. _____are playing a crucial role during the post translational modification and folding of proteins.
    a.RNA polymeraseI b) RNA polymeraseII
    c. Molecular chaperons d) Exonucleases

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Write a short note on the principle and applications of light microscopes.

(OR)

b) Illustrate the chemical composition, structure and functions of plasma membrane.

12. a) Describe the structure and functions of mitochondria.

(OR)

b) Illustrate the structural organization and functions of endoplasmic reticulum.

13. a) Describe the structural organization of chromosomes.

(OR)

b) Enlist the causes and developmental stages of cancer.

14. a) Explain the structure and different forms of DNA.

(OR)

b) Illustrate the structure and functions of t-RNA.

15. a) Illustrate the stages, components and significance of transcription.

(OR)

b) Explain the organization and functions of *lac operon*.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Enlighten the principle, working mechanism and application of electron microscopes.
17. Illustrate the organization, chemical composition and functions of nucleus.
18. Explain the causes and different types of chromosomal aberration.
19. Write a comparative account on prokaryotic and eukaryotic DNA replications.
20. Explain the stages and importance of prokaryotic and eukaryotic translation.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Zoology **COURSE CODE : 17U4ZSM3**

COURSE TITLE : Ornamental Fish Culture **QN.NO : 9218**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Pisciculture is rearing and production of
   a) Fishes b) Wool yielding animals
   c) Birds d) Earthworms
2. The following state has the highest marine fish production in India.
   a) Maharashtra b) Gujarat c) Kerala d) Tamil Nadu
3. What is the proper pH for a freshwater aquarium?
   a) 7.8-8.2 b) 6.8-7.2 c) 7.8-8.6 d) 6.8-7.8
4. An _____ is an artificial pool where live fishes.
   a) Aquarium b) Pond c) River d) Well
5. _____ has its dorsal fin modified into a luring filament.
   a) Catfish b) Carp c) Angler fish d) Rasbora
6. *Carassius auratus* is commonly known as
   a) Gold fish b) Fighter fish c) Molly fish d) Parrot fish
7. _____ is an example for live fish food.
   a) Wafers b) Earthworm c) sticks d) Tablets
8. Fin rot disease caused by
   a) Bacteria b) Virus c) Fungi d) Parasite
9. Factors to be taken into consideration while packing the ornamental fish is/are
   a) Density b) Temperature
   c) Dissolved gases d) All
10. _____ is widely used in transport water to aid in alleviating stress and trauma to fish.
    a) Formalin b) Carbon dioxide c) Salt d) Oil

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b).

11. a) Write about the advantages of ornamental fish.

(OR)

b) Differentiate the home aquarium and marine aquarium.

12. a) Give an account on aquarium plants.

(OR)

b) Explain about the aquarium equipments.

13. a) Enumerate the salient features of Parrot fish.

(OR)

b) Comment on Marine angelfish.

14. a) Write a short note on live feed and artificial feed.

(OR)

b) Discuss on composition of ideal fish feed and nutritional requirements for fish.

15. a) Explain the packing methods of ornamental fishes.

(OR)

b) Elaborate on ornamental fish transportation.

PART – C (3x10=30)

Answer any THREE questions.

16. Describe about the types of Aquarium tank.
17. Analyze about types and importance the filtering system in Aquarium.
18. Write a detailed account on Goldfish and Fighter fish.
19. Summarize the cause, symptoms and control measures on Carp pox and Velvet disease in fishes.
20. Assess the various factors to be considered for packaging the ornamental fishes.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 17U4ZAC4**

COURSE TITLE : Molecular Biology and Immunology **QN.NO : 9219**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. What is the composition of nucleotide?
   a) a sugar + a phosphate
   b) a base + a sugar
   c) a base + a phosphate
   d) a base + a sugar + phosphate

2. Name the RNA molecules which is used to carry genetic information copied from DNA?
   a) tRNA b) mRNA c) rRNA d) snRNA

3. Which of the following is not a necessary component of translation?
   a) Anticodon b) mRNA c) Ligase d) Amino acid

4. A polysome could be best described as
   a) an active site of DNA synthesis.
   b) an active site of protein synthesis.
   c) an active site of lipid synthesis.
   d) all of the above.

5. Lac repressor dissociates from its operator when the repressor binds to
   a) Heat shock module b) Promoter
   c) Inducer d) Catabolite activator site

6. If lactose and glucose are provided in the growth medium of a culture of E.coli
   a) Lactose operon is not transcribed
   b) Lactose metabolism is favoured
   c) Both lactose and glucose are metabolized at same rate
   d) Adenylatecyclase is activated

7. Response of passive immunity is
   a) slow b) gradual c) immediate d) hard

8. Largest 'lymphoid' organ in body is called as:
   a) Thymus b) Spleen c) Liver d) Tonsils

Contd...

9. The class of immunoglobulins which can cross the placenta is

a) IgM b) IgG c) IgA d) IgD

10. Antigen binding sites of an immunoglobulin are located in

a) light chain alone b) heavy chain alone

c) F_c region of the antibody d) Fab regions of the antibody

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Describe the structure of DNA.

(OR)

b) Outline the structure of tRNA.

12. a) Describe the process of DNA replication

(OR)

b) Explain the process of translation

13. a) How the lac operon is regulated?

(OR)

b) What are the parts of an operon?

14. a) Physical and Chemical Barriers of innate immunity – explain.

(OR)

b) Give a short account on mode of Action of T-Cells.

15. a) Describe the basic Structure of Immunoglobulin.

(OR)

b) Explain antigen-antibody reactions.

(i) Precipitation Reactions (ii) Agglutination Reactions

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Define the purpose of each of the three types of RNA.

17. How does a DNA molecule code for a protein. Describe the process completely.

18. Explain the operon hypothesis?

19. Write in detail about primary lymphoid organs?

20. Explain the 5 types of immunoglobulins and what are their functions?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 17U4ZAC2**

COURSE TITLE : Applied Zoology **QN.NO : 9221**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which one of the following fish contains accessory respiratory organ?
   a) Catla b) Rohu c) Mrigal d) Channa
2. Culture of fishes along with agriculture or animal husbandry or salt industry is called
   a) Poly culture b) Mono culture
   c) Integrated fish culture d) Pokkali culture
3. Obtaining seeds in the laboratory from gravid females under controlled condition is called
   a) Natural breeding b) Controlled breeding
   c) Induced breeding d) Parthenogenesis
4. _____ is a concretion formed by molluscs.
   a) Gold b) Platinum c) Pearl d) Ore.
5. *Apis dorsata* is commonly called
   a) Little bees b) Rock bees c) Indian bees d) Dammer bees.
6. Which of the following is considered to be the Drug of immortality?
   a) Honey b) Bee wax c) Bee venom d) Silk
7. The aim of dairy farming is to create
   a) Blue revolution b) White revolution
   c) Green revolution d) Red revolution
8. Buffaloes are _____ origin.
   a) Karachi b) Pakistan c) Jersey d) Indian
9. The broilers are also called
   a) Layers b) General purpose birds
   c) Table breeds d) Mediterranean breed
10. Identification of female chicks by seeing the cloaca is called
    a) Vent sexing b) Colour sexing
    c) Feather sexing d) Sexing

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Briefly explain the scope of Aquaculture?

(OR)

b) Write short notes on Indian major carps.

12. a) Give an account of poly culture.

(OR)

b) How will you collect the shrimp seeds? - Explain.

13. a) Briefly explain the types of Honey bees.

(OR)

b) Point out the medicinal value of Honey.

14. a) Give a brief note on Red Sindhi and jersey.

(OR)

b) Discuss the foot and mouth disease of cattle.

15. a) State the nutritional value of eggs.

(OR)

b) Describe the Ranikhet disease and their vaccination schedule.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Write an essay on integrated fish farming.
17. Explain the culture method of shrimp.
18. Give a detailed account on modern methods of bee keeping.
19. Elaborate the milk products.
20. Write a detailed account on Deep litter system and its advantages.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Zoology **COURSE CODE : 17U4ZNM2**

COURSE TITLE : Essentials of Zoology **QN.NO : 9223**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Naming of organisms in scientific terms is known as :
   a) Bionomial nomenclature b) Trionomial nomenclature
   c) Scientific nomenclature d) All of the above.
2. Static concept of species was put forward by:
   a) De candolle b) Linnaeus c) Theophrastus d) Darwin.
3. Arrangement of nucleotides in DNA can be seen by:
   a) Ultra centrifuge b) X ray crystallography
   c) Light microscope d) Electron microscope
4. Number of hydrogen bond between adenine and thymine
   a) 1 b) 2 c) 3 d) 4
5. Where are the platelets produced?
   a) In liver b) In spleen c) In gal bladder d) In megakaryocyte
6. What is the ratio of eosnophils in blood?
   a) 1 % b) 5 % c) 0% d) 10 %
7. Black water fever is a special manifestation of malaria caused by:
   a) *P. Flaciparum* b) *P.malariae* c) *P.ovale* d) *P.vivax*
8. The following are the water borne diseases except
   a) Cholera b) Typhoid c) Hepatitis A d) Measles
9. Type I diabetes is:
   a) An autoimmune disorder
   b) More prelavent in males than in females
   c) Caused by bacterial infection
   d) Determined by ratios of gut bacteria
10. Hypertension is caused by
    a) Uncontrolled diet b) Noise pollution
    c) Blood Pressure d) All the above

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Write the principles of classification

(OR)

b) Describe bionomial nomenclature.

12. a) What is DNA finger printing?

(OR)

b) What are nucleic acids and write its function?

13. a) What is Rh factor and why it is important? How does Rh factor determine blood type?

(OR)

b) Comment on blood pressure.

14. a) What are vector borne diseases ? Write a note on dengue

(OR)

b) What are communicable diseases? and its types.

15. a) What is obesity and what causes it?

(OR)

b) What is hypertension How it can be controlled?

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Describe the general characters of invertebrates' and vertebrates' with an example.
17. Draw DNA and RNA structure and add its significance.
18. Describe the mechanism of blood clotting.
19. What are airborne diseases? Describe the pathophysiology of any 2.
20. What are non communicable diseases? Describe any 2 non-communicable diseases- causative agent, mode of transmission and symptoms.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 17U5ZSA2**

COURSE TITLE : Sericulture and Moriculture **QN.NO : 9229**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Cultivation of silk through rearing of commercial silkworms is
   a) Sericulture b) Silk culture c) Lac culture d) All the above
2. Central Silk Board is located at
   a) Madurai b) Bengaluru c) Mysuru d) Hyderabad
3. Cultivation of mulberry plants for harvesting the leaves to be used as food for silkworms is called
   a) Moriculture b) Sericulture c) Propagation d) Preservation
4. A part of mulberry plant is artificially united with another plant is called
   a) Grafting b) Layering c) Cutting d) Reeling
5. Tasar silk is generated by the worm of the silk moth
   a) *Antheraea mylitta* b) *Philosamia ricini*
   c) *Antheraea assamensis* d) *Bombyx mori*
6. Golden yellow silk produced by *Antheraea assamensis* is called
   a) Eri silk b) Muga silk c) Tasar silk d) All the above
7. The raw silk is tested by
   a) Visual b) Mechanical c) Chemical d) A & B
8. The process of unwinding the single long silk fibroin is called
   a) Silk reeling b) Cutting c) Grafting d) Layering
9. The symptoms of Septicemia
   a) Softening of the body b) Larvae produce liquid excreta
   c) A & B d) None of the above
10. Flacheric is
   a) Fish disease b) Silkworm disease
   c) Waterborne disease d) Airborne disease

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11.a) Explain the importance of sericulture.

(OR)

b) Write a note on the services of Central Silk Board.

12.a) Write down the optimum conditions of mulberry cultivation.

(OR)

b) Explain the methods of harvesting of mulberry.

13.a) With neat diagram explain the life cycle of Eri silkworm.

(OR)

b) Briefly explain the life cycle of Tasar silk worm.

14.a) Explain the rearing of silkworm.

(OR)

b) How will you test raw silk?

15.a) What are the symptoms of pebrine and how will you prevent this?

(OR)

b) Explain the symptoms and prevention of Muscardine.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16.Discuss the scope and prospects of sericulture industry.

17.Describe the methods of propagating mulberry.

18.Explain the life cycle of mulberry silkworm.

19.Describe the rearing appliances used for keeping silk worms.

20.Briefly explain the causes and prevention of any five silkworm diseases.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 17U6ZMC8**

COURSE TITLE : Microbiology and Immunology **QN.NO : 9230**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Father of microbiology is
   a) Antoni Van Leeuwenhoek b) Edward Jenner
   c) Louis Pasteur d) Sir Alexander Fleming
2. Bacterial cell wall is made up of
   a) Chitin b) Cellulose c) Dextran d) Peptidoglycan
3. The preservation of food items at cold temperature in a refrigerator is called
   a) Pasteurization b) Lyophilization c) Sterilization d) Refrigeration
4. The nitrogen is fixed in the nodule with the help of enzymes.
   a) Nitrogenase b) Phosphatase c) Oxidase d) Dehydrogenase
5. AIDS is caused by _____virus.
   a) TMV b) HIV c) Rabies d) Polio
6. Cholera is _____ disease.
   a) Bacterial b) Viral c) Fungal d) Protozoan
7. Which one of the following is a primary lymphoid organ?
   a) Lymph node b) Spleen c) Thymus d) Tonsil
8. _____ is the only immunoglobulin that crosses the human placenta.
   a) IgA b) IgD c) IgG d) IgE
9. Humoral immunity mediated by
   a) B Cells b) Macrophages c) Phagocytes d) T cells
10. Immunoelectrophoresis is devised by
    a) Grabar and Williams (1953) b) Berson and Yellow (1959)
    c) Kohlar and Milstein (1975) d) Janeway and Medzhitov (1997)

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Explain the working principle of Autoclave.

(OR)

b) Write an account on structure of a typical bacterium with neat illustration.

12.a) Give short notes on food spoilage of meat.

(OR)

b) Elaborate on types of biological nitrogen fixation.

13.a) Write the mode of transmission and symptoms and control measure of Tuberculosis.

(OR)

b) Comment on Swine flu.

14.a) Make a clear note on types of immunity.

(OR)

b) Enumerate the functions of immunoglobulins.

15.a) Write down the immunization schedule.

(OR)

b) Provide a short note on principle and application of immunoelectrophoresis.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Outline the Whittaker's five kingdom classification.

17 Write a detailed account on physic-chemical methods in food preservation.

18. Describe the causative organism, mode of transmission, pathogenicity, symptoms and preventive measures of AIDS.

19. Write an essay on primary lymphoid organs with neat diagram.

20. Discuss about the cell mediated immune response.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Zoology **COURSE CODE : 17U6ZME2**

COURSE TITLE : Biophysics, Biostatistics and Bioinformatics **QN.NO : 9231**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Tyndall effect is due to
   a) scattering of light b) dispersion of light
   c) reflection of light d) refraction of light
2. A thermodynamic process where no heat is exchanged with the surroundings is
   a) isothermal b) adiabatic c) isobaric d) isotropic
3. The stages of a malignant disease (cancer) is recorded using the symbols 0, I, II, III, IV. We say that the scale used is:
   a) Alphanumeric b) Numerical c) Ordinal d) Nominal
4. The two important values necessary for describing the frequency distribution of a series of observation are:
   a) Mean and standard deviation b) Mean and range
   c) Median and range d) Median and standard deviation
5. If, after performing a Student test for comparison of means, we obtain p = 0.0256, then:
   a) We reject H0 and accept H1 b) We accept H0
   c) We reject H1 d) We cannot decide
6. Relationship between two variables can be presented by:
   a) Pie diagram b) Scatter diagram c) Bar diagram d) Histogram
7. A term in computer terminology is a change in technology a computer is/was being used.
   a) development b) generation c) advancement d) growth
8. Which feature is used to make selected sentence to All Captital Letters or All Small Letters ?
   a) Change Letter b) Change Sentence
   c) Change Case d) Change Word
9. Which of the following is a nucleotide sequence database?
   a) EMBL b) SWISS PROT c) PROSITE d) TREMBL
10. Blast program is used in
    a) DNA sequencing b) Aminoacid sequencing
    c) DNA barcoding d) Bioinformatics

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Give an account on the properties and types of colloids

(OR)

b) How are the laws of thermodynamics and entropy related? Why is entropy important in thermodynamics?

12.a) Describe the parts of a typical statistical table. Comment on the use of table

(OR)

b) Describe with suitable example the explain the following

i) Pie diagram ii) Cartogram

13.a) Define chi-square and list out the applications of chi-square test in biological studies

(OR)

b) Grains in weight (kg) of two varieties pigs (A&B) after feeding a specific food are given below. Test the significance of the difference between mean weight grains of the two variables

A	B
49	52
53	55
51	52
52	53
47	50
50	54
52	54
53	53

14.a) Write the options in the file menu of MS excel and discuss its functions

(OR)

b) How to make the presentation more effective using MS PowerPoint?

15.a) Give an account on FASTA format.

(OR)

b) Write in detail about molecular visualization tool – RasMol

PART – C (3 x 10 = 30)

Answer any THREE questions.

16.How do we study the structure of proteins at different levels?

17.Give an account on the collection of data from primary and secondary sources.

Contd…

18. Calculate the co-efficient of correlation for the following data on the age of growth of catla and discuss

X (age in month)	Y (length in cm)
2	10
3	9
4	11
5	13
6	12
7	14
8	17
9	17
10	20

19. What is Computer? Describe its evolution and history.
20. What is meant by sequence alignments? Write about the evolutionary basis of sequence alignment.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Zoology **COURSE CODE : 17U6ZME3**

COURSE TITLE : Biotechnology **QN.NO : 9232**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Which of the following enzyme is suitable for dephosphorylation at 5' end of a DNA?
   a) Methyl transferase b) Alkaline phosphatase
   c) Polynucleotide kinase d) Terminal nucleotyl transferase
2. The plasmid used for Cohen and Boyer for their transformation experiment was
   a) pSC101 b) PUC 17 c) pBR 322 d) E.coli plasmids
3. The first genomic libraries were cloned in
   a) Plasmid b) Bacteria c) Plants d) Human
4. The transfer of whole individual chromosomes, they are isolated from the cells at
   a) Prophase b) Metaphase c) Anaphase d) Telophase
5. A stem cell transplant using a patient's own stem cells is described as
   a) Syngenic b) Autologous c) Allogenic d) Homologous
6. Gene Therapy in Human was first practiced by Blease to cure
   a) Cystic fibrosis b) Haemophilia c) Thalassimia d) SCID
7. Which of the following is NOT the major function of the serum?
   a) Promotion of bulb formation b) cell growth
   c) cell attachment d) Transport of Protein
8. The conversion of Nitrogen into ammonia is called
   a) Nitrogen assimilation b) Nitrogen fixation
   c) Denitrification d) Nitrification
9. A non directed Physico chemical interaction between heavy metals and microbes surface called
   a) Biotransformation b) Bioconversion
   c) Biosorption d) Bioleaching
10. How long do patent usually last for
    a) 10 years b) 20 years c) 40 Years d) 50 Years

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b).

11.a) Give an account on linkers and Adopters.

(OR)

b) Describe about Cosmids.

12.a) Write down the steps involved in construction of cDNA library.

(OR)

b) How the DNA transfer by microinjection method?

13.a) Give an account on cloning strategies.

(OR)

b) Write a note on Gene therapy methods

14.a) Write briefly about the SCP production.

(OR)

b) How to produce the transgenic animal with example?

15.a) Write a short note on Bioremediation.

(OR)

b) Describe about Biosafety levels of Microorganisms.

PART – C (3x10=30)

Answer any THREE questions.

16. Write down the types and mechanism of restriction enzymes.

17. How the DNA amplified by PCR?

18. Explain the RFLP application in DNA fingerprinting.

19. Illustrate about the Production of Monoclonal Antibodies.

20. Explain about the Human Genome Project.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 17U6ZSM4**

COURSE TITLE : Forensic Science **QN.NO : 9235**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. _____ is the branch of science used in criminal justice system
   a) Physical science b) forensic science
   c) applied science d) life science
2. First forensic science lab in India was established at
   a) Kolkata b) Mumbai c) Agra d) Delhi
3. The study of dental applications in legal proceeding is called
   a) toxicology b) anthropology
   c) odontology d) pathology
4. _____ protect a computer from virus
   a) backup wizard b) disk cleanup
   c) antivirus d) disk defragmenter
5. _____ is the father of ballistics
   a) Calvin Goddard b) Francis Galton
   c) Albert Osborn d) Alphonse Bertillon
6. The study of fingerprint is called
   a) dermatology b) anthropology
   c) ergonomics d) dermatoglyphics
7. DNA fingerprinting cannot taken from
   a) blood b) buccal mucosa c) saliva d) tooth
8. Brain fingerprints are measured by
   a) ECG on lead b) lie- detector
   c) DNA
   d) quantitative measurement of sulci, gyri
9. _____ are the first appear insects on the dead body.
   a) Beetles b) Ants c) Mites d) Flies
10. The last stage scavengers are _____
    a) Macrocheles mites b) Hide beetles
    c) Hister beetles d) Devil's coach-horse beetles

Contd...

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) State the principles of forensic sciences.

(OR)

b) Describe the laws of forensic laboratories.

12. a) Explain the causes of crime.

(OR)

b) Comment on the types of crime.

13. a) Give an account on preliminary examination in investigation techniques.

(OR)

b) Write an account on the characteristics of finger prints examination.

14. a) Explain the principles of DNA profiling.

(OR)

b) Briefly explain about brain fingerprinting

15. a) Describe the role of bacteria in forensic science.

(OR)

b) State the importance of insect in forensic science.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Write an essay on need of forensic laboratories in India.
17. Write a report on criminal behavior in cyber crime.
18. Explain the principle and types of finger prints.
19. Briefly explain the applications of DNA profiling.
20. Discuss the application of insects in forensic science.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., **COURSE CODE : 17U6ZAC4**

COURSE TITLE : Molecular Biology, Biotechnology and Immunology **QN.NO : 9236**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Mode of DNA replication is
   a) Conservative and bidirectional b) Semiconservative and unidirectional
   c) Semiconservative and bidirectional d) Conservative and unidirectional
2. Which of the following is not a termination codon?
   a) UGA b) UAA c) UAG d) UAC
3. Transgenic animals used for biofarmong or molecular farming is called
   a) biopests b) bioreactor c) biofarmers d) none of these
4. Monoclonal antibodies are
   a) heterogenous antibodies produced from single clone of plasma cells
   b) homogenous antibodies produced from single clone of plasma cells
   c) both a and b d) none of these
5. *Azolla* is used as biofertilizer as it has
   a) Rhizobium b) Cyanobacteria
   c) Mycorrhiza d) large quantity of humus
6. Insulin produced by genetic engineering is preferable to that obtained from animals because
   a) It is pure than animal insulin
   b) bacteria cannot make human insulin
   c) Animal insulin cannot treat human diabetes
   d) It does not cause allergic reactions
7. B and T cells are produced by stem cells that are formed in:
   a) Bone marrow b) The liver
   c) The circulatory system d) The spleen
8. Which of the following convey the longest lasting immunity to an infectious agent?
   a) Naturally acquired passive immunity
   b) Artificially acquired passive immunity
   c) Naturally acquired active immunity
   d) All of these
9. Monoclonal antibodies recognize a single:
   a) Antigen b) Bacterium c) Epitope d) B cell
10. In agglutination reactions, the antigen is a_____, in precipitation reactions, the antigen is _____
    a) whole cell/soluble molecule b) Soluble molecule/whole cell
    c) Bacterium/virus d) Protein/carbohydrates

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11. a) Illustrate the structure of t-RNA.

(OR)

b) Give an account on mutagens.

12. a) Draw and explain the vector PBR322

(OR)

b) Discuss about the application of monoclonal antibodies.

13. a) Role of *Thiooxillus thioxidants* in ore leaching.

(OR)

b) Write the structure of biosensor and write its application.

14. a) Differentiate between innate &acquired immunity.

(OR)

b) Provide an overview of humoral immune system.

15. a) Draw the structure of the section of thymus and explain.

(OR)

b) Explain oxygen dependent killing mechanisms by Macrophages.

PART – C **(3x10=30)**

Answer any THREE questions.

16. Explain DNA replication and write about the enzymes and proteins involved in replication.
17. Write an essay on transgenic animals with respect to Dolly and add a note on the ethical issues.
18. Give a detailed account on any one biofertilizer and biopesticide that you have studied.
19. Write an essay on antigen – antibody interaction.
20. Describe the structural and functional properties of Ig G, Ig A, Ig D, Ig M and Ig E.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 17U2DMC4**

COURSE TITLE : Computer Organization and Architecture **QN.NO : 9307**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. A group of bits that tell the computer to perform a specific operation is known As ____
   a) Instruction code b) Micro-operation c) Accumulator d) Register
2. A memory that is part of control unit is referred to as ------
   a) Data Memory b) Control Program
   c) Control Memory d) Program Memory
3. The stack follows the sequence
   a) first-in-first-out b) first-in-last-out
   c) last-in-first-out d) last-in-last-out
4. The skip instruction does not need an address field and is therefore a----------
   a) one-address b) two- address c) three-address d) zero-address
5. In division algorithm, if the partial remainder is greater than or equal to the divisor then the quotient bit is ---
   a) 0 b) 1 c) 5 d) None
6. Which of the following is used for binary multiplication?
   a) Restoring Multiplication b) Booth's Algorithm
   c) Pascal's Rule d) Digit-by-digit multiplication
7. ------command is issued to activate the peripheral and to inform it what to do.
   a) control b) status c) data output d) data input
8. The CPU activates the ———————— output to inform the external to DMA that the buses are in the high impedance state
   a) Bus required b) Bus grant c) Read d) Register select
9. The CISC stands for _____
   a) Computer Instruction Set Compliment b) Complete Instruction Set Compliment
   c) Computer Indexed Set Components d) Complex Instruction set computer
10. ------- system is able to perform concurrent data processing to achieve faster execution time.
    a) Parallel Processing b) Serial Processing
    c) Processing d) Multitasking

Contd…

PART – B **(5 x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11.a) Explain with neat block diagram common bus system. And also explain how is communicated with memory and computer register?

(OR)

b) What is the purpose of control memory?

12.a) Explain about the basic computer instruction formats with examples.

(OR)

b) How the PUSH and POP operations are complemented in the register stack? Explain.

13.a) What is meant by array multiplier? Explain 4-bit by 3-bit array multiplier with its block diagram.

(OR)

b) Discuss the process of floating-point addition and subtraction operations.

14.a) What are the modes of data transfer to and from peripherals? Discuss.

(OR)

b) Explain in detail about the parallel priority interrupt.

15.a) Write short note about the operation of pipelining.

(OR)

b) Explain the term array processors? Describe the various array processors with neat block diagram?

PART – C **(3x10=30)**

Answer any THREE questions.

16.Explain in detail about instruction cycle.

17.Describe the different types of addressing mode.

18.Explain with flow chart the division algorithm of signed magnitude numbers.

19.What is a cache memory? Explain the different cache mapping mechanism.

20. How components are interconnected to form a microprocessor system? Explain the various physical forms for establishing an interconnection network.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science	COURSE CODE : 17U2DAC2
COURSE TITLE : Microprocessor 8086 / 8088 and its Applications	QN.NO : 9309
TIME : 3 Hours	MAX.MARKS :75

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Status register is also called as _____
   A. accumulator B. stack C. counter D. flags
2. In _____ addressing mode, the operand is stored as part of the instruction
   A. Indirect B. Immediate C. Indexed D. Direct
3. MOV instructions belong to _____ group of instructions
   A. Data Transfer B. Compare C. Logic D. Jump
4. AND, OR, NOT belong to _____ group of instructions
   A. Data Transfer B. Compare C. Logic D. Jump
5. _____ signal is used as a read strobe for interrupt acknowledge cycles.

   A. ALE B. INTA C. DT/R D. DEN
6. The direction of data transfer over the bus is signaled by the logic level output at _____ lines

   A. M/IO B. INTA C. DT/R D. ALE

7. In _____the data transfer is accomplished through an I/O port and controlled by software.

   A. Programmed I/O B. Interreupt driven I/O C. DMA D.None

8. _____ device refers keyboard/Display controller
   A. INTEL 8254 B. INTEL 8259 C. INTEL 8257 D.INTEL 8279

9. _____is an input to the 8086 that can be used by an external device to signal that it need to be serviced.

   A. INTA B. INTR C. INTW D.None

10. INTR is a _____
    A. Maskable software interrupt B. Non-Maskable software interrupt
    C. Maskable hardware interrupt D. Non-Maskable hardware interrupt

(P.T.O)

-2-

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. (a) Explain about different Addressing mode with example

(OR)

11(b) Explain about the Internal architecture of a microprocessor

12 (a) Explain about Data transfer and arithmetic instructions

(OR)

12(b) Explain about Logic and shift instructions

13 (a) Explain about read and write bus cycles

(OR)

13(b) Explain about System clock

14 (a) Explain about I/O data transfers

(OR)

14(b) Explain about I/O instructions

15 (a) Explain about Interrupt instructions

(OR)

15(b) Explain about Software interrupts

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Discuss about Segment registers, data registers, pointers and index registers, status registers with example

17. Discuss about (i) Loop handling instructions (ii) String handling instructions (iii) Compare & Jump instructions

18. Discuss briefly about (i) Minimum mode and Maximum mode Systems (ii) Control signals

19. Discuss about Eight byte wide I/O ports using isolated I/O

20. Draw the block diagram of the 8249a interrupt controller and explain its functions.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Computer Science **COURSE CODE : 17U4DMC8**

COURSE TITLE : Computer Networks **QN.NO : 9319**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The structure or format of data is called _____
   a) Syntax b) Semantics c) Struct d) Formatting
2. Communication between a computer and a keyboard involves _____ transmission.
   a) Automatic b) Half-duplex c) Full-duplex d) Simplex
3. Which of this is not a guided media?
   a) Fiber optical cable b) Coaxial cable
   c) Wireless LAN d) Copper wire
4. The required resources for communication between end systems are reserved for the duration of the session between end systems in _____ method.
   a) Packet switching b) Circuit switching
   c) Line switching d) Frequency switching
5. Which of the following tasks is not done by data link layer?
   a) framing b) error control c) flow control d) channel coding
6. CRC stands for _____
   a) cyclic redundancy check b) code repeat check
   c) code redundancy check d) cyclic repeat check
7. The _____ flag indicates the availability of a router.
   a) up b) host specific c) gateway d) added by redirection
8. Ethernet frame consists of _____
   a) MAC address b) IP address
   c) Default mask d) Network address
9. What is the main advantage of UDP?
   a) More overload b) Reliable
   c) Low overhead d) Fast
10. The process of verifying the identity of a user.
    a) Authentication b) Identification c) Validation d) Verification

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b)

11.a) Describe on uses of computer networks.

(OR)

b) Write short notes on network standardization.

12. a) Briefly explain on wireless transmission.

(OR)

b) Describe on digital modulation and multiplexing.

13. a) Describe on error detection and correction.

(OR)

b) Write short notes on multiple access protocols.

14. a) Describe on flooding.

(OR)

b) Write short notes on multicast routing.

15. a) Describe on user datagram protocol.

(OR)

b) Briefly explain on digital signatures.

PART – C **(3x10=30)**

Answer any THREE questions

16. Describe in detail on wireless LAN.

17. Explain about guided transmission media.

18. Write in detail on sliding window protocol.

19. Explain in detail on congestion control algorithms.

20. Describe on transmission control protocol.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Computer Science **COURSE CODE : 17U4DMC9**

COURSE TITLE : Linux Programming **QN.NO : 9320**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The dmesg command
   a) Shows user login logoff attempts b) Shows the syslog file for info messages
   c) kernel log messages d) Shows the daemon log messages
2. The command "mknod myfifo b 4 16"
   a) Will create a block device if user is root b) Will create a block device for all users
   c) Will create a FIFO if user is not root d) None of the mentioned Bng
3. What command is used to remove files?
   a) dm b) rm c) delete d) erase
4. What command is used to remove the directory?
   a) Rdir b) remove c) rd d) rmdir
5. Signals of a given type _____
   a) are queued b) are all sent as one c) set d) stack
6. In UNIX, the set of masked signals can be set or cleared using the _____ function.
   a) sigmask b) sigmaskproc c) sigprocmask d) sigproc
7. What is interprocess communication?
   a) Communication within the process
   b) communication between two process
   c) Communication between two threads of same process
   d) none
8. Messages sent by a process
   a) Have to be of a fixed size b) have to be a variable size
   c) Can be fixed d) cannot be fixed
9. Which of the following is not a valid file type on Linux
   a) Socket b) Softlink c) Inode d) FIFO
10. Which is an example for character special file?
    a) Hard disk b) CD-ROM c) Terminal d) Memory

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11. a) List out the advantages of Library Files.

(OR)

b) Write a program using break and continue commands.

12. a) Analyze about the Files and Directories which is to be maintained.

(OR)

b) How a new file descriptor can be opened in System Call?

13. a) Outline the status information which can be interpreted using Macros.

(OR)

b) List out some of the Common Signal Reference with description.

14. a) Categorize the FIFO files which can be opened? Give examples.

(OR)

b) Examine shared memory with neat diagram explanation.

15. a) Conclude with example program description on Network Information.

(OR)

b) Outline the Datagrams with examples.

PART – C **(3x 10 = 30)**

Answer any THREE questions.

16. Describe the Control Structures used in Shell programming with suitable examples.
17. Illustrate Low level file access with proper description.
18. Summarize Process Structure with appropriate diagram.
19. Illuminate Semaphores with suitable diagram explanation.
20. Analyze about the Socket Connections with appropriate examples.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Computer Science **COURSE CODE : 17U4DMC10**

COURSE TITLE : Programming in Java **QN.NO : 9321**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which provides runtime environment for java byte code to be executed?
   a) JDK b) JVM c) JRE d) JAVAC
2. Java language was initially called as _____
   a) Pascal b) J++ c) Oak d) Pine
3. Which of these operators is used to allocate memory for an object?
   a) malloc b) alloc c) new d) give
4. Which one is true about a constructor ?
   a) A constructor must have the same name as the class it is declared within.
   b) A constructor is used to create objects.
   c) A constructor may be declared private
   d) All of the above
5. Which of these method of class String is used to extract a single character from a String object?
   a) CHARAT() b) chatat() c) charAt() d) ChatAt()
6. Which of the following package stores all the standard java classes?
   a) lang b) java c) util d) java.packages
7. Which of these class contains the methods used to write in a file?
   a) FileStream b) FileInputStream
   c) BufferedOutputStream d) FileBufferStream
8. Which of these method wakes up all the threads?
   a) wakeAll() b) notify() c) start() d) notifyAll()
9. Which of these methods is a part of Abstract Window Toolkit (AWT) ?
   a) display() b) paint() c) drawString() d) transient()
10. The Graphics class is resides in_____
    a) java.util b) java.lang c) java.applet d) java.awt

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Write a brief note on Java programming language.

(OR)

b) Describe different types of operators used in Java.

12. a) Write a program to compute sum of the digits of a given integer number.

(OR)

b) Explain in detail about method overloading with example.

13. a) Discuss about Exception handling in Java.

(OR)

b) Brief a note on String Creation and String Concatenation.

14. a) Write a brief note on I/O streams in java.

(OR)

b) Discuss in detail about life cycle of thread.

15. a) Give the syntax of <Applet> Tag.

(OR)

b) Explain in detail about simple graphics method.

PART – C (3x10=30)

Answer any THREE questions

16. Summarize control statements in Java with examples.
17. Discuss about the Interfaces available in Java.
18. Explain in detail about packages in Java.
19. How to create and execute threads in Java? Explain with examples ?
20. Discuss in detail about the order of Applet Initialization and Termination.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Computer Science **COURSE CODE : 17U4DMC11**

COURSE TITLE : Computer Security **QN.NO : 9322**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. A_____ to a computing system is a set of circumstances that has the potential to cause loss or harm.
   a) Vulnerability b) threat c) attack d) control
2. A/An _____ means that some unauthorized party has gained access to an asset.
   a) Fabrication b) Modification
   c) Interruption d) Interception
3. A _____ is an encryption in which the letters of the message are rearranged.
   a) transposition b) permutation c) diffusion d) confusion
4. Vernam Cipher is also called as_____
   a) Rail Fence Technique b) Book cipher
   c) One-time pad d) key cipher
5. A _____ is a program that can pass on malicious code to other non malicious program by modifying them.
   a) virus b) worm c) Trojan horse d) Database
6. A _____ program is strictly limited in what system resources it can access.
   a) Audit log b) suspicion c) security d) confined
7. A particular user may have access to only part of the database, called a ____ .
   a) Schema b) subschema c) records d) relation
8. Which is not an objective of network security?
   a) Identification b) Authentication
   c) Access control d) Lock
9. _____ is the difference in risk exposure divided by the cost of reducing the risk.
   a) Risk leverage b) Risk impact
   c) Risk exposure d) Risk analysis
10. _____ is the term used to describe protection needed outside the computer system.
    a) Logical security b) Legal security
    c) Physical security d) Ethical security

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b).

11. a) Explain about characteristics of computer intrusion.

(OR)

b) Explain about the relationship between confidentiality, Integrity, Availability.

12. a) Write RSA algorithm.

(OR)

b) Describe Stream and Block ciphers.

13. a) What is buffer overflow? Explain ?

(OR)

b) Explain about the characteristics of trusted OS.

14.a) Explain about multilevel database.

(OR)

b) Compare and contrast database integrity and database secrecy.

15.a) Write a note on security planning.

(OR)

b) Explain about Physical security.

PART – C (3x10=30)

Answer any THREE questions.

16. Describe about the Methods of Defense.

17. How DES works? Explain.

18. Describe about User Authentication.

19. Explain in detail about threats in networks.

20. Describe about Risk analysis.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Computer Science **COURSE CODE : 17U4DAC5**

COURSE TITLE : Resource Management Technique **QN.NO : 9323**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which of the following is associated with an LPP?
   a) Proportionality b) Additivity
   c) Divisibility d) All the above
2. Given an LPP to maximize $z=-5x_2$, subject to $x_1 + x_2 \leq 1$, $0.5x_1 + 5x_2 \geq 0$, and $x_1 \geq 0$, $x_2 \geq 0$. Using graphical method, we have
   a) No Feasible Solution b) Unbound Solution
   c) Unique Optimum Solution d) Multiple Optimum Solutions
3. The Fundamental conditions of simplex method is _____
   a) Optimality b) Feasibility
   c) Both (a) &(b) d) None
4. Given a system of *m* simultaneous linear equation in *n* unknowns *(m<n)* , the number of basic variables will be
   a) n b) m
   c) n-m d) m-n
5. When the total demand is equal to total supply, the transportation problem is said to be
   a) Balanced b) Equal
   c) Less than d) Greater Than
6. The assignment problem is a special case of transportation problem in which _____ number of origins
   a) = b) <
   c) > d) ≤
7. For a two person game with A and B, the minimizing and the maximizing players, the optimum strategies are:
   a) Minimax for A and Maxmin for B b) Maximax for A and Minimax for B
   c) Minimin for A and Maxmin for B d) Maximin for A and Minimax for B
8. In game theory, the outcome or consequences of a strategy is referred to as the
   a) Payoff b) Penalty
   c) Rewarded d) End –Game Strategy
9. In which controlled techniques utilizes a network to complete a pre -determine project or schedule
   a) PERT b) CPM
   c) RAMP d) All the above
10. An activity is critical if it is total float is _____
    a) 1 b) 2
    c) 0 d) α

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Explain the major characteristics of a linear programming problem.

(OR)

b) Reduce the following L.P.P to its standard form:

Maximize $Z=x_1-3x_2$ subject to the constraints:

$-x_1+2x_2 \leq 15$, $x_1+3x_2 = 10$

x_1 and x_2 unrestricted in sign

12. a) Show that the following system of linear equations has a degenerate solution:

$$2x_1 + x_2 - x_3 = 2$$
$$3x_1 + 2x_2 + x_3 = 3.$$

(OR)

b) What do you mean by the two-phase method for solving a given L.P.P.? Why is it used?

13. a) Explain transportation problem and show that it can be considered as an L.P.P.

(OR)

b) An automobile dealer wishes to put four repairmen to four different jobs. The repairmen have somewhat different kinds of skills and they exhibit different levels of efficiency from one job to another. The dealer has estimated the number of man-hours that would be required for each job-man combination. This is given in the matrix form in the following table:

	Job			
Man	**A**	**B**	**C**	**D**
1	5	3	2	8
2	7	9	2	6
3	6	4	5	7
4	5	7	7	8

Find the optimum assignment that will result in minimum Man-hours needed.

14. a) What is game theory? What are the various types of games?

(OR)

b) Determine which of the following two-person zero-sum games are strictly determinable and fair. Give the optimum strategies for each player in the case of strictly determinable games:

Player B

a) Player A

$$\begin{array}{c} \\ A_1 \\ A_2 \end{array} \begin{array}{c} \begin{array}{cc} B_1 & B_2 \end{array} \\ \begin{pmatrix} -5 & 2 \\ -7 & -4 \end{pmatrix} \end{array}$$

b) Player A

	Player B B_1	B_2
A_1	10	6
A_2	8	2

15. a) What is PERT? What information is revealed by PERT analysis?

(OR)

b) Draw an arrow diagram showing the following relationships:

Activity	Immediate Predecessor	Activity	Immediate Predecessor
A	None	H	D,E,F
B	None	I	D
C	None	J	G
D	A	K	G
E	B,C	L	H,J
F	A	M	K
G	C	N	I,L

PART – C (3x10=30)

Answer any THREE questions

16. A firm manufactures two products A and B on which the profits earned per unit are Rs.3 and Rs.4 respectively. Each product is processed on two machines M_1 and M_2. Product A requires one minute of processing time on M1 and two minutes on M_2 while B require one minute on M_1 and one minute on M_2. Machine M1 is available for not more than 7 hours and 30 minutes, while machine M_2 is available for 10 hours during any working day. Find the number of units of products A and B to be manufactured to get maximum profit.

17. Solve the following problem using Big M method:
Maximize $z=6x_1 + 4x_2$ Subject to the constraints:
$2x_1 + 3x_2 \leq 30$, $3x_1 + 2x_2 \leq 24$, $x_1 + x_2 \geq 3$,
$x_1 \geq 0$ and $x_2 \geq 0$
Is the solution unique? If not, give two different solutions.

18. Solve the following travelling salesman problem so as to minimize the cost per cycle.

From	To A	B	C	D	E
A	__	3	6	2	3
B	3	__	5	2	3
C	6	5	__	6	4
D	2	2	6	__	6
E	3	3	4	6	__

Contd….

19. Solve the following 2 x 2 game graphically:

$$\begin{array}{cc} & \begin{array}{cccc} B_1 & B_2 & B_3 & B_4 \end{array} \\ \text{Player A} \begin{array}{c} A1 \\ A2 \end{array} & \begin{pmatrix} 2 & r & 0 & -2 \\ 1 & 0 & 3 & 2 \end{pmatrix} \end{array}$$

(Player B)

20. The following table gives the activities in construction project and time duration:

Activity	**Preceding activity**	**Normal time(days)**
1---2	---	20
1---3	---	25
2---3	1---2	10
2---4	1---2	12
3---4	1---3, 2---3	5
4---5	2---4, 3---4	10

(a) Draw the activity network of the project
(b) Find the total float and free-float for each activity.
(c) Determine the critical path and the project duration.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : NME - Computer Science **COURSE CODE : 17U4DNM2**

COURSE TITLE : Introduction To Internet **QN.NO : 9326**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. _____ is the address of the web document currently displayed on the monitor.
   a) HTML b) URL c) HTTP d) FTP
2. Internet Etiquette's is also called as _____
   a) Netiquette b) Netattempt c) Netenquire d) Netsystem
3. _____ are sometimes also called web clients.
   a) FTP b) HTTP c) Browsers d) Servers
4. _____provide fast retrieval of information of interest from the web.
   a) Search Engines b) Server c) Browser d) HTTP
5. _____ is a desktop application that enables configuring one or more email addresses to receive, read, compose and send emails from that email address(s) through the desktop interface.
   a) Email client b) Server c) Email Server d) Client
6. An Internet E-mail message consists of _____ components.
   a) Two b) Three c) Four d) Five
7. Tags and test that are not directly displayed on the page are written in _____section.
   a) <HTML> b) <BODY> c) <HEAD> d) TITLE>
8. Which tag inserts a line horizontally on the web page?
   a) <hr> b) <Line> c) <tr> d) <td>
9. A web page displays a picture. What tag was used to display that picture?
   a) image b) picture c) src d) img
10. A _____ also called drop down box which provides option to list down various options in the form of drop down list.
    a) Select box b) List box c) Check Box d) Menu Item

Contd…

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Write short notes on some basic Internet Terminologies with example.

(OR)

b) Brief on Impact of Internet on Society.

12.a) Comment on Search Engine. Give examples.

(OR)

b) What are the main parts of a Browser window? Give examples.

13.a) Write the advantages of using Signature File in Email.

(OR)

b) Explain the concept of Web based Email.

14.a) Brief on HTML Header elements. Give examples.

(OR)

b) Comment on the advantages of HTML. Discuss on the different versions of HTML.

15.a) Write a HTML code to display the following Table.

First_Name	Last_Name	Marks
Sonoo	Jaiswal	60
James	William	80
Swati	Sironi	82
Chetna	Singh	72

(OR)

b) What is the use of Frames in HTML? Give the syntax of Frames.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain in detail on the Applications of Internet with examples.
17. Write in detail on the Architecture of Meta Search Engine with a neat diagram.
18. Comprehend in detail on the Structure of Email.
19. Discuss on any 5 HTML Tags with example.
20. Write in detail about Lists in HTML with e.g.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 17U6DMC16**

COURSE TITLE : Data Mining **QN.NO : 9338**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. _____ techniques obtain a reduced representation of the data while minimizing the loss of information content.
   a) Data mart b) Data integration
   c) Data cleaning d) Data reduction
2. _____is the process of identifying a valid, potentially useful and ultimately understandable structure in data.
   a) OLAP b) OLTP c) KDD d) KDT
3. A_____ contains a subset of corporate wide data that is value to a specific group of users.
   a) Data mart b) Data mask c) Data valid d) Data invalid
4. A _____ is a subject-oriented, integrated, time-variant, and nonvolatile data collection organized in support of management decision making.
   a) Data mining b) Data warehouse
   c) Data base d) Data cube
5. A _____ pattern is a pattern with a frequency support that is below a user-specified minimum support threshold.
   a) correlated b) Scanning c) rare d) Counting
6. A/An_____ is pattern with a frequency support that is below a user specified minimum support threshold.
   a) frequent pattern b) infrequent pattern
   c) valid pattern d) invalid pattern
7. _____ is a top-down recursive tree induction algorithm, which uses an attribute selection measure to select the attribute tested for each non-leaf node in the tree.
   a) Decision tree induction b) Decision tree partition
   c) Decision tree d) Binary tree
8. _____ is a neural network learning algorithm.
   a) Back propagation b) Back patching
   c) Backtracking d) Backspace
9. _____assesses the feasibility of clustering analysis on a data set and the quality of the results generated by a clustering method.
   a) Clustering integration b) Clustering evaluation
   c) data partition d) data segmentation

Contd…

10. Instead of taking the whole data set into consideration, _____ uses a random sample of the data set.
    a) PAM b) RAN c) CLARA d) SCAN

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Describe about the knowledge discovery from data.

(OR)

b) Explain the stages for data transformation.

12. a) Explain the key features of data warehouse.

(OR)

b) Distinguishing features of OLTP and OLAP.

13. a) Explain about road map on pattern mining.

(OR)

b) Describe about Constraint-Based Frequent Pattern Mining.

14. a) Explain about Decision Tree Induction.

(OR)

b) Explain about Rule Induction Using a Sequential Covering Algorithm.

15. a) What is cluster analysis? Explain.

(OR)

b) Explain the applications of data mining.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Describe the functions of Data integration in detail.
17. Describe about the implementation of data warehouse.
18. Explain about Apriori algorithm for discovering frequent item set by confined candidate generation.
19. How does back propagation works? Explain.
20. What is DBSCAN algorithm? Explain the concept of a cluster as used in DBSCAN.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 17U6DMC17**

COURSE TITLE : Management Information Systems **QN.NO : 9339**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 5 = 25)

Answer any FIVE questions.

1. Describe about MIS vs. data processing.
2. Write short notes on (i) MIS
   (ii) MIS Vs computer science.
3. Explain about the Unstructured, Nonprogrammable Decisions.
4. Describe about Formal Vs Informal Systems.
5. What are the phases in the Decision making process in detail.
6. Write short note on Decision trees.
7. Define : Information. Explain the main concepts of Information?
8. Explain about the planning process in planning and control.

PART – B (5 x 10 = 50)

Answer all questions by choosing either (a) or (b).

9. (a). Describe about Integrated System and Utilization of models in MIS.
   (OR)
   (b). Explain in detail about MIS AND Other Academic disciplines.
10. (a) Describe about Information Systems For operational Control.
    (OR)
    (b) Explain in detail about MIS Structure Based on organizational Function.
11. (a) Describe about Intelligence and Design phases in Detail.
    (OR)
    (b) Discuss about Criteria for Decision making in planning process.

12. (a) Describe about Mathematical Definition of Information in detail.

(OR)

(b) Explain about the quality of Information in detail.

13. (a) Explain the Concepts of organizational Planning.

(OR)

(b) Describe about Basic model of organization Structure.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Computer Science **COURSE CODE : 17U6DME2(E)**

COURSE TITLE : PHP Programming **QN.NO : 9340**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. PHP is a _____language.
   a) server side scripting language b) structure language
   c) oop's language d) programming
2. All variables in PHP are denoted with a _____ .
   a) # b) & c)$ d) @
3. Which of the following is an increment operator, increase integer value by one?
   a) + b) ++ c) - d) --
4. In PHP _____ keyword is used to terminate the execution of a loop prematurely.
   a) continue b) break c) for d) while
5. which of the following function is used to write a message on your browser?
   a) Message() b) write() c) WriteMessage() d) update
6. The _____ function returns a formatted string representing a date.
   a) time() b) date() c) timestamp() d) getdate()
7. A____ block retrieves an exceptions and creates an object containing the exception information.
   a) catch b) try c) this d) stamp
8. In file ___ opens the file for reading and writing only.
   a) r b) r+ c) w d) w+
9. The ____ element defines a multiline input field.
   a) text b) textarea c) input d) select
10. ____ is the size in bytes of the upload file
    a) $_FILES['File']['Size'] b) $_FILES['File']['Type']
    c) $_FILES['File']['Error'] d) $_FILES['File']['Name']

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b).

11. a) List the benefits and drawbacks of PHP.

(OR)

b) How to comment a PHP code? Explain with an example ?

12. a) What is comparison operator in PHP? Explain with an example ?

(OR)

b) What is associative array in PHP? Explain with an suitable example program ?

13.a) Explain about functions with arguments with an example.

(OR)

b) Describe about the string function with an example.

14.a) Explain about the keyword related to exceptions.

(OR)

b) What are the steps are required to read a file in PHP? Explain with example ?

15. a) How to upload a file in web server? Explain with an example ?

(OR)

b) Write short notes on the following:

i) Textbox ii) Combo box iii) check box

PART – C (3x10=30)

Answer any THREE questions.

16. Explain in detail about the various types of data types with an suitable example.
17. Describe about switch case statement in PHP with suitable example program.
18. Explain about functions with multiple arguments with suitable example program.
19. How do you open and close a file in PHP? Explain with an example ?
20. Write a PHP program for student registration form with the use of an elements.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 17U6DSM6**

COURSE TITLE : Desktop Publishing **QN.NO : 9346**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. To get Auto contrast option in Photoshop, select
   a) Filter Menu b) Image>Adjustment
   c) File Menu d) None of the above
2. How many Color Modes are there in Photoshop?
   a) Five b) One c) Three d) None
3. How many type of Marquee Tool are there in Photoshop?
   a) Seven b) One c) Four d) Two
4. To get Stroke option in Photoshop, we have to select
   a) Select Menu b) Filter Menu
   c) Edit Menu d) None of the above
5. How many selection tools are there in Photoshop?
   a) 8 b) 4 c) 9 d) 2
6. To get Feather option in Photoshop.
   a) Image>Adjustment b) Select Menu
   c) Edit Menu d) None of the above.
7. What part of the menu bar allows you to hide/unhide panels?
   a) View b) Edit c) Window d) None of the above
8. This ideals with the rotation and movement of the object from one point to another in specific frames.
   a) Tweening b) Shape Tween
   c) Motion Tween d) Transition
9. The tool that creates a rectangle, which you can customize the sides.
   a) Rectangle tool b) Square tool
   c) Rectangle primitive tool d) Oval tool
10. The two ways to draw fills in a drawing?
    a) Ink and Pencil b) Brush and Spray
    c) Oval and Shape d) Fill and Autofill

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Describe the various work in environment DTP?

(OR)

b) Describe the uses of photoshop tool using in images?

12. a) Explain the various painting tool in Photoshop?

(OR)

b) Describe the editing tools in Photoshop?

13. a) what is the Tools panel in Photoshop?

(OR)

b) How do you add an object in Photoshop?

14. a) where is the snap to objects button in animate?

(OR)

b) Explain how do you add sound to flash?

15. a) what are the types of frames in animate? Explain in briefly.

(OR)

b) Describe the animation using flash?

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Briefly explain about the various image and color based properties in Photoshop?
17. Explain about the layers, filters and colors in Photoshop tools?
18. Explain detail about following
    I. Panel tool
    II. Sub select tool
    III. Paint bucket tool
    IV. Eye Dropper tool
19. Explain How to create the presentation video using flash?
20. Explain the following in flash
    I. Layers
    II. Frame by frame animation
    III. Shape twinning

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Information Technology. **COURSE CODE : 17U3FMC5**

COURSE TITLE : Operating Systems **QN.NO : 9411**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. What is Operating system?
   A) Collection of programs that manages hardware resources B) System service provider to the application programs C) Link to interface the hardware and application programs D) All of the above
2. _____ provide an interface to the services made available by an operating system
   A) API B) System calls C) Shell D) Kernel
3. The address of the next instruction to be executed by the current process is provided by
   A) CPU register B) Stack C) Program counter D) Process counter.
4. The _____ is the module that gives control of the CPU to the process selected by the short-term scheduler.
   A) Dispatcher B) Controller C) I/O burst D) None
5. Swapping requires a _____
   A) Motherboard B) Keyboard C) Backing store D) Monitor
6. _____ involves the separation of logical memory as perceived by users from physical memory
   A) Memory B) Physical memory C) Logical memory D) Virtual memory
7. A file is a _____data type.
   A) Primitive B) Public C) Abstract D) Private
8. _____ algorithm is also called as Elevator algorithm
   A) Scan Disk Scheduling B) C-Scan Disk scheduling C) C-Look Disk scheduling D) F-Scan Disk Scheduling.
9. A Semaphore is an _____ to solve the critical section problem.
   A) Hardware for a system B) Integer variable C) Special program for a system D) Floating variable
10. A System is in the safe state if
    A) There exists a safe sequence B) A system can allocate resources to each process in some order and still avoid a deadlock C) All of the mentioned D) None of the above.

Contd...

PART – B (5 x 7 = 35)

Answer any FIVE questions.

11.a. Write short notes on Storage structure.

Or

b. Mention the operating system services.

12. a. Describe about Multithreading models.

Or

b. Explain in detail about Round robin scheduling algorithm.

13. a. Discuss about Segmentation.

Or

b. Write short notes on cause of thrashing and working set model.

14. a. Describe in detail about Access methods.

Or

b. Discuss about Disk scheduling algorithms.

15. a. With an algorithm give a detailed note about Readers-Writers problem

Or

b. With an illustrative example explain about Banker's Algorithm.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Define System call and explain in detail about types of System calls.
17. Explain in detail about Inter-process communication.
18. With a neat diagram explain about LRU Page Replacement algorithm.
19. Explain in detail about RAID Levels.
20. Explain about Deadlock Prevention.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Info.Tech **COURSE CODE : 17U3FMC6**

COURSE TITLE : Visual Programming **QN.NO : 9412**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer ALL questions.

1. Which of the following is not a component of IDE?
   A) The Toolbox B) Start menu C) Form Designers D) The Project Explorer.
2. The Val() function converts a _____ to a number
   A) char B) variable C) string D) alphabetic
3. _____ combines the features of the text box and list box.
   A) Picture box B) Check box C) Option button D) Combo box.
4. By Default , the textbox control can hold text as
   A) Single Line B) Multiple lines C) Password character D) None of these.
5. MDI stands for._____
   A) Multiple Document Interpreter B) Multiple Document Interface C) Multiple Document Interval D) Multi Document Interface.
6. The _____ appears at the bottom of windows and holds several panels in which we can display text.
   A) Toolbars B) Cool bars C) Status bars D) Progress bars
7. The_____ method is used to read text files into a Rich text box.
   A) LoadFile() B) SaveFile() C) LoadRTF D) SaveRTF.
8. In DAO the collection of databases is called_____ .
   A) Data set B) Data environment C) Data collection D) Workspace
9. The Extension of ActiveX controls is
   A) .acx B) .ocx C) .acv D) .oxc

(P.T.O)

10. If an ActiveX control is written as_____ file it runs its own process

A) DLL B) DML C) EXE D) None of the above.

PART – B (5 x 7 = 35)

Answer any FIVE questions.

11. a. How will you declare Arrays and dynamic arrays? Give Examples.

Or

b. With an illustrative example and syntax write about Select case.

12. a. How will you adding and removing items from a List Box.

Or

b. Explain in detail about Frame controls.

13. a. Write the steps to create a new menu system in the Menu-Editor.

Or

b. How will you creating and displaying pop-up menus.

14. a. Describe in detail about File creation and Input statement.

Or

b. Create a Database called Student and manage the Database using Visual Data Manager.

15. a. How will you creating and adding controls to an ActiveX controls?

Or

b. Write the steps to creating and testing an ActiveX document.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain in detail about Functions.

17. Explain in detail about Text-boxes.

18. Explain about i. MDI Forms and handling child menus ii. Adding and deleting menu items at runtime

19. Explain in detail about working with database objects in code using RDO.

20. Create an ActiveX control for calculator.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Information Technology **COURSE CODE : 17U3FMC7**

COURSE TITLE : Linux Programming **QN.NO : 9413**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Let a=5, b=6. Choose the proper command to perform multiplication?
   c) expr $a*$b b) expr $a*$b c) $(a*b) d) expr($a*$b)
2. Which command can be used to remove a non-empty directory?
   c) rmdir b) rd c) ddir d) rm
3. Which option can be used with 'rm' command to prompt for file removal?
   c) –ask b) –I c) –c d) -n
4. Choose the command which can display only your information.
   a) who b) who am i c) whoisme d) my
5. Messages sent by a process _____
   a) Have to be of a fixed size b) Have to be a variable size
   c) Can be fixed or variable sized d) None
6. The link between two processes P and Q to send and receive messages is called ___
   a) Communication link b) Message-passing link
   c) Synchronization link d) Pass link
7. When you start a child process with ___
   a) wait b) process c) stop d) fork
8. ___ can be useful for managing child processes.
   a) CHILD b) CHLCHILD c) SIGCHLD d) PARENT
9. Which network utility use for remote login?
   a) ftp b) http c) rlogin d) remote
10. You can terminate a socket connection at the server and client by calling __
    a) open b) close c) connect d) disconnect

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. (a) Explain about programming Linux.

(OR)

(b) The shell as a programming language in Linux: Discuss.

12. (a) Explain low level file access.

(OR)

(b) Write some of the command in files and directories.

13. (a) Process structure: Explain.

(OR)

(b) Explain about signals.

14. (a) Criticize semaphores.

(OR)

(b) Outline of message queue.

15. (a) Explain Network information.

(OR)

(b) Describe datagrams.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Enumerate in detail about shell syntax.
17. Conclude the standard I/O library.
18. Elaborate in detail about starting new processes.
19. Analyze the pipe call.
20. Demonstrate socket connections.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc Information Technology **COURSE CODE : 17U3FAC3**

COURSE TITLE : Data Structures and Computer Algorithms **QN.NO : 9415**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. In a Queue, deletion will take place at _____
   a. Front b.Rear c.Top d.End
2. _____ removes the front element in a Queue.
   a. ADD b.FRONT c.DELETE d.CREATE
3. _____ stands for the item of information plus the branches to other items.
   a.item b.root c.tree d.node
4. The ____ value of the max position is defined to be the minimum possible value for that position
   a. tree b.min c.alpha d. max
5. A graph contains vertices and _____
   a. edges b. vertex c. tree d. branch
6. For an undirected graph G with n vertices and e edges, the sum of the degrees of each vertex is __
   a. ne b.2n c.2e d.en
7. Which of the following algorithms is NOT a divide & conquer algorithm by nature?
   a. greatest common divisor b. Heap sort
   c. quick sort d.none
8. Which data structure is mainly used for implementing the recursive algorithm?
   a. Queue b. Stack c. Binary tree d. linked list
9. Which of the following is the infix expression?
   a. A+B*C b. +A*BC c. ABC+* d. *ABC+
10. Which of the following standard algorithms is not a Greedy algorithm?
    a. Dijkstra's b. Prim's c. Kruskal d. Bellmen Ford

Contd…

PART – B **(5x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11.a. Summarize the Stack Abstract Data type.

[OR]

b. Analyze the concept of Circular List with examples.

12.a. How a Binary Tree can be represented? Give example.

[OR]

b. Illustrate Threaded Binary Trees with program description.

13.a. List out the steps to Represent the Graphs.

[OR]

b. Summarize the Activity Networks.

14.a. Illustrate Quick Sort with proper iterations.

[OR]

b. Finding Minimum and Maximum

15.a. Categorize the Knapsack Problem with example.

[OR]

b. Conclude the Single source shortest path.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. Summarize Evaluation of Expressions with example.

17. Illustrate Binary Tree Traversal with program explanation.

18. Describe Shortest Path and Transitive Closure.

19. Illustrate Merge Sort with proper iterations.

20. Describe Minimum Cost Spanning Trees with examples.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Information Technology **COURSE CODE : 17U3FAC4**

COURSE TITLE : Computerized Accounting **QN.NO : 9416**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Patent registered is a
   a) Personal A/c b) Real A/c c) Nominal A/c d) Expenses A/c
2. The balance of the petty cash book is an
   a) asset b) income c) expenditure d) outstanding
3. Assets are usually shown in the balance sheet at _____ cost
   a) Unexpired b) replacement c) revalued d) original
4. Balance sheet is prepared to know the _____.
   a) Profit or loss b) net profit c) arithmetical accuracy d) financial position
5. Quick Ratio is a
   a) Balance sheet Ratio b) Revenue statement Ratio
   c) Mixed Ratio d) Profitability Ratio
6. Increase in Liquid Assets
   a) decrease liquid ratio b) increases liquid ratio
   c) does not affect liquid ratio d) none of these
7. E-mail can used to_____
   a) send mail directly from tally screen b) To send e-mail
   c) Download information d)Access help
8. In Tally.ERP 9, pick the shortcut key to get into Gateway of Tally. ERP9 from calculator panel
   a. Ctrl+N b. Ctrl+M c. Ctrl + A d. Ctrl-Q
9. To create a sales voucher in tally, you have to press the key _____
   a) F5 b) F6 c) F7 d) F8
10. We can switch from accounting voucher to inventory vouchers premises?
    a) F2 b)Alt+F1 c) Ctrl+ F1 d) F11

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11.(a) Prepare Ledger accounts for the following transactions:

Dec. 1	Rajini started business with a capital of Rs. 50,000
2.	He purchased furniture for Rs. 5,000.
3.	He bought goods on credit from vinod for Rs. 8,000.
14.	He sold goods to Suresh for Rs. 5,000.
15.	He received goods for cash Rs.3,000.
18.	He purchased goods for cash Rs. 12,000.
27.	He sold goods for cash Rs. 8,000.
28.	He paid rent RS. 1,200.
31.	He paid vinod Rs. 3,000 on a/c.

Contd...

(OR)

(b) Entry the following transactions of Akbar in a Single Column Cash books:-

2001 Jan., 1	Commenced business with	15,000
2	Paid into bank	13,000
3	Purchased goods for cash	1,500
4	Sold goods for cash	1,100
5	Paid for Stationary	60
6	Received from Nagaraj	1,500
7	Paid to Gopy	800
7	Purchased Office Furniture	600

12.(a)From the following information ascertain gross profit and net profit:

Stock at starting	2,400	Carriage inwards	524
Purchases	15,205	Manufacturing wages paid	2,800
Sales	20,860	Manufacturing wages owing	96
Closing stock	3,840	Loss due to fire	1,000
Returns Outwards	185	Indirect expenses	200
Returns Inwards	860		

(OR)

(b) The following are the account Balance of Vinod Agency after preparing Trading and Profit and Loss a/c for the year ending 31st December 2004.

Land and Building	20,000	Furniture	6,000
Closing Stock	13,000	Bills payable	14,000
Cash in hand	7,500	Bank loan	15,000
Cash at Bank	2,200	Sundry creditors	16,000
Sundry debtors	12,000	Salaries outstanding	1,200
Bills receivable	5,300	Drawings	3,000
Insurance prepaid	200	Capital	30,000
Machinery	14,000	Net profit of the year	7,000

Prepare Balance Sheet of Vinod Agency.

13.(a)Explain the importance of Ratio Analysis.

(OR)

(b) M/s. Ashoka Ltd., has submitted the following Balance Sheet as on 30th June 2009.

	Rs.		Rs.
Equity capital	1,50,000	Fixed assets	1,62,000
Revenue reserves	30,000	Current assets:	
8% debentures	20,000	Stock	22,000
Current liabilities:		Debtors	51,000
Sundry creditors	49,000	Bills receivable	2,000
		Bank	12,000
	2,49,000		2,49,000

Find the current ratio and quick ratio and comment on the financial condition of the company.

14.(a) Write the creation of group.

(OR)

(b) Explain the Creation of Ledger.

15.(a) Preparation of Voucher Creation.

Contd...

(OR)

(b) List out the "Types of Vouchers".

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Petty cashier received Rs. 1,200 on April1, 2018 from the head cashier. Prepare a petty cash book on the Imprest system for the month of April 2018.

2018 April 3	Stamps	100
5	Taxi fare	200
6	Pencils and pens	150
7	Registry	50
10	Speed post	90
12	Telegram	70
15	Refreshment	110
16	Auto fare	40
19	Typing paper	120
20	Bus fare	30
22	Trunk calls	86
25	Office cleaning	36
30	Counter service	34

Show the analysis of payments as postage and stamps, telephone and telegrams, conveyance, stationary and sundry expenses. Assume imprest amount of Rs. 1,200.

17.The following Trial Balance had been taken from the books of Mr. Mohammed on 31.03.2009. You are required to prepare the Trading and Profit and Loss Account for the year ended 31.03.2009 and a Balance Sheet as on that date.

Particulars	Rs.	Particulars	Rs.
Drawings	4,800	Capital	50,000
Stock (1st April 2008)	30,000	Sundry creditors	15,000
Furniture & Fittings	13,000	Bank loan at 6%	20,000
Printing and Stationery	1,200	Discount Received	1,000
Coal, Gas and water	600	Sales	2,35,350
Freight & clearing charges	3,500	Bills payable	1,700
Purchases	35,000		
Income tax	9,500		
Discount allowed	950		
Repairs to plant	1,000		
Factory Rent	2,500		
Salaries	2,800		
Manufacturing wages	24,000		
Advertising	19,000		
Plant & Machinery	70,000		
Office Rent	3,600		
Miscellaneous expenses	1,000		
Bills receivable	12,500		
Carriage Outwards	1,500		
Insurance	600		
Interest	1,200		
Cash at Bank	7,500		
Cash in Hand	3,500		
Sundry debtors	33,800		
Stock (31.03.2009)	40,000		
	3,23,050		3,23,050

18. Give a description of various ratios for analysis of liquidity, solvency and activity Ratio.

19.Explain the creation of company.

20.Preparation of Final Accounts through Tally.

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SEMESTER EXAMINATIONS –APRIL 2021

PROGRAMME: B.Sc., Information Technology **COURSE CODE : 17U4FMC8**

COURSE TITLE : Programming in JAVA **QN.NO : 9419**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. _____ in Java refers to fixed values that do not change during the execution of a program.
   a) variables b) Data types c) Static d) Constants
2. While Loop is an _____ Loop Statement.
   a) Exit - control b) Entry control c) Open control d) Dynamic control
3. Data is encapsulated in a class by placing data fields inside the body of the class definition is called_____
   a) Instance variable b) Static variables
   c) Dynamic variables d)Object variables
4. In java, when the methods is called the method defined in the subclass is invoked and executed instead of the one in the super class is known as _____
   a) Method overloading b) Method overriding
   c) Inheritance d) Interface
5. Vector class contained in the _____ package.
   a) Java. lang b) Java . math c) Java . Util d) No of these
6. _____ provides a large number of classes grouped into different packages according to functionality.
   a) Java.awt b) Java API c) JavaPakag d) Java.io
7. _____ is a programming where program is divided into two or more subprograms, which can be implemented at the same time in parallel.
   a) Multi threading b) Multi program
   c) Multi inheritance d) Multi processing
8. _____stream extracts data from the source and sends it to the program.
   a) I/o Stream b) Output stream c) Input stream d) Read Butter
9. _____ are small Java programs that are primarily used in Internet Computing.
   a) Java API b) Applet viewer c) Applets d) AWT
10. Fill Rect () method takes _____ arguments.
    a) 4 b) 6 c) 5 d) 8

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Discuss on Java Operators & Expression with example.

(OR)

b) Explain about JAVA.

12. a) Write a note on Interface.

(OR)

b) Summarize the concept of 'Method overloading'

13. a) List out the strings manipulations in detail form.

(OR)

b) Explain about managing errors and Exceptions.

14. a) Discuss on File Handling in Java.

(OR)

b) Explain about stream class in Java.

15. a) Write a short note on Drawing polygons.

(OR)

b) Explain lines and Rectangles in detail.

PART – C (3x10=30)

Answer any THREE questions.

16. Explain the Else If Else switch in Java.
17. Discuss on inheritance with suitable example.
18. Give a detailed description on Arrays.
19. Explain the Multi – threads in Java Class.
20. Discuss on Applet in Java.

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SEMESTER EXAMINATIONS –APRIL 2021

PROGRAMME: B.Sc., Information Tech. **COURSE CODE : 17U4FMC9**

COURSE TITLE : Data Communication & Computer Networks **QN.NO : 9420**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The _____ is the physical path over which a message travels.
   a) Protocol b) Medium c) Signal d) All the above
2. The data transmission in which data can be transmitted in both directions on a signal carrier at the same time
   a) Simplex b) Half Duplex
   c) Full Duplex d) None of the above
3. Which error detection method consists of just one redundant bit per data unit?
   a) Simple parity check b) Two-dimensional parity check
   c) CRC d) Checksum
4. The maximum window size for data transmission using the selective reject protocol with n-bit frame sequence numbers is
   a) 2^n b) 2^{n-1} c) 2^n-1 d) 2^{n-2}
5. An SVC is a transmission path in _____ switching
   a) Circuit b) Packet c) Message d) A or B
6. Open Shortest Path First (OSPF) is also called as _____
   a) Link state protocol b) Error-correction protocol
   c) Routing information protocol d) Border gateway protocol
7. Which is not a basic multiplexing method?
   a) FDM b) TDM c) WDM d) MDM
8. Which of the following protocols uses both TCP and UDP?
   a) FTP b) SMTP c) Telnet d) DNS
9. The _____ translates internet domain and host names to IP address.
   a) Domain name system b) Routing information protocol
   c) Network time protocol d) Internet relay chat
10. In asymmetric key cryptography, the private key is kept by _____
    a) Sender b) Receiver
    c) Sender and receiver
    d) all the connected devices to the network.

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b).

11. a) Describe on Network Topologies.

(OR)

b) Write short notes on Fiber Optics.

12. a) Describe how the flow and error control mechanisms work in networks?

(OR)

b) Give short notes on LAN.

13. a) Explain the mechanism of packet switching.

(OR)

b) Write short notes on Routers.

14. a) Write notes on multiplexing and de-multiplexing.

(OR)

b) Describe on Congestion Control over the network.

15. a) Write notes on SMTP.

(OR)

b) Write notes on FTP.

PART – C (3x10=30)

Answer any THREE questions.

16. Explain in detail on Transmission Media.

17. Give a detailed overview of error detection and correction mechanism.

18. Write in detail on Link State Routing.

19. Explain about Transmission Control Protocol.

20. Describe in detail on domain name space.

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SEMESTER EXAMINATIONS –APRIL 2021

PROGRAMME: B.Sc., Information Tech. **COURSE CODE : 17U4FMC10**

COURSE TITLE : Web Programming **QN.NO : 9421**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. _____ refers to the collection of public Web sites connected to the Internet Worldwide.
   a) WWW b) URL c) HTML d) HTTP
2. _____ is/are used to divide your browser window into multiple sections where each section can load a separate HTML document.
   a) Tags b) Tables c) Frames d) Links
3. _____ statement to specify a new condition if the first condition is false.
   a) if b) else c) else if d) for
4. _____ is the only dialog box that can get input from the user
   a) Alert b) Prompt c) Confirmation d) Window
5. A/An _____element is an element that is complete by itself, it never contains other elements in XML.
   a) void b) empty c) zero d) clean
6. XSL stands for _____
   a) Extensible Stylesheet Language b) Extensible Style Language
   c) Extend Stylesheet Language d) Extensible Stylesheet Lack
7. _____ object allows access to both header and body of the HTTP request in ASP.
   a) Application b) Request c) Response d) Server
8. The _____ streamlines the process of setting up a delivery system for banner ads.
   a) Collaboration Data Objects b) Content Rotator
   c) Content Linking d) Ad Rotator
9. The _____ Connection object is used to create an open connection to a data source.
   a) ADDO b) AOD c) AOOD d) ADO
10. A _____is a data structure that consists of a group of database records, and can either come from a base table or as the result of a query to the table.
    a) record group b) record data c) record files d) record set

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11. a) Write short notes on IP Address.

(OR)

b) Explain about Anchor tag with example.

12. a) Illustrate the Advantages of JavaScript.

(OR)

b) How do you write a function in JavaScript?

13. a) What is the use of DTD in XML?

(OR)

b) Discuss about Namespaces in XML.

14. a) Narrate ASP Application Object.

(OR)

b) List out the components in ASP.

15. a) How to create a connection to a MS Access Database?

(OR)

b) Give Summary about Response Object in ASP.

PART – C (3x10=30)

Answer any THREE questions.

16. Describe about List and its types in HTML.
17. How the user defined objects are created using JavaScript?
18. Write short notes on: i) XLINK ii) XPATH iii) XPOINTER
19. How do you create a Simple HTML form in ASP?
20. How do you connect to a SQL Server database in ASP?

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SEMESTER EXAMINATIONS –APRIL 2021

PROGRAMME: B.Sc., Information Tech. **COURSE CODE : 17U4FMC11**

COURSE TITLE : Computer Organization **QN.NO : 9422**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. During the execution of a program which gets initialized first?
   a) MDR b) IR c) PC d) MAR
2. The addressing mode, where you directly specify the operand value is
   a) Immediate b) Direct c) Definite d) Relative
3. The main advantage of multiple bus organisation over a single bus is _____
   a) Reduction in the number of cycles for execution
   b) Increase in size of the registers
   c) Better Connectivity
   d) None of the mentioned
4. A word whose individual bits represent a control signal is _____
   a) Command word b) Control word
   c) Connection word d) instruction word
5. The contention for the usage of a hardware device is called _____
   a) Structural hazard b) Stack
   c) Deadlock d) None of the mentioned
6. To increase the speed of memory access in pipelining, we make use of _____
   a) Special memory locations b) Special purpose registers
   c) Cache d) Buffers
7. The main aim of virtual memory organisation is _____
   a) To provide effective memory access
   b) To provide better memory transfer
   c) To improve the execution of the program
   d) All of the mentioned
8. PROM stands for _____
   a) Programmable Read Only Memory b) Pre-fed Read Only Memory
   c) Pre-required Read Only Memory d) Programmed Read Only Memory
9. The DMA transfers are performed by a control circuit called as _____
   a) Device interface b) DMA controller
   c) Data controller d) Overlooker

Contd…

10._____ serves as an intermediary between the device and the BUSes.

a) Interface circuits b) Device drivers

c) Buffers d) None of the mentioned

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11. a) Compare RISC instruction with CISC instruction.

(OR)

b) Explain the basic operational concepts of a computer with neat diagram.

12. a) What are the actions needed to execute an instruction?

(OR)

b) What is the difference between hardwired control and micro programmed control?

13. a) Discuss in detail about Instruction Pipeline with neat diagram.

(OR)

b) What is Hazard? Explain in detail about Data Hazard.

14. a) Write a short note on Set Associative mapping.

(OR)

b) Discuss about any two kinds of secondary storage devices.

15. a) Write a short notes on programmed I/O and memory mapped I/O .

(OR)

b) Discuss in detail about Standard I/O interfaces.

PART – C **(3x10=30)**

Answer any THREE questions.

16. What is Addressing Mode? Explain the different types of addressing mode.
17. Explain in detail about Multiple Bus organization with neat diagram.
18. Discuss in detail about Data path and Control considerations with neat diagram.
19. What is Virtual Memory? Explain the Virtual–memory address translation.
20. What is DMA? Describe how DMA is used to transfer data?

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SEMESTER EXAMINATIONS –APRIL 2021

PROGRAMME: B.Sc., Information Tech. **COURSE CODE : 17U4FAC5**

COURSE TITLE : Numerical Methods **QN.NO : 9423**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Equation which involves functions like Sin X, Cos X, Tan X, log x, e^x, etc are called _____
   a) Algebraic equation b) Quadratic equation
   c) Simultaneous equation d) Transcendental equation.
2. _____ is also known as regular false method
   a) Method of tangents b) Method of regular position.
   c) Method of false position d)Bolzano method.
3. Gauss elimination method is process_____
   a) Back substitutions b) x,y as assign 0
   c) z value as 0 d) x value as 0
4. The Pivot element as_____
   a) Absolute value b)Large absolute value
   c)First row element d)First column as one
5. To find the unknown values of 'y' for some x, which lies, at the end of table of values we use _____formula.
   a) Newton's backward b) Newton's forward
   c) Central difference d) Newton's falsi position
6. If the point lies outside the domain then estimation of f(y)is called _____
   a) Interpolation b) Extrapolation
   c) Differentiate d)Center difference
7. By evaluating $\int_0^1 \frac{dx}{1+x^2}$ by a numerical integration method obtain an approximate value of _____
   a) $\text{Log}_e 2$ b) π c) e d) $\log_{10} 2$
8. Error in Simpson's rule is of order _____
   a) h^2 b) h c) h^4 d) h^7
9. Runge kutta method the required approximate value is given by _____
   a) $y_1=y_2-y_1$. b)$y_1=y_1-ny_2$. c)$y_1=y_1-y_2$.. d)$y_1= y_0+ \Delta y$
10. The process of cutting of some digits & retaining the required digit is called _____
    a) Truncation error b) Rounding off.
    c) Absolute error d) Relative error.

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b)

11.a) Find a real root of the equation $f(x) = x^3 - x - 1 = 0$, using Bisection method.

(OR)

b) Find the root of the equation $2x = \cos x + 31$ correct to three decimal places using Iteration method.

12.a) Solve the following system of equation using gauss elimination method

3x+y-z=3 2x—8x+z= -5 x-2y+9z=8

(OR)

b) Solve the following equations using Jacobi's iteration method

20x +y -2z = 17 3x + 20y – z = -18 2x – 3y + 20z = 25

13.a) Apply Langrange's formula to find f(x) from following data

X	0	1	4	5
F(x)	4	3	24	39

(OR)

b) From the following table find y(35) by suitable formula

X	20	30	40	50
Y	512	439	346	243

14. a) Evaluate $\int_0^1 e^{-x2}$ dx by dividing the range of integration in to 4 equal parts using Trapezoidal rule

(OR)

b) Find the first , second, third derivatives of the function tabulated below at the point x = 1.5

X	1.5	2.0	2.5	3.0	3.5	4.0
F(x)	3.375	7.0	13.625	24.0	38,875	559.0

15.a) Solve the initial a) value problem **$y' = -2xy^2$, $y(0) = 1$** for **y** at **x = 1** with step length=0**.2** using Taylor series method of order four.

(OR)

b) Using Euler's method, find an approximate value of y corresponding to 0.= 1 when x = y and y + x = 1, given that dy/dx =x

PART – C (3x10=30)

Answer any THREE questions.

16. Find a root of the equation $x^2 - 2x - 5 = 0$ by Newton – Raphson method

17. Solve the system of Equation 8x-y+z-18=0 2x+5y-2z-3=0 x + y -3z +6=0 using Gauss – Seidel iteration method

18. The population of a certain town as obtained from census data is shown in the following data

Year	1921	1931	1941	1951	1961
Population in thousands	19.96	39.65	58.81	77.23	94.61

Estimate the population in the year 1936 and 1963.

19. The value of $\log 2^{1/3}$ from $\int_0^1 x^2/1+x^3$ dx using Simpson's 1/3 and Simpson's 3/8 rule with h=0.25

20. Apply Milne's method, to find a solution of the differential equation $y' = x - y^2$ in the range 0 <= x <= 1 for the boundary condition y = 0 at x =0.

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SEMESTER EXAMINATIONS –APRIL 2021

PROGRAMME: NME - Information Technology **COURSE CODE : 17U4FNM2**

COURSE TITLE : PC Software **QN.NO : 9426**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. What is the default file extension for all Word documents?
   a) .txts b) .word c) .docs d) .docx
2. Which of the shortcuts keys which is used to move to the end of the document?
   a) Ctrl + Home b) Ctrl + End c) Shift + End d) Alt + End
3. _____are used when printing bound documents.
   a) Mirror margins b) Gutter margins
   c) Select Margin d) Ungutter Margins
4. A _____is a series of Word commands and instructions that are grouped together and executed as a single command.
   a) Tables b) Mail-Merge c) Macros d) List
5. The _____focuses on the content of presentation instead of its appearance.
   a) Slide Pane b) Outline Pane c) Notes Pane d) Status Bar
6. PowerPoint 2000 has _____ number of views
   a) 5 b) 6 c) 4 d) 3
7. What is the name of the form used to input chart values?
   a) Microsoft graph b) Microsoft Excel
   c) Auto form d) Data sheet.
8. The Microsoft clip gallery allows us to _____
   a) Add word art images to a slide b) Spell check your presentation
   c) Add clip-art images to a slide d) Add slides to a presentation.
9. Powerpoint can save our presentation as a _____ file to distribute presentation on the internet
   a) .jpeg b) .wmv c) .mp3 d) .mp4
10. We can edit an embedded organization chart by _____
    a) Clicking the Edit object
    b) Double-clicking the organization chart object
    c) Right clicking the chart object, then clicking edit MS-organization Chart object.
    d) Both B and C.

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11. a) Describe about Navigating a document in MS-Word 2000.

(OR)

b) Explain about Viewing layouts in MS-word 2000.

12. a) How will create a Table and adjusting column width in MS-Word?

(OR)

b) Define Macro and how will you record a macro in MS-Word?

13. a) How will you Viewing and re-arrange a presentation in outline view?

(OR)

b) Describe about the Usefulness of powerpoint for presentation.

14. a) How will you insert clipart and Word art in Powerpoint 2000?

(OR)

b) Describe about adding borders and shading tables in MS-Powerpoint 2000.

15. a) Explain about creating presentation for the Internet.

(OR)

b) Describe about Importing charts in Powerpoint 2000.

PART – C **(3x10=30)**

Answer any THREE questions.

16. Explain in detail about selecting text in MS-Word 2000.
17. Explain in detail about Mail-merge with an Example.
18. Discuss about Enhancing the presentation in MS-Powerpoint 2000.
19. Describe in detail about working with organization Charts in MS-Powerpoint 2000.
20. Explain in detail about automatically work with macros in MS-Powerpoint 2000.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Information Technology **COURSE CODE:17U6FMC16**

COURSE TITLE : Android Programming **QN.NO : 9437**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. A type of service provided by android that shows messages and alerts to user is
   a) content provider b) view system
   c) notification manager d) activity manager
2. What is android?
   a) Desktop operating system b) Programming Language
   c) Mobile operating system d) Databases
3. Which of the following is component of APK file?
   a) resources b) delvik executable
   c) both a and b d) none
4. How to upgrade SQlite the database from a lower version to higher version in android SQlite?
   a) using helper class b) using cursor
   c) using intent d) using SQlite
5. Eclipse is an _____
   a) android tool b) IDE
   c) android interface d) android developer
6. Android supports which features?
   a) Multitasking b) Bluetooth
   c) video calling d) all of these
7. ADB stands for ___
   a) Android Debug Bridge b) Application Debug Bridge
   c) Android Data Bridge d) Application Data Bridge
8. For creating user interface in Android, you have to use ___
   a) Eclipse b) java and XML
   c) Java and SQL d) java and PL/SQL
9. Which company developed android?
   a) apple b) google c) android Inc d) nokia
10. Android is based on which kernel?
    a) linux kernel b) windows kernel
    c) MAC kernel d) apple kernel

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.a) Discuss the role of the Android Manifest Editor.

(OR)

b) List out the steps to create Android Virtual Devices.

12.a) Summarize Grid Layout with syntax explanation.

(OR)

b) Give syntax for scroll through scroll view.

13.a) Determine the uses of debugging tool (DDMS)

(OR)

b) Analyze the menus creating through XML.

14. a) How a SQLite Open Helper class can be used?

(OR)

b) Create a Data Entry Form with proper description.

15.a) How a Web page can be displayed in Android?

(OR)

b) Discuss about the service of Android.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16.Analyze any 2 basic widgets of Android in detail.

17.Summarize the utilization of resources and Media of Android.

18.Determine the uses of Action bars.

19.Evaluate the Database which can be accessed with ADB.

20.Conclude using the Web view client class in detail.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Information Technology **COURSE CODE : 17U6FMC17**

COURSE TITLE : Data Mining and Data Warehousing **QN.NO : 9438**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Capability of data mining is to build _____ models.
   a) retrospective b) interrogative c) predictive d) imperative
2. The full form of KDD is _____.
   a) Knowledge database b) Knowledge discovery in database
   c) Knowledge data house d) Knowledge data definition
3. _____ is data about data.
   a) Metadata b) Microdata c) Minidata d) Multidata
4. _____ is a data transformation process.
   a) Comparison b) Projection c) Selection d) Filtering
5. _____ is a subject-oriented, integrated, time-variant, nonvolatile collection of data in support of management decisions.
   a) Data Mining b) Data Warehousing
   c) Web Mining d)Text Mining.
6. The star schema is composed of _____ fact table.
   a) one b) two c) three d) four
7. A priori algorithm is otherwise called as _____.
   a) width-wise algorithm b) level-wise algorithm
   c) pincer-search algorithm d) FP growth algorithm
8. Classification rules are extracted from _____.
   a) root node b) decision tree
   c) siblings d) branches
9. In _____ the groups are not predefined.
   a) Association rules b) Summarization
   c) Clustering d) Prediction
10. Which of the following is a clustering algorithm?
    a) A priori b) CLARA c) Pincer-Search d) FP-growth.

Contd…

PART – B **(5 x 7 = 35)**

Answer all questions by choosing either (a) or (b).

11. a) What is data mining?

(OR)

b) Justify the pixel oriented and icon based visualization techniques.

12. a) Explain the process of Data cleaning.

(OR)

b) Write notes on an overview of data transformation strategies.

13. a) Analyze the Data warehouse.

(OR)

b) Evaluate the typical OLAP operations with example.

14. a) Classify the Market basket analysis with example.

(OR)

b) Build the Rule based classifications.

15. a) What is Clustering and various requirements for Cluster Analysis?

(OR)

b) Summarize the Grid-Based methods is clustering.

PART – C **(3 x 10 = 30)**

Answer any THREE questions.

16. What kinds of patterns can be mined?

17. Demonstrate the Data reduction.

18. Discuss about the architecture of data warehousing.

19. Categorize the Apriori algorithm with example.

20. Examine the K-means and K-medoid techniques with example.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Information Technology **COURSE CODE:17U6FME2(E)**

COURSE TITLE : PHP Programming **QN.NO : 9439**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. What is preceded by PHP variables?
   a) - b) @ c) $ d) &
2. What is the expansion of PHP?
   a) Hypertext Preprocessor b) HTML Preprocessor
   c) Hypertext Processor d) HTML Processor
3. How do create PHP arrays in a HTML <form>?
   a) < input name= MyArray[]/> b) < input ="MyArray[]" />
   c) < input name="MyArray[]" /> d) < input MyArray[] />
4. Which of the function is used to sort an array in descending order?
   a) sort() b) rsort() c) asort() d) dsort()
5. The filesize() function returns the file size in _____
   a) Bits b) Bytes c) Kilobytes d) Gigbytes
6. Which one of the following functions will convert a string to all uppercase?
   a) srtoupper() b) uppercase() c) str_uppercase d) strupp()
7. The _____ function reads length characters from the resource specified by handle.
   a) fread() b) read() c) len() d) readlen()
8. The _____ function retrieves the current position of the file pointer's offset within the resource.
   a) fseek() b) ftell() c) fpos() d) ffile()
9. What is the default type of 'type' attribute of <input> element?
   a) Text b) Password c) Numerals d) Char
10. Which one of the following should not be used while sending passwords or other sensitive information?
    a) GET b) POST c) REQUEST d) NEXT

Contd…

PART – B (5 x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Differentiate between Constants and Variables.

(OR)

b) Write short notes on the advantages of PHP.

12. a) Write in detail on PHP Array Sort Functions with example.

(OR)

b) Brief on the concept of PHP For Each Loop with e.g

13. a) Write a PHP Program to create Functions Greet() and Details() with no arguments.

(OR)

b) Discuss on any 3 Date and Time functions in PHP. Give examples.

14. a) Write PHP programs for the following

(i) To determine File Size (3.5 Marks)

(ii) Calculate Disk Free Space (3.5 Marks)

(OR)

b) Discuss on the concept of Opening and Closing a file in PHP.

15. a) Brief about PHP Radio Button control with an example.

(OR)

b) Write a PHP Program to Sum two numbers and Display the result in the Third Box.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Explain in detail about the Data Types in PHP. Give examples.
17. Explain in detail about Server Variables with example.
18. Write in detail on PHP String Functions with examples.
19. Discuss in detail on the concept of Exception handling in PHP with example.
20. Elaborate in detail on PHP Text area control with an example.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Information Technology **COURSE CODE : 17U6FSM6**

COURSE TITLE : Animation Techniques Using FLASH **QN.NO : 9443**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. The library panel is located at the _____ direction of the properties panel
   a) Left b) Right c) Middle d) Bottom
2. _____ tool is used to split objects and shapes
   a) Selection b) Sub-selection c) Lasso d) Free-Transform
3. Transformation refers to the process of _____
   a) altering the shape b) changing the shape
   c) Erasing the shape d) Removing the shape
4. The frames in a classic tween are displayed in _____ color on the TIMELINE panel.
   a) pink b) red c) blue d) black
5. The_____ area in the flash window is known as the stage and the _____ area around the stage is known as the pasteboard
   a) white and gray b) blue and black
   c) pink and blue d) yellow and black
6. Animation in flash is created by using the _____ panel.
   a) LIBRARY panel b) TIMELINE panel
   c) TOOLS panel d) PROPERTIES panel
7. _____ tool is used to draw free-form lines and shapes
   a) Brush b) paint c) pencil d) line
8. The skew option is used to _____ an object on the stage.
   a) skew b) draw c) modify d) drag
9. A flash document is saved with the _____ extension by default.
   a) flx b) fla c) fls d) flc
10. The edit envelope dialog box is divided into _____ sections.
    a) Five b) Four c) Three d) Two

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. a) Write enhanced features of flash.

(OR)

b) How to create a new workspace?

12. a) Explain how to work with selection and modification tools in flash?

(OR)

b) Write notes on how to use with colors in flash.

13. a) Analyze the how to grouping and ungroup the objects in flash.

(OR)

b) How to edit a text field in flash?

14. a) What is the use of work with layers in flash?

(OR)

b) How to explore the LIBRARY panel in flash?

15. a) What is the use of video in flash?

(OR)

b) How to work with motion tweening in flash?

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Categorize the menu bar and tools panel in flash.

17. Demonstrate the how to use drawing tools in flash.

18. Discuss about transforming objects in flash.

19. How to create a symbol in flash with example?

20. Explain the usage of sound files in flash with example.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Computer Science **COURSE CODE : 17P2DMC5**

COURSE TITLE : Object Oriented Analysis and Design with UML **QN.NO : 9507**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 5 = 25)

Answer any FIVE questions.

1. What is structural systems analysis and design method? Explain.
2. Explain about layered approach to software development.
3. Write a note on Static and Dynamic Models of UML.
4. Explain about common class patterns approach..
5. Explain about the super sub-class relationships.
6. Write a notes on Object oriented design process.
7. Explain about Private and protected protocol layers and public protocol layer.
8. Write a note on UML meta model.

PART – B (5 x 10 = 50)

Answer all questions by choosing either (a) or (b).

9. a) Explain in detail about the following:
   i. orthogonal view of software.
   ii. Structured Analysis and Design Technique

   (OR)

   b) Explain object oriented design a use case driven approach.
10. a) Explain about the Booch methodology.

    (OR)

    b) Explain in detail about the Jacobson et at methodologies.
11. a) Describe about Noun phase approach of Object analysis.

    (OR)

    b) Explain in detail about the association about Relationship analysis for the ViaNet Bank ATM system.

12. a) Explain about Data access layer and User interface layer.

    (OR)

    b) Explain about the Control and Business logic layer.

13. a) Discuss about an Architectural Models of UML.

    (OR)

    b) Explain about Behavioral and structural model of UML.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : M.Sc., Computer Science **COURSE CODE : 17P2DMC6**

COURSE TITLE : Advanced Java Programming **QN.NO : 9508**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(5 x 5 = 25)**

Answer any FIVE questions.

1. How will you create a simple servlet?
2. Explain about the Bean development kit. (BDK)
3. What is meant by a jar file? What is the user of jar file in creating a bean? Explain.
4. Discuss about the entity beans in detail.
5. What are all the variable available in perl? Explain.
6. What are all the steps involved in writing distributed RMI applications ?
7. How will you register remote objects in RMI?
8. Write about JSP declarations.

PART – B **(5 x 10 = 50)**

Answer all questions by choosing either (a) or (b).

9. a) Explain about the servlet life cycle.

(OR)

b) Discuss in detail about session tracking.

10. a) Describe about Introspection.

(OR)

b) List down the various interfaces available in the Java beans package.

11. a) Write about EJB session Beans.

(OR)

b) Discuss the various control structures in perl.

12. a) How will you declare & implement remote interfaces?

(OR)

b) Discuss the client side of server side objects stubs of skeletons.

13. a) Explain the following : - JSP Expressions

(OR)

b) Discuss about the various JMS components. (JAVA messaging services)

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : M.Sc., Computer Science **COURSE CODE : 17P2DME1(C)**

COURSE TITLE : Computer Networks **QN.NO : 9510**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(5 x 5 =25)**

Answer any FIVE questions.

1. Explain RFID and Sensor networks.
2. Give the functionality of FDM.
3. Explain Circuit Switching.
4. Draw the overall picture of protocol stack and explain.
5. What are the key assumptions for dynamic channel allocation?
6. Explicate with example the working of dijkstra's algorithm.
7. Analyze Packet Scheduling.
8. Specify the layout of a TCP segment Header.

PART – B **(5 x 10 = 50)**

Answer all questions by choosing either (a) or (b).

9. a) Discuss about OSI Reference Model.

(OR)

b) Classify the major classes of guided media.

10. a) How will you detect and correct errors?

(OR)

b) Describe in detail multiplexing techniques.

11. a) Elaborate Collision free protocols in multiple access protocols.

(OR)

b) Elucidate Sliding window protocols.

12. a) Explain congestion control algorithm

(OR)

b) Illustrate Internet Control protocol.

13. a) Give an outline of substitution and Transposition Ciphers

(OR)

b) Illustrate Internet Transport protocol - UDP.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : M.Sc., Computer Science **COURSE CODE : 17P2DME2(D)**

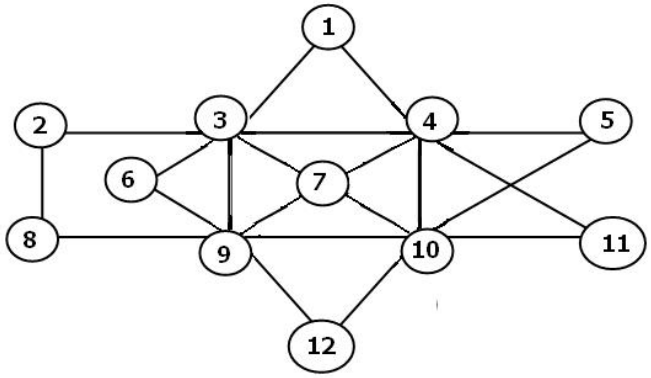
COURSE TITLE : Data Structures and Algorithm's in C++ **QN.NO : 9511**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(5 x 5 =25)**

Answer any FIVE questions.

1. What is data – structure and Algorithm? Why we need to do algorithm analysis?
2. What is stock? Explain about stock Abstract Data Types.
3. Explain Binary Tree implementation and Expression.
4. Write short notes on hashing functions.
5. Explain about Skew Heaps.
6. Detailed about of Heapsort.
7. Explain external sorting. Give relevant example.
8. What is the Euler tour? Find the Eulerion hour of the graph shown below. (we start at vertex 5).



PART – B **(5 x 10 = 50)**

Answer all questions by choosing either (a) or (b)

9. a) What is constructor? Write the syntax of constructor and Accessions.

(OR)

b) Explain about General Rules Logarithms in the Running Time.

Contd…

10. a) Illustrate the concept and List of Abstract Data Types.

(OR)

b) Elucidate and explain about Binary Search Trees.

11. a) Explain in detailed about Open Address of Hashing.

(OR)

b) Explain Binary Heap.

12. a) Write the Merge Sort Algorithm? To Sort the eight element array of given digits 24,13,26,1,2,27,37 and 15.

(OR)

b) What are the 4 steps to sort the algorithms? Write in detailed about Quicksort.

13. a) Briefly in explain about shortest – path Algorithms.

(OR)

b) Explain (i) Huffman codes and

(ii) Divide and conquer method.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Computer Science **COURSE CODE : 17P3DMC7**

COURSE TITLE : Relational Database Management System **QN.NO : 9517**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 5 = 25)

Answer any FIVE questions.

1. Write a note on Data Abstraction.
2. Describe about Entity-Relationship diagrams
3. Discuss about Specialization and Generalization.
4. With an example, explain about structured types in SQL
5. Compare Object-Oriented Versus Object-Relational
6. State and explain the basic concepts of Indexing and hashing
7. Write a note on Data dictionary Storage.
8. Describe the state diagram of a transaction.

PART – B (5 x 10 = 50)

Answer all questions by choosing either (a) or (b).

9 a. Discuss about the purpose of Database systems.

(or)

b. Describe about Fundamental Relational-Algebra operations.

10 a. Give an overview of constraints in E-R Model.

(or)

b. Explain about Atomic domain and first Normal form.

11 a. Write an example of complex data types in Object-Based Databases.

(or)

[P.T.O]

CODE : 17P3DMC7 QN.NO : 9517

TITLE : RELATIONAL DATABASE MANAGEMENT SYSTEM

11	b.	Explain the various approaches used for persistence of objects.
12	a.	Give an Overview of Physical Storage Media
		(OR)
	b.	Explain in detail about file organization.
13	a.	Describe about timestamp - Based protocols.
		(OR)
	b.	Explain in detail about Log - based recovery.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Computer Science **COURSE CODE : 17P3DMC8**

COURSE TITLE : Software Engineering **QN.NO : 9518**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 5 = 25)

Answer any FIVE questions.

1. Explain in detail specified process models.
2. How to creating a behavioural models to give examples.
3. Discuss class based modelling with examples.
4. Write a strategic approach to software testing with examples.
5. Write a metrics of review and its usage with examples.
6. Discuss any two decomposition techniques for project estimation.
7. What is scheduling? And write a concept of project scheduling.
8. Explain in detail tools related trends in software engineering.

PART – B (5x 10=50)

Answer all questions by choosing either (a) or (b)

9. (a) Explain in detail:
    1. What is an agile process?
    2. Adaptive Software Development (ASD) and Lean Software Development (LSD)

    (Or)

    (b) Explain nature of software, software process, software myths and its practical approach to software engineering.

10. (a) What is requirements analysis, eliciting requirements, Building the requirements model and negotiating requirements.

    (Or)

    (b) Explain in detail Flow, Behaviour and Patterns oriented modelling.

11. (a) Write a concept of system testing and testing strategic issues.

    (Or)

    (b) Explain a concept of clean room design, strategy, testing.

12. (a) Discuss Project Management concepts and project metrics in managing software projects.

    (Or)

    (b) Write a note on project scheduling.

13. (a) What is SPI? And it's Process metrics, SPT trends and SPI frameworks.

    (Or)

    (b) Explain Capability Maturity Model Integration techniques in software process.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Computer Science **COURSE CODE :17P3DME3**

COURSE TITLE : Dot Net Technology **QN.NO : 9519**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 5 = 25)

Answer any FIVE questions.

1. Illustrate .Net framework Architecture.
2. Define and explain Form View control in ASP.Net.
3. Write about Disconnected Data Access in ASP.Net.
4. Explain about Ad Rotator control with example.
5. Discuss about WebPart controls in ASP.Net.
6. Comment on Advanced features of ASP.Net.
7. Explain about Security in ASP.Net.
8. Discuss about Arrays in PHP.

PART – B (5x 10=50)

Answer all questions by choosing either (a) or (b)

9. (a) Describe about Common Type System in .Net framework.

(OR)

(b) Explain about Class Libraries in .Net framework.

10. (a) How to Create Crystal Reports in ASP.Net?

(OR)

(b) How to Create and Edit Grid view in ASP.Net.

11. (a) Write short notes on

(i) Wizard Control (ii) Image Map Control

(OR)

(b) Describe about Web site Navigation in ASP.Net.

12. (a) What is State Management in ASP.Net? Explain its Techniques.

(OR)

(b) Explain in detail about Mobile Application development in ASP.Net.

13. (a) Describe about Control statements in PHP.

(OR)

(b) Discuss in detail about Cookies.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : M.Sc., Computer Science **COURSE CODE : 17P4DMC9**

COURSE TITLE : Network Security **QN.NO : 9523**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (5 x 5 =25)

Answer any FIVE questions.

1. Write notes on Steganography.
2. Discuss about principles of Public key Crypto systems.
3. Describe Hash functions.
4. Write notes on Public key Infrastructure.
5. Discuss about PRIX Management functions.
6. Describe IP Security Architecture.
7. How secure Electronic Transaction Handled ? – Discuss.
8. Write notes on Intruders Detection.

PART – B (5 x 10 = 50)

Answer all questions by choosing either (a) or (b).

9. a) Explain Block cipher principles.

(OR)

b) Write about principles of Block cipher design.

10. a) Explain about RSA Algorithm.

(OR)

b) Discuss in detail Public – key cryptography.

11. a) Explain about Public – key Infrastructure.

(OR)

b) Discuss in detail about E – mail security.

12. a) Explain IP Security Architecture.

(OR)

b) Explain about secure Electronic Transaction.

13. a) Explain Password management in Intruders.

(OR)

b) Discuss in detail Firewall Design Principle.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: M.Sc., Computer Science **COURSE CODE : 17P4DME4**
COURSE TITLE : Data Mining & Data Warehousing **QN.NO : 9526**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(5 x 5 = 25)**

Answer any FIVE questions.

1. Write about the different ways of handling missing values in Data Cleaning step.
2. Write briefly about OLTP Server Architectures.
3. Write briefly about the two methods of indexing OLAP data.
4. Explain the Apriori Algorithm with example.
5. How classification is done using Rule Based Classification.
6. Write about the Partitioning Method : *k* – Means: Centroid – Based Technique with algorithm.
7. Write briefly about the two Grid Based Clustering Methods.
8. Write briefly about following mining types and purposes.
   i) Spatial Mining ii) Text Mining iii) Web Mining

PART – B **(5x 10=50)**

Answer all questions by choosing either (a) or (b).

9. a) Write about various Data mining Functionalities in detail.

   (OR)

   b) Discuss various Issues in Data Mining.
10. a) Explain the Data warehouse Architecture with a neat diagram.

    (OR)

    b) Write in detail about the Multidimensional data Model: DATA CUBE
11. a) Explain how decision tree induction is used for classification with example.

    (OR)

    b) Explain *k*- nearest – Neighbor Classification Method.
12. a) Write an Overview of various Clustering Methods.

    (OR)

    b) Explain Multiphase Hierarchical Clustering BIRCH Using Clustering Feature Trees.
13. a) Write in detail about Data Mining Applications.

    (OR)

    b) Write about any Five Trends in Data Mining.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Biotechnology **COURSE CODE : 17U2LMC2**

COURSE TITLE : Biochemistry and Biophysics **QN.NO : 9603**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Atomic number of helium is _____.
   (a) 1 (b) 2 (c) 3 (d) 4
2. Which among the following is a secondary bond?
   (a) Ionic bond (b) Covalent bond
   (c) Metallic bond (d) Hydrogen bond
3. Identify the homopolysaccharide from the following.
   (a) Starch (b) Cellulose (c) Glycogen (d) All the above
4. Conversion of liver glycogen into muscle glycogen and vice versa is_____.
   (a) Kreb cycle (b) Cori Cycle (c) Ornithine cycle (d) None of the above
5. Pick out the essential amino acid from the following.
   (a) Arginine (b) Alanine (c) Cysteine (d)Proline
6. Name the event by which an amino acid is converted into keto acid.
   (a) Deamination (b) Transamination
   (c) Decarboxylation (d) transmethylation
7. By which process soap is prepared?
   (a) Isomerism (b)Saponification (c) Emulsification (d) Hydrolysis
8. Pellagra is due to the deficiency of
   (a) Vitamin-A (b) Vitamin-B_5 (c) Vitamin-B_{12} (d) Vitamin- C
9. Entropy is related with _____ law of thermodynamics.
   (a) First (b) Second (c) Third (d) All the above
10. Movement of solutes from the place of lower concentration to higher concentration is
    (a) Diffusion (b) Osmosis
    (c) Active transport (d) Passive transport

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11. (a) Comment on the structure of an atom with diagram.

(OR)

(b) Derive Handersen and Hasselbatch equation.

12. (a) State the biological significance of carbohydrates.

(OR)

(b)Illustrate glycolysis with relevant sketch .

13. (a) Classify amino acids with examples.

(OR)

(b)Give an account on enzyme kinetics.

14. (a) Evaluate the structure and functions of phospholipids.

(OR)

(b)Discuss the structure and functions of Vitamin-C.

15. (a) Emphasize the oxidation and reduction potential.

(OR)

(b)Distinguish entropy from enthalpy.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Write a detailed account on chemical bonds with suitable examples..
17. Elucidate TCA Cycle. Add a note on its energetics.
18. Scrutinse the metabolism of proteins.
19. Give an account on fat soluble vitamins and their properties.
20. Emphasize the Laws of thermodynamics.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Biotechnology **COURSE CODE : 17U3LMC3**

COURSE TITLE : Molecular Biology **QN.NO : 9606**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Anticodon is present in _____.
   a) DNA b) tRNA c) rRNA d) mRNA
2. Association of DNA and Histone is mediated by _____.
   a) Covalent bonding b) Hydrogen bonding
   c) Hydrophobic bonding d) Vander Waals interactions
3. Which of the following enzymes is the principal replication enzyme in *E.coli?*
   a) DNA polymerase I b) DNA polymerase II
   c) DNA polymerase III d) DNA ligase
4. Semi conservative replication of DNA was first demonstrated in _____.
   a) *Escherchia coli* b) *Streptococcus pneumonia*
   c) *Salmonella typhimuriam* d) *Drosophila melanogaster*
5. Which of the subunits of RNA polymerase is totally required to initiate transcription?
   a) Alpha b) Sigma c) Omega d) Beta
6. Splicing protects RNA from _____.
   a) Degradation b) Replication
   c) Degeneration d) Amplification
7. The enzyme involved in amino acid activation is _____.
   a) ATP synthetase b) Aminoacyl tRNA synthetase
   c) Aminoacyl mRNA synthetase d) Aminoacyl rRNA synthetase
8. Wobble hypothesis was proposed by
   a) Watson b) Crick c) Nirenberg d) Watson and Crick
9. A point mutation that replaces a purine with another purine or a pyrimidine with another pyrimidine _____.
   a) Nonsense mutation b) Silent mutation
   c) Transition mutation d) Transversion
10. DNA repair mechanism is absent in
    a) Nuclear genome b) Mitochondrial genome
    c) Chloroplast genome d) Both b and c

Contd…

PART – B (5x 7 = 35)

Answer all questions by choosing either (a) or (b).

11.(a) Write notes on structure of tRNA and its role in protein synthesis?

(OR)

(b) Describe the organization of eukaryotic genome and their functional significance.

12.(a) Narrate the organization of chromatin in eukaryotes and its importance.

(OR)

(b) What do you mean by Conservative and Semi conservative mode of DNA replication?

13.(a) Add a brief account on the process of Initiation of transcription in eukaryotes by RNA Pol II.

(OR)

(b) What is splicing? Explain intron with self splicing.

14.(a) Briefly explains the different properties of genetic code.

(OR)

(b) Determine the structure and chemical composition of ribosome.

15.(a) Describe how spontaneous mutation arises in bacteria

(OR)

(b) Describe about the mechanisms responsible for mutagenesis.

PART – C (3 x 10 = 30)

Answer any THREE questions.

16. Illustrate detailed structure of DNA with suitable diagram.

17. Explain the process of DNA replication in prokaryotes.

18. Discuss about the post transcriptional changes in RNA with suitable examples.

19. With neat sketches, explain the process of protein synthesis in prokaryotic organisms.

20. Elaborate the DNA repair mechanisms.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Biotechnology **COURSE CODE : 17U4LMC4**

COURSE TITLE : Animal Biotechnology **QN.NO : 9608**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. The growth of animal cells *in vitro* in a suitable culture medium is called_____
   a) Gene Expression b) Transgenesis
   c) Plant cell culture d) Animal cell culture
2. Which of the following is the characteristic of a normal cell?
   a) Anchroage independent b) Continuous cell line
   c) Dependent on external growth factor d) No contact inhibition
3. Which of the following is commonly produced in animal cell cultures?
   a) Interferon b) Map c) Vaccines d) All of these
4. The cell culture environment includes?
   a) The media and media components b) The gas composition
   c) The plastic the cells are attached to d) All the above
5. Which one is an extracellular messenger of apoptosis?
   a) Tumor necrosis factor b) Serine
   c) Translation inhibitor d) Ribozyme
6. Apoptotic cells detach due to the inactivation of ---------?
   a) PKC b) PKB c) RAF-1 d) FAK
7. In which year, Dolly the first mammalian clone was born?
   a) 1995 b) 1997 c) 1996 d) 1998
8. Transgenic goats produce a variant of human tissue type plasminogen activator protein in
   a) Blood b) Urine c) Milk d) Muscles
9. Superovulation and embryo transplantation are meant for improving ?
   a) Human race b) Livestock c) Poultry d) Plants
10. Animal embryo can be preserved at ?
    a) -196°C b) -4°C c) -20°C d) 4°C

Contd…

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b).

11. a) Write about the physiochemical properties of animal cell culture media?

(OR)

b) Discuss about the natural media and it's application?

12. a) Write a short note on primary cell culture techniques?

(OR)

b) Write about the selection and maintenance of cell line?

13. a) Neat diagram about the apoptosis with labeling?

(OR)

b) What is the difference between the proliferation and differentiation?

14. a) Define microinjection of gene transfer with neat diagram?

(OR)

b) Define transgenic mice and its application?

15. a) Discuss about embryo transfer techniques?

(OR)

b) Explain in detailed about the artificial insemination in cattle?

PART – C (3x10=30)

Answer any THREE questions.

16. Detailed account on animal cell culture and its types?
17. Differentiation about the primary and secondary cell culture techniques?
18. Discuss about the characterization of cultured cells?
19. Explain in detailed on Retroviral gene transfer techniques and its application?
20. Write about the *in vitro* fertilization technology and its limitation?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Biotechnology **COURSE CODE : 17U4LSM3**

COURSE TITLE : Bioinformatics **QN.NO : 9610**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which of the following is untrue regarding the transmembrane proteins?
   a) Constitute up to 30% of all cellular proteins.
   b) They are responsible for performing a wide variety of important functions in a cell, such as signal transduction, cross-membrane transport, and energy conversion
   c) The membrane proteins are also of tremendous biomedical importance
   d) They are not drug targets or receptors.
2. Which of the following is untrue regarding Prediction of Helical Membrane Proteins?
   a) For membrane proteins consisting of transmembrane α–helices, these transmembrane helices are predominantly hydrophobic with a specific distribution of positively charged residues.
   b) The α-helices generally run perpendicular to the membrane plane
   c) The α-helices generally run parallel to the membrane plane
   d) The α-helices have an average length between seventeen and twenty-five residues
3. The BLAST program was developed in _____
   a) 1992 b) 1995 c) 1990 d) 1991
4. Which of the following is not a variant of BLAST?
   a) BLASTN b) BLASTP c) BLASTX d) TBLASTNX
5. What is the source of protein structures in SCOP and CATH?
   a) Uniprot b) Protein Data Bank
   c) Ensemble d) InterPro
6. Which of the following statements about SUPERFAMILY database is incorrect regarding its features?
   a) Sequences can be submitted raw or FASTA format
   b) Sequences must be submitted in FASTA format only
   c) It searches the database using a superfamily, family, or species name plus a sequence, SCOP, PDB or HMM ID's
   d) It has generated GO annotations for evolutionarily closed domains and istant domains

Contd…

7. Which of the following is not a correct about FASTA?
   a) Its stands for FAST ALL
   b) It was in fact the first database similarity search tool developed, preceding the development of BLAST
   c) FASTA uses a 'hashing' strategy to find matches for a short stretch of identical residues with a length of k
   d) The string of residues is known as blocks
8. Which of the following is not software for dot plot analysis?
   a) SIMMI b) DOTLET
   c) DOTMATCHE d) LALIGN
9. For palindromic sequences, what is the structure of the dot plot?
   a) 2 intersecting diagonal lines at the midpoint b) One diagonal
   c) Two parallel diagonals d) No diagonal
10. SCOP is _____ based on manual comparison of structures by human experts with no quantitative criteria to group proteins.
    a) entirely b) almost entirely c) not d) partially

PART – B (5x 7=35)

Answer all questions by choosing either (a) or (b).

11. a) Briefly discuss the scope of Bioinformatics.

(OR)

b) Bioinformatics is a multi-disciplinary approach – Justify the statement.

12. a) Give a brief account on protein structural database PDB.

(OR)

b) Write a short account on NCBI.

13. a) Briefly discuss the pair-wise sequence alignment using Dot-matrix method.

(OR)

b) Write a short note sequence alignment using FASTA format.

14. a) Discuss briefly about the structure of typical phylogenetic tree.

(OR)

b) Explain the construction of phylogenetic tree.

15. a) Discuss briefly about Ramachandran Plot.

(OR)

b) Write a short note on Rasmol and SWISS PDB Viewer.

PART – C (3x10=30)

Answer any THREE questions.

16. Discuss in detail about the application of Bioinformatics.
17. Write an essay on Nucleotide database with suitable examples.
18. Explain the CLUSTALW system of multiple sequence alignment and its application.
19. Discuss the construction of phylogenetic tree using UPGMA clustering method and neighbor joining sadistic method.
20. Discuss the classification and prediction of protein structure using different methods.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Biotechnology **COURSE CODE : 17U6LME2**

COURSE TITLE : Environmental Biotechnology **QN.NO : 9616**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Higher deposition of _____ in aquatic ecosystem will lead to eutrophication.
   a) Calcium b) Phosphorous c) Magnesium d) zinc
2. _____is used in primary water treatment.
   a) Sodium chloride b) Sodium carbonate
   c) Sodium hypochlorite d) Sodium bicarbonate
3. _____is the most prominent species of earth worm used in vermi composting in India.
   a) *Eisenia fetida* *b) Common earthworm*
   c) Lubriccus rubelluus *d) Dendrobaena venata*
4. Disinfection of lagoons will be done with_____ in small scale treatment units.
   a) Lime stabilization b) Pasteurization
   c) Dilution and aeration d) Both a and b
5. Which one of the following is recalcitrant xenobiotics?
   a) Fungal toxins b) Toxic plant alkaloids
   c) Polychlorinated biphenyls d) Alcohol
6. _____ is the genetically engineered bacterium used in bioremediation.
   a) Pseudomonas fluorescens *b) Pseudomonas putida*
   c) Pseudomonas aeruginosa *d) Pseudomonas cepacia*
7. In Rhizobium-legume plant interaction_____will be synthesized more during nodulation and root hair development.
   a) Kinetin b) Ethylene c) IAA d) BAP
8. Trichoderma is used as a biocontrol agent in the management of _____disease in crop plants.
   a) Blight disease b) Root rot disease
   c) Necrosis d) Chlorosis
9. Which one of the following microbe will be used as biofilter?
   a) *Pseudomonas* b) *Aeromonas*
   c) *Nitrosomonas* d) *Trichoderma*
10. _____is used in metal bioleaching.
    a) Agrobacterium tumefaciens *b) Thiobacillus ferrooxidans*
    c) Bacillus amiloliquefaciens *d) Bacillus subtilis*

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11. a) Enlist the causes of water pollution.

(OR)

b) Evaluate the role of Coliform bacteria in water quality assessment.

12. a) Define and explain the characteristics of sludge.

(OR)

b) Illustrate different strategies of solid waste disposal.

13. a) Analyze the causes, accumulation and impact of xenobiotics in environmental health.

(OR)

b) Illustrate the strategies for the bioremediation of heavy metals.

14. a) Illustrate the mechanism, stages of association and significance of Rhizobium in plant growth and development.

(OR)

b) Appraise the importance of phosphate solublizing bacteria in nutrient management and ecological balance.

15. a) Enlist biofilter microorganisms and evaluate their special features.

(OR)

b) Describe the components and importance of biofilter media.

PART – C **(3x10=30)**

Answer any THREE questions.

16. Enlighten the stages and various strategies in sewage treatment.
17. Evaluate the methods and applications of vermi composing in solid waste management.
18. Enlighten the rationale, methods and factors affecting biodegradation.
19. Evaluate the importance and advantages of biopesticides in plant protection and environmental management.
20. Evaluate the principle, strategies, importance and advantages of microbial bioleaching with special reference to environmental management.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Biotechnology **COURSE CODE : 17U6LME3**

COURSE TITLE : Medical Biotechnology **QN.NO : 9617**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Antisense therapy is carried out using_____.
   a) U-RNA b) mRNA c) rRNA d) tRNA
2. The gene therapy for cancer is done by replacing the damaged _____gene.
   a) Factor IX b) Dystrophin c) p53 d) β-globin
3. Single nucleotide polymorphisms are the causes for the genetic disease _____.
   a) Sickle cell anemia b) Cystic fibrosis
   c) AIDS d) Duchenne's Muscular dystrophy
4. Chagas' disease is due to _____
   a) *Campylobacter hyoitestinalis* b) *Plasmodium vivax*
   c) *Borrela burgdorferi* d) *Trypanasoma cruzi*
5. Recombinant _____ is recommended for treating haemophila.
   a) Interferons b) Erythropoietin c) Factor VIII d) Insulin
6. _____ is administered to the cystic fibrosis patients to decrease the viscosity of the mucus to make breathe easier.
   a) Recombinant DNAse I b) Recombinant Insulin
   c) Recombinant interferon d) Recombinant erythropoitin
7. 'Recombivax' is the trade name for _____ vaccine.
   a) H1N1 b) Herpes Simplex virus
   c) Hepatitis B d) Tuberculosis
8. Envelope glycoprotein D is used as a vaccine against _____
   a) Herpes Simplex virus b) HIV
   c) Hepatitis B d) Corona virus
9. Super ovulation is done by increasing the concentration of _____ hormone.
   a) Insulin b) Ganodotrophic c) Thyroxine d) Testosterone
10. The world's first test tube baby was born in the year_____
    a) 1958 b) 1968 c) 1978 d) 1988

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b)

11. a) Describe the methods of gene delivery by lipoplexes and DNA molecular conjugates.

(OR)

b) Explain the techniques involved in antisense therapy for cancer.

12. a) Describe the non-radioactive detection system of targeting defective DNA.

(OR)

b) Give an account of diagnosis of malaria and chagas' diseases using DNA anlaysis.

13. a) What are tissue plasminogen activators (tPA)? Schematically illustrate the production of recombinant tPA and its applications.?

(OR)

b) Write a detailed note on recombinant erythropoietin and DNAse I.

14. a) What are recombinant vaccines? Explain its types with examples?

(OR)

b) Highlight the therapeutic applications of monoclonal antibodies.

15. a) Explain the principles of GIFT and ZIFT.

(OR)

b) Outline the various methods of micromanipulation for the fertilization of eggs.

PART – C **(3x10=30)**

Answer any THREE questions.

16. Explain the role of retroviruses in gene therapy with suitable illustrations.
17. Discuss the technique of DNA fingerprinting using RFLPs and its applications.
18. Describe the techniques involved in the production of recombinant insulin with suitable illustrations.
19. Highlight the steps in the production of monoclonal antibodies with a neat labeled diagram.
20. Elaborate the methodology of IVF. Add a note on its limitations.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Biotechnology **COURSE CODE : 17U6LMC8**

COURSE TITLE : Genetic Engineering **QN.NO : 9618**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. The large *fragment* of DNA Polymerase I that retains its 5'→3' polymerase, 3'→5' exonuclease and strand displacement activities is known as _____.
   a) DNA polymerase II b) EcoRI
   c) Hind III d) Klenow fragment
2. The _____ enzyme used for the removal of single phosphate groups from 5′-ends of linear vectors to prevent re-circularization during *cloning.*
   a) *DNA polymerase I* b) *Alkaline phosphatase*
   c) *EcoRI* d)*Terminal transferase*
3. _____ is a single stranded filamentous DNA phage vector.
   a) M13 b) pUC 18 c) pUC 19 d) cosmid
4. _____ is an example for shuttle vector.
   a) pBR 322 b) pUC 18 c) YEp13 d) GAL - 1
5. The process by which a restricted set of bacterial genes is transferred to another bacterium is called _____ transduction.
   a) abortive b) generalized
   c) specialized d) all of these
6. The ability of the cell to uptake the naked DNA is known as _____.
   a) transformation b) conjugation
   c) transduction d) competency
7. A bacteria carrying recombinant plasmids or a fragment of foreign DNA is made to insert into a restriction site inside a gene to resist antibiotics, hence causing the gene to turn non-functional, the technique is called _____.
   a) insertional inactivation b) deactivation
   c) activation d) deletion
8. _____ blotting is a technique used in molecular biology research to study gene expression by detection of RNA in a sample.
   a) Western b) Northern c) Southern d) Dot
9. _____is the process of delivering nucleic acids and small proteins into eukaryotic cells.
   a) Transfection b) Transformation
   c) Conjugation d) Transduction
10. _____is an example for regulatable promoter used in *Saccharomyces cerevisiae.*
    a) YEp13 b) GAL10 c) BAC d) YAC

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b)

11.a) Highlight the role of linkers and adaptors in Genetic Engineering.

(OR)

b) Give an account on history of recombinant DNA technology.

12.a) Discuss the construction of pUC 19 with diagram.

(OR)

b) Write short note on M13 vector.

13.a) Illustrate the transfer of gene using electroporation technique.

(OR)

b) Describe the Hfr X F' transfer with diagram.

14.a) Explain the Western blotting technique with diagram.

(OR)

b) Summarize the synthesis of cDNA with diagram.

15.a) Enlist the applications of human genome sequencing.

(OR)

b) Give an account on regulatable promoters.

PART – C **(3x10=30)**

Answer any THREE questions.

16. Explain in detail about nomenclature, classification and properties of Restriction enzymes.
17. Define plasmid. Describe the construction of pBR322 with illustration.
18. Discuss the gene transfer method through transformation in detail.
19. Elaborate the amplification of DNA using PCR. Add note on its applications.
20. Explain in detail about human genome project.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Biotechnology **COURSE CODE : 17U6LSM4**

COURSE TITLE : Fisheries Technology **QN.NO : 9621**

TIME : 3 Hours **MAX.MARKS :75**

PART – A **(10 x 1 = 10)**

Answer all Multiple choice questions by choosing the correct option.

1. Which among these fishes is not belonging to Indian major carps?
   a) *Catla catla* b) *Labeo rohita*
   c) *Labeo calbasu* d) *Cirrhimus mrigala*
2. Pokkali is a kind of paddy cultivated in:
   a) Kerala b) Tamilnadu c) Orissa d) Gujarat
3. Hormones used for induced breedings.
   a) Oestrogens b) Progesterone c) Thyroxin d) Aldosterone
4. The net used for fish seed collections:
   a) Gear net b) Sluice gate c) Mosquito nets d) Shooting net
5. _____ are small boats dug out in a single large wood or stem of Palmyra palm.
   a) Coracle b) Canoes c) Crafts d) Rafts
6. Which among these is also called as throw net?
   a) Cast net b) Gill net c) Trap net d) Fyke net
7. Storing the fish by freezing and then drying I hot vacuum is called:
   a) Freezing b) Freeze drying c) Deep freezing d) Icing
8. The product "uppu karuvadu" in Tamil is obtained from:
   a) Wet curing b) Rotary drying c) Dry salting d) Dehydration
9. The stickly gelatinous substance prepared by boiling the wastes, such as bones and skin of fish:
   a) Fish glue b) Shagreen c) Ising glass d) Fish manure
10. Which one among these is an agarophyte?
    a) Dinoflagellates b) Euglenids c) Chlorella d) Gelidium

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11.a) Briefly explain monosex culture with tilapia as an example.

(OR)

b) Explain dairy cum fish culture technique.

12.a) Describe bundh breeding.

(OR)

b) Explain the procedure of Hypophysation.

13.a) Comment on seine nets and Trawl nets with suitable diagrams.

(OR)

b) Write short notes on any four crafts used for fishing.

14.a) Explain the principles of fish preservation.

(OR)

b) Discuss the process of pickling.

15.a) Describe any two culture methods of seaweeds.

(OR)

b) Give a short note an Shark fin soup.

PART – C **(3x10=30)**

Answer any THREE questions.

16. Discuss the breeding and hatching methods for Indian major carps.

17. Write an essay on genetic manipulation in the production of transgenic fist.

18. Describe and discuss on ‘Fishing Gears’ with suitable diagrams.

19. Explain the methods for the preservation of fishers.

20. List out the various fisheries by products and their economic importance.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 18U4LAC2**

COURSE TITLE : An Introduction to Immunology **QN.NO : 9622**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which one of the following is a primary lymphoid organ?
   a) Thymus b) Lymph node c) Spleen d) Peyer's patch
2. CD8 is a marker of
   a) B-cells b) Helper T-cells
   c) Cytotoxic T-cells d) Mast cells
3. Which immunoglobulin can pass through placenta?
   a) IgD b) IgE c) IgM d) IgG
4. Agglutination reaction is more sensitive than precipitation for the detection of
   a) Antigens b) Antibodies
   c) Complements d) Antigen-antibody complexes
5. Which of the following hypersensitivity occurs via IgE antibody?
   a) Type I b) Type II c) Type III d) Type IV
6. In the classical pathway, which of the following complement complex serve as C3 convertase
   a) C4aC2a b) C4bC2b c) C4bC2a d) C4aC2b
7. A graft between members of the same species is termed an
   a) Autograft b) Isograft c) Xenograft d) Allograft
8. An example of a known oncogenic virus is
   a) Herpes zoster b) HIV-2
   c) Epstein-Barr virus d)Vesticular virus
9. Which of the following is an immunodiffusion test?
   a) Double-diffusion b) Gel diffusion
   c) Ouchterloney technique d) All of these
10. Rocket immunodiffusion is also known as
    a) Gel diffusion b) Electroimmunodiffusion
    c) Double-diffusion d) Single-diffusion

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11. a) Explain the types of immunity.

(OR)

b) Enumerate the functions of T cells and B cells.

12. a) With neat diagram, explain the process of Opsonization.

(OR)

b) Write the biological properties of immunoglobulins.

13. a) Differentiate between primary and secondary immune response.

(OR)

b) Give an account on Arthus reaction.

14. a) Write short notes on types of transplantation.

(OR)

b) Comment on tumour and tumour antigens.

15. a) List the applications of immunotechniques.

(OR)

b) How will you identify the ABO blood grouping? Explain with its principle.

PART – C **(3x10=30)**

Answer any THREE questions.

16. Describe the structure of secondary lymphoid organs.
17. Write detailed account on structure and functions of immunoglobulin.
18. Determine the classical and alternative pathways of complement system.
19. Discuss about the prevention of graft rejection in transplantation.
20. Summarize the types, principle and uses of ELISA.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 18U6LAC4**

COURSE TITLE : Recombinant DNA Technology in Human Health **QN.NO : 9626**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Which of the method is useful especially in the treatment of cancer?
   a) Ex vivo therapy b) Antisense therapy
   c) In vivo therapy d) Both a and c
2. What is the least invasive source of stem cells from the human body?
   a) Adipose tissue b) Bone marrow
   c) Cord blood d) Kidney
3. Which of the following does not affect the formation of hybrid DNA?
   a) Homologous DNA b) Ionic strength
   c) Pressure d) Temperature
4. The first step of PCR is
   a) Annealing b) Primer extension
   c) Denaturation d) Renaturation
5. Tissue plasmin activator _____
   a) Helps in wound healing b) Allergy response
   c) Immunity d) Dissolve clot in blood vessels
6. Which of the following clotting factor is deficient in human suffering from Haemophilia A?
   a) Factor V b) Factor VI c) Factor VII d) Factor VIII
7. The first Recombinant antigen vaccine approved for Human use is
   a) Hepatitis B vaccine b) Hib vaccine
   c) Var vaccine d) DPT vaccine
8. The first successful active insulin was synthesized in _____
   a) 1972 b) 1975 c) 1977 d) 1980
9. Which of the following hormone stimulate ovarian follicles to mature and formation of ovum?
   a) LH b) FSH c) LTH d) Progesterone
10. IN IVF techniques, Zygote or early embryo is transferred into
    a) Cervical canal b) Uterus
    c) Fallopian tube d) Vagina

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b)

11. a) What are the different processes employed in physical method of gene transfer ?

(OR)

b) Mention the applications of stem cell cultures.

12. a) Give a short note on DNA probes and their uses.

(OR)

b) Briefly explain about the principle and applications of microarray.

13. a) What is HGH? How do you produce Recombinant human growth hormone and their benefits?

(OR)

b) What are Interferons? How do microbes play a role in its production?

14. a) Differentiate between Recombinant vaccine and Subunit vaccine.

(OR)

b) Brief notes on Edible vaccine and their importance.

15. a) Mention the primary aim and applications of the Assisted Reproductive Technology programme.

(OR)

b) Describe the procedure of GIFT involves the transfer of female gamete to the fallopian tube.

PART – C **(3x10=30)**

Answer any THREE questions.

16. What is Gene therapy? Discuss in detail about the strategies of gene therapy research.
17. Explain the process of PCR technique in disease diagnosis with suitable example.
18. How Recombinant Insulin is produced by using *E.coli*?
19. How DNA vaccine is produced? Write about the advantages and disadvantages of DNA vaccine ?
20. Demonstrate the methods involved in Artificial Insemination in animals.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: NME - Biotechnology **COURSE CODE : 17U4LNM2**

COURSE TITLE : Basics of Biotechnology **QN.NO : 9628**

TIME : 3 Hours **MAX.MARKS :75**

PART – A (10 x 1 = 10)

Answer all Multiple choice questions by choosing the correct option.

1. Who is regarded as the father of tissue culture?
   a) Harrison b) Arnold c) Ross d) Roux
2. In which year, dolly the first mammalian clone was born?
   a) 1995 b) 1997 c) 1996 d) 1998
3. The process of expression of foreign gene in a plant is called_____.
   a) Gene expression b) Conjugation
   c) cell hybridization d) Genetic transformation
4. Who is the father of plant tissue culture_____?
   a) Alexander flemming b) C.Haberlandt
   c) Karry mullis d) Robert koch
5. Which of the following is produced by fermentation of milk?
   a) Sauerkraut b) Yogurt c) Tem peh d) Idly
6. *Spriluna* is a _____.
   a) Biopesticide b) biofertilizer
   c) edible fungus d) Single cell protein
7. Which one of the following treatment involves oxidation of organic constituents of the waste water?
   a) Primary treatment b) Secondary treatment
   c) tertiary treatment d) preliminary treatment
8. The use of living microbes to degrade environmental pollutants is called
   a) Microremediation b) Bioremediation
   c) Fermentation d) Biodeterioration
9. The most foods derived from genetically modified crops contain
   a) Same number of genes as food produced from crops
   b) Same number of genes as foods produced from hybrid crops
   c) one or two additional genes d) no genes at all
10. What is the classification of biosafety level I laboratory?
    a) Involve with no infectious bacteria
    b) lab activities considered low risk to community
    c) involve any infectious disease bacteria
    d) both a and b

Contd…

PART – B **(5x 7=35)**

Answer all questions by choosing either (a) or (b).

11. a) Explain briefly about the History and scope of Animal biotechnology.

(OR)

b) Enlist the guidelines proposed by DBT on Biotechnology industry in India.

12. a) Microinjection is the best tool for gene transfer - Justify.

(OR)

b) Illustrate the Electroporation technique and its merits.

13. a) Write a notes on Microbial fermentation process of Butter milk.

(OR)

b) Mention the process involved in Idly preparation.

14. a) Add a brief note on the methods of Secondary treatment of Waste water.

(OR)

b) Describe about the Bioremediation of oil spills by *Pseudomonas putida*.

15. a) Give short notes on Ethical issues related to genetically modified organisms.

(OR)

b) What is Biosafety? Write short note on objectives and protocol of the Biosafety.

PART – C **(3x10=30)**

Answer any THREE questions.

16. Give a detailed account on transgenic animal with reference to Dolly.

17. Explain about Transgenic plants with suitable examples and its applications.

18. Elaborate the steps involved in Cheese production in food industry.

19. Write in detail about Biogas production and its advantages.

20. Discuss about the process of genetically modified food production and its effects.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., **COURSE CODE : 20U1TLA1**
COURSE TITLE : Tamil – I **QN.NO : 10101**
TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	நெஞ்சை அள்ளும் நூல் எது? அ) சிலப்பதிகாரம் ஆ) சீவகசிந்தாமணி இ) மணிமேகலை ஈ) வளையாபதி
CLO 1	2	2	'ஊனமறு நல்லழகே' என்று பாரதியால் புகழப்படுவர் அ) பராசக்தி ஆ) செல்லம்மா இ) கண்ணம்மா ஈ) சகுந்தலா
CLO 2	1	3	கவிஞர் தாமரையின் 'ஒரு கதவும் கொஞ்சம் கள்ளிப்பாலும்' குறிப்பிடும் வாழ்வு எத்தகையது? அ) நலவாழ்வு ஆ) துன்ப வாழ்வு இ) புலம்பெயர் வாழ்வு ஈ) குடும்ப வாழ்வு
CLO 2	2	4	பசுவய்யா என்ற புனைப்பெயரில் கவிதை எழுதியவர் அ) சுஜாதா ஆ) சுந்தரராமசாமி இ) அனுராதா ரமணன் ஈ) அ. ராமசாமி
CLO 3	1	5	உளவியல் அடிப்படையில் சிறுகதைகளைப் படைத்தவர் அ) புதுமைப்பித்தன் ஆ) கு.ப. ராஜகோபாலன் இ) வல்லிக்கண்ணன் ஈ) ந. பிச்சமூர்த்தி
CLO 3	2	6	அறிஞர் அண்ணா எழுதிய 'செவ்வாழை' கதையின் மையக்கருத்து அ) ஏழையின் ஏக்கம் ஆ) முதலாளித்துவம் இ) தொழிலாளர் உரிமை ஈ) ஆண்டான் அடிமைச் சுரண்டல்
CLO 4	1	7	வசனகவிதை மரபை தமிழில் தொடங்கி வைத்தவர் அ) பாரதி ஆ) பாரதிதாசன் இ) சுரதா ஈ) பிச்சமூர்த்தி
CLO 4	2	8	திராவிடப் படைப்பாளியாக அறியப்படுவர் அ) கு.ப.ரா ஆ) வ.வே.சு. ஐயர் இ) அறிஞர் அண்ணா ஈ) மௌனி
CLO 5	1	9	பண்புத்தொகையில் வல்லெழுத்து _____ அ) மிகும் ஆ) மிகாது இ) இணையும் ஈ) இணையாது
CLO 5	2	10	எந்த உரிச்சொல்லின் முன்வரும் வல்லினம் மிகும். அ) போல, புரைய ஆ) நனி, உரி இ) சாலா, தவ ஈ) பல, பல
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	குழவிகளின் பேச்சை விட சிறந்தது எது?
CLO 2	2	12	தேசப்படத்திலுள்ள கோடுகள் எவை?
CLO 3	1	13	மனிதன் நாக்கை இழப்பதால் பெறும் உணர்வு மாற்றங்களைக் குறிப்பிடுக.
CLO 4	2	14	ஹைக்கூ - பொருள் கூறுக.
CLO 5	2	15	காற்புள்ளியின் பயன்பாட்டிற்குச் சான்று தருக.

பி.ப.பா...

			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	அ) செந்தமிழ் நாட்டின் பெருமைகள் யாவை? சுட்டுக. **(அல்லது)** ஆ) பெண்ணுக்கசு நீதியாக, பாரதிதாசன் கூறும் செய்திகள் யாவை?
CLO 2	3	17	அ) கவிஞர் தாமரை வெளிப்படுத்தும் அகதியின் மனவுணர்வுகளைக் குறிப்பிடுக. **(அல்லது)** ஆ) அம்மாவின் பெருமைகளை, கவிஞர் ஏகாதேசியின் பாடல் வழி விளக்குக.
CLO 3	3	18	அ) ஒடுக்கப்பட்ட நீதியின் குரல் 'நாக்கு' சிறுகதை – விளக்கம் தருக. **(அல்லது)** ஆ) 'குழந்தைகளின் மாய உலகம் கதவு' – கி.ராவின் கதை கொண்டு விளக்குக.
CLO 4	4	19	அ) புதுக்கவிதை வளர்ச்சிக்கு உதவிய மூவிதழ்களின் பங்கினைச் சுட்டுக. **(அல்லது)** ஆ) சிறுகதையின் பண்புகளைக் குறிப்பிடுக.
CLO 5	3	20	அ) வல்லினம் மிகும் இடங்களை எடுத்துக்காட்டுகளுடன் எழுதுக. **(அல்லது)** ஆ) ல, ள, ழ வேறுபாடுகளைச் சான்றுகளுடன் பொருத்திக் காட்டுக.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	பாரதிதாசன் கவிதையில் காணலாகும் தொழிலாளர் இன்னல்கள் யாவை?
CLO 2	3	22	காதல் புனைவுகளை மீரா தனது கவிதைகளில் பகடி வடிவில் எங்ஙனம் விளக்குகிறார்? விவரிக்க.
CLO 3	4	23	நாட்டுப்புறக் கலைஞர்களின் வாழ்வியலை சினிமா சிதைத்துவிட்டது என்பதை புலிக்கலைஞன் கதை மூலமாக நிறுவுக.
CLO 4	3	24	தமிழில் புதுக்கவிதை தோன்றி, பன்முகமாக வளர்ந்த நிலைகளை விவரிக்க.
CLO 5	4	25	இன்றைய இளைஞர்களின் பாடுகளையும், பயணங்களையும் மையமிட்டு சிறுகதை ஒன்றினைப் படைக்க.

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THE MADURA COLLEGE (Autonomous), MADURAI – 625 011

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SEMESTER EXAMINATIONS –APRIL2021

PROGRAMME: B.A., / B.Sc., **COURSECODE: 20U2TLA2**

COURSE TITLE : Tamil –II **QN.NO : 10102**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	மான் குட்டியைக் கையில் கொண்டவன் யார்? அ) சிவபெருமான் ஆ) திருமால் இ) இந்திரன் ஈ) வருணன்
CLO 1	2	2	தன் ஈரடியால் மூவுலகளந்த அவதாரம் எது? அ) இராமன் ஆ) பரசுராமன் இ) வாமன் ஈ) கல்கி
CLO 2	1	3	கிளியின் பெயர் கொண்டவள் யார்? அ) அங்கயற்கண்ணி ஆ) பதுமை இ) கேமசரி ஈ) காந்தருவதத்தை
CLO 2	2	4	தொல்காப்பியரின் 'வனப்பு' என்பதன் இலக்கியமாக அமைந்த நூல் எது? அ) பள்ளு ஆ) மடல் இ) உலா ஈ) தூது
CLO 3	1	5	ஔவைக்கு அரிய நெல்லிக்கனியை ஈந்தவர் யார்? அ) பாரி ஆ) கபிலர் இ) அதியமான் ஈ) ஓரி
CLO 3	2	6	மூன்றாம் உலகப்போர் எப்போது தொடங்கியது என புவியரசு கூறுகிறார்? அ) பார்த்தீனியம் தூவப்பட்டபோது ஆ) வறுமை வளர்ந்த போது இ) நகரமயமான போது ஈ) தொழிற்சாலை பெருகிய போது
CLO 4	1	7	திருமறைக்காட்டில் கதவு திறக்கப் பதிகம் பாடியவர் ----------. அ) திருஞானசம்பந்தர் ஆ) அப்பர் இ) சுந்தரர் ஈ) மாணிக்கவாசகர்
CLO 4	2	8	சிற்றிலக்கியங்களின் எண்ணிக்கை யாது? அ) 76 ஆ) 86 இ) 96 ஈ) 106
CLO 5	1	9	பெயர்ச்சொல்லின் வகைகளைத் தேர்க. அ) 6 ஆ) 8 இ) 10 ஈ) 12
CLO 5	2	10	'மருக்கொழுந்து நட்டான்' என்பது எந்த ஆகுபெயருக்கான சான்று? அ) முதலாகுபெயர் ஆ) காலவாகுபெயர் இ) சினையாகுபெயர் ஈ) இடவாகுபெயர்
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	எருதை வாகனமாக உடையவன் யார்?
CLO 2	2	12	புரணிக்கோர் செயங்கொண்டார் எனப் புகழ்ந்தவன் யார்?
CLO 3	1	13	புதிய சிந்தனைகளைப் பாரதியார் எவ்வெவற்றில் அமைத்துக்கொண்டார்?
CLO 4	2	14	இடைக்கால இலக்கியங்களுக்கு ஒரு சான்று தருக.
CLO 5	2	15	தற்சமம் என்பது யாது?

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			PART – C (5 x 5=25) **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	அ) அருங்கலம் என்றால் என்ன? அப்பர் சுட்டும் அருங்கலங்களை விளக்குக. **(அல்லது)** ஆ) நீங்காத செல்வம் நிறைய கோதை கூறும் வழிகள் யாவை?
CLO 2	3	17	அ) குறத்தி மலைவளம் பற்றிக் கூறியன யாவை? **(அல்லது)** ஆ) அபிராமி பட்டரின் பக்தியைக் கூறுக
CLO 3	3	18	அ) 'பாரதி புதுமையாளர்' என்பதற்குத் தொ.பரமசிவன் தரும் கருத்துக்களைக் கூறுக. **(அல்லது)** ஆ) கம்பன் கண்ட கைகேயி விளக்குக.
CLO 4	4	19	அ) பாவையும் கோவையும் பாடிய மணிவாசகர் திறத்தினை விளக்குக. **(அல்லது)** ஆ) சிற்றிலக்கியங்களில் பிள்ளைத்தமிழ் நூல்களை விளக்குக.
CLO 5	3	20	அ) அறுவகைப்பெயர்ச்சொற்களைக் கூறுக. **(அல்லது)** ஆ) ஆகுபெயரின் இலக்கணம் வகைகளை எடுத்துரைக்க
			PART – D (3 x 10 = 30) **Answer any THREE questions.**
CLO 1	2	21	திருவைந்தெழுத்தின் பெருமைகளை நீவிர் அறிந்தவற்றை விளக்குக.
CLO 2	3	22	அபிராமி பட்டரின் சக்தி வழிபாட்டு நிலைகளை விவரிக்க.
CLO 3	4	23	அடியார்களைப் போற்றிய ஆழ்வார் என்னும் அணுகு முறையில் குலசேராழ்வாரைக் கட்டுரைக்க.
CLO 4	3	24	சைவத்தின் தோற்றமும் வளர்ச்சியும் குறித்துத் தருக்க முறையில் கட்டுரை வரைக.
CLO 5	4	25	வினைமுற்றின் வகைகளைச் சான்றுகளுடன் பொருத்திக் காட்டுக.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., (PA,B&I,CM) **COURSECODE: 20U2TLK2**

COURSE TITLE : TAMIL II **QN.NO :10122**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	அகவன் மகள் என்பவர் யார்? அ) தலைவி ஆ) தோழி இ) குறத்தி ஈ) செவிலி
CLO 1	2	2	உமணர் என்பது யாரைக் குறிக்கும் அ) வேடர் ஆ) காடர் இ) உப்புவணிகர் ஈ) எயினர்
CLO 2	1	3	மக்கள் இடம்பெயராத ஊர் எது? அ) மதுரை ஆ) வஞ்சி இ) காஞ்சி ஈ) புகார்
CLO 2	2	4	இருநிதிக்கிழவன் என்பவன் யார்? அ) கதிரவன் ஆ) சந்திரன் இ) குபேரன் ஈ) கோவலன்
CLO 3	1	5	மதுரை மாநகர் எந்தப்பூவின் வடிவத்தில் அமைக்கப்பட்டுள்ளது? அ) மல்லிகை ஆ) முல்லை இ) செவ்வந்தி ஈ) தாமரை
CLO 3	2	6	தமிழ்த்திணையியல் கோட்பாட்டின் முதற்படி என்ன? அ) முதற்பொருள் ஆ) கருப்பொருள் இ) உரிப்பொருள் ஈ) திணைப்பொருள்
CLO 4	1	7	புத்துப்பாட்டில் ஆற்றுப்படை நூல்கள் எத்தனை? அ) 4 ஆ) 5 இ) 6 ஈ) 7
CLO 4	2	8	முதன்முதலாகக் கதைத்தலைவியன் பெயரால் அமைந்த காப்பியம் அ) சிலப்பதிகாரம் ஆ) மணிமேகலை இ) சீவகசிந்தாமணி ஈ) குண்டலகேசி
CLO 5	1	9	இரண்டு சொற்கள் சேரும்பொழுது இடையே ஒற்றெழுத்து மிகுதல். அ) உயிர்மிகுதல் ஆ) உயிர்மெய்மிகுதல் இ) வல்லினம் மிகுதல் ஈ) மெல்லினம் மிகுதல்
CLO 5	2	10	வருமொழியில் தகர ஒற்று (த்) இருந்தால் அங்கே எந்த ஒற்று மிகும். அ) க் ஆ) ச் இ) த் ஈ) ப்
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	தாமரையின் தேனினை எடுத்துச்சென்றது எது?
CLO 2	2	12	மதிமுகமடவார் இச்சொல்லிற்கான இலக்கணக் குறிப்புத் தருக.
CLO 3	1	13	பழையர் மகளிர் கொற்கைக் கடலில் எவற்றைக் கொண்டு கடல் தெய்வத்தை வணங்கினர்?
CLO 4	2	14	அகநானூற்றின் பிரிவுகள் யாவை?
CLO 5	2	15	ண, ந, ன ஒற்றுகளை எப்படி அழைப்பர்?

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			PART – C (5 x 5=25) **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	அ) மாமூலனாரின் பாடலின் கருத்துவழி உள்ளக்குறிப்புப் பொருளைக் கூறுக. **(அல்லது)** ஆ) சான்றோர்களின் சோர்வில்லா உள்ளப்பாங்கினை விளக்குக.
CLO 2	3	17	அ) இளங்கோவின் உளப்பாங்கினை மங்கல வாழ்த்து வழிப் பதிவு செய்க. **(அல்லது)** ஆ) மங்கல வாழ்த்தில் இடம்பெறுபவை அக்கால மாந்தர்களின் செய்கைகளே என நிறுவுக
CLO 3	3	18	அ) முத்துக்களின் சிறப்பு பற்றி அகநானூறு குறிப்பிடுவனவற்றை வரிசைப்படுத்துக. **(அல்லது)** ஆ) வைகை வெளியில் நடந்த தொல்லியல் ஆய்வுகள் பற்றிக் குறிப்பு வரைக.
CLO 4	4	19	அ) சேரமன்னர்களின் பெருமைகளைப் பதிற்றுப்பத்து வழி எழுதுக. **(அல்லது)** ஆ) மணிமேகலைக் காப்பியத்தில் இடம்பெறும் கிளைக்கதைகள் குறித்து எழுதுக.
CLO 5	3	20	அ) தொகைநிலைத்தொடரில் வல்லினம் மிகும் இடங்களை வரிசைப்படுத்தி எழுதுக. **(அல்லது)** ஆ) சில லகர - ளகர - ழகரச் சொற்களையும் அவற்றிற்குரிய பொருள்களையும் வரிசைப்படுத்துக. (அல்லது)
			PART – D (3 x 10 = 30) **Answer any THREE questions.**
CLO 1	2	21	கபிலரின் பாடலை விளக்கி, அதில் காணலாகும் தொனிப்பொருளை விவரிக்க.
CLO 2	3	22	இளங்கோவடிகள் காட்டியது பழந்தமிழர் திருமணமுறைதான் என்று நிறுவுக.
CLO 3	3	23	பழந்தமிழரின் கலைத்திறன் குறித்துப் பேராசிரியர் தொ.பரமசிவன், "மீனாட்சிப்பட்டினம்" எனும் கட்டுரையில் எங்ஙனம் விளக்கியுள்ளார்?
CLO 4	3	24	எட்டுத்தொகை நூல்கள் தன்னுணர்ச்சிப்பாக்கள் என்பதனை ஆராய்க.
CLO 5	4	25	இன்றைய சூழலில் -ணகர - நகர - னகர மற்றும் ரகர - றகர வேறுபாடுகளை அறிவதற்கான தேவை ஆராய்க.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.A., / B.Sc., **COURSE CODE : 20U1HLA1**

COURSE TITLE : Hindi – I **QN.NO : 10151**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	लिंग बदलो : मामा – (मामी, रानी, नानी, बेटी)
CLO 1	2	2	8 : ..... – (आठ, नौ, साठ, औठ)
CLO 2	1	3	वे राम ..... सहायता करेंगे। (कि, के, को, की)
CLO 2	2	4	शेर ..... जानवर है। (पालतू, जंगली, घर, वन)
CLO 3	1	5	They live in new house (वे नए घर में रहते हैं, वे पुराने घर में रहते हैं, वह घर में रहते है, वह घर में रहती है)
CLO 3	2	6	I drink tea (मैं चाय पीता हैं, मैं चाय पीती हूँ, वह चाय पीते हैं, वह चाय पीती है)
CLO 4	1	7	चाँद – (चंद्रमा, सूरज, आकाश, पाताल)
CLO 4	2	8	रात – (रात्रि, दिन, दोपहर, सुबह)
CLO 5	1	9	South : ..... (दक्षिणी, दक्षिण, उत्तर, पश्चिम)
CLO 5	2	10	तुम कहाँ रहते हो? (मैं समुद्र में रहता हूँ। मैं घर में रहता हूँ। मैं आकाश मे रहता हूँ। मैं पाताल में रहता हूँ)
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	लिंग बदलो : कुमार, वर
CLO 2	2	12	वाक्य में प्रयोग करो : अपयोगी, पालतू
CLO 3	1	13	अनुवाद करो : a. They come from Calcutta. b. Keep the book on the table.
CLO 4	2	14	समानर्थी शब्द लिखिए : चाँद, सूरज
CLO 5	2	15	a. राम कहाँ जा रहा है? b. वह क्या करता है?
			PART – C (5 x 5=25) **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a. 1 से 10 लिखकर उदाहरण के साथ स्पष्ट कीजिये। या **(OR)** b. अ से अः तक लिखकर हर एक अक्षर के लिए एक शब्द लिखिए।
CLO 2	3	17	a. गणेशजी के बारे में 5 वाक्य लिखिए। या **(OR)** b. हमारे देश के बारे में पाँच वाक्य लिखिए।

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CLO 3	3	18	a. तमिलनाडु में गणेश पूजा कैसे मनाया जाता है। या **(OR)** b. गाय के बारे में पाँच वाक्य लिखिए।
CLO 4	4	19	a. तिरुवल्लुवर के बारे में पाँच वाक्य लिखिए। या **(OR)** b. मदुरै के बारे में पाँच वाक्य लिखिए।
CLO 5	3	20	a. ऋतुओं के नाम लिखो। या **(OR)** b. दिशाओं के नाम लिखो।
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	**वचन बदलो** : लडका, बच्चा, घोडा, कमरा, कपडा, बहन, गाय, औरत, किताब, दीवार
CLO 2	3	22	**लिंग को पहचान कीजिये** : लडकी, लडका, गाय, कुत्ता, नर, बेटा, हथिनी, माता, बेटी, नाना
CLO 3	4	23	**शुद्ध कीजिये** : a. तुम तुम्हारा नाम बोलो। b. हम जाना चाहिए। c. राम फल खाना चाहिए। d. मैं खेलना चाहिए। e. मैं बाजार को जाऊँगा। f. मैं काम करना है। g. हम हमारे घर जाते हैं। h. मैं मेरा काम करता हूँ। i. राम खाती है।
CLO 4	3	24	गंगा और यमुना में कैसे हमेशा पानी बहता है?
CLO 5	4	25	**संबंध कीजिये** : 1. गंगा ... नेता 2. गाँधीजी ... भगवान 3. गणेशजी ... नदी 4. बाजार ... देश 5- भारत ... फल

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., **COURSE CODE : 20U2HLA2**
COURSE TITLE : Hindi - II **QN.NO : 10152**
TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	Well को हिन्दी में क्या कहते हैं। (नल, बालटी, कुआँ, नदी)
CLO 1	2	2	Applicant को हिन्दी में क्या कहते हैं। (आवेदन, आवेदक, संबोदन, प्रेषक)
CLO 2	1	3	शिकारी ने शेर के पास क्या भेजा? (मामा, कछुआ, बकरी, धनुष)
CLO 2	2	4	दर्जी का दूकान कहाँ था? (सडक के किनारे, घर के सामने, मंदिर के पीछे, मैदान के आगे)
CLO 3	1	5	किसको भारती कोकिला की उपाधि दी गई? (गोखले, विद्यासागर, सरोजिनी, इन्दिरा)
CLO 3	2	6	भारत की राष्ट्रगान किसने की? (गाँधीजी, नेहरू, सरोजीनी, ठाकुर)
CLO 4	1	7	मदुरै कहाँ स्थित है? (तमिलनाडु, चेन्नई, मुंबई, दिल्ली)
CLO 4	2	8	कम्प्यूटर का आविष्कार किसने किया? (भारती, ठाकर, सी.वी.रामन, बेबेज)
CLO 5	1	9	Friday को हिन्दी में क्या कहते हैं? (शनिवार, शुक्रवार, रविवार, बुधवार)
CLO 5	2	10	**உலகின் தலைசிறந்த அற நூல் எது?** **(திருக்குறள், திருவெம்பாவை, திருப்பதிகம், திருவருட்பா)**
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	किसने कुएँ में क्या देखा?
CLO 2	2	12	ईद के चाँद का अर्थ क्या है?
CLO 3	1	13	विद्यासागर का पूरा नाम लिखिए।
CLO 4	2	14	कुत्ता पुल मे जाते समय क्या देखा?
CLO 5	2	15	रवीन्द्रनाथ ठाकुर के पिता का नाम क्या है?
			PART – C (5 x 5=25) **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) छुट्टी पत्र का एक नमूना दीजिये। **(OR)** b) किसान रस्सा और बाल्टी के साथ क्या किया?

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CLO 2	3	17	a) शिकारी ने शेर से क्या कहा? **(OR)** b) फकीर ने बादशाह से क्या कहा?
CLO 3	3	18	a) विद्यासागर के बारे में पाँच वाक्य लिखिए? **(OR)** b) गोपालकृष्ण गोखले के जीवन पर प्रकाश डालिए।
CLO 4	4	19	a) दीपावली त्योहार पर एक लेख लिखिए। **(OR)** b) मदुरै पर अपना विचार प्रकट कीजिए।
CLO 5	3	20	a) दिनों का नाम हिन्दी में लिखिए। **(OR)** b) तमिल भाषा के बारे में पाँच वाक्य लिखिए।
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	मैनेजर पद के लिए एक आवेदन पत्र लिखिए।
CLO 2	3	22	लालची कुत्ता कहानी को अपने शब्दों में प्रकट कीजिए।
CLO 3	3	23	गद्यांश को पढ़कर निम्नलिखित प्रश्नों के उत्तर लिखिए। एक मुसाफिर कडी धूप में कहीं जा रहा था। वह एक आम के पेड के नीचे आराम करने बैठा। पेड पर छोटे छोटे कच्चे आम थे। सामने जमीन पर एक बेल में बडे बडे कुम्हडा फैले हुए थे। मुसाफिर ने सोचा खुदा के काम कैसे अजीब होते हैं। इतने बडे मोटे पेड पर इतने छोटे फल। लयेकिन पतली छोटी बेल में बडे और भारी कुम्हडे लगें हैं। 1. मुसाफिर कहाँ आराम करते थे? 2. पेड के सामने क्या थे? 3. मुसाफिर ने क्या सोचा? 4. कुम्हडा का अर्थ अंग्रेजी में लिखिए। 5. कुम्हडा कैसे लगे थे?
CLO 4	3	24	कम्प्यूटर के प्रयोग पर अपना राय प्रकट कीजिये।
CLO 5	4	25	**உலகத் தமிழ்ச் செம்மொழி மாநாடு பற்றி குறிப்பு வரைக.**

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., **COURSE CODE: 20U2SLA2**

COURSE TITLE : Sanskrit II **QN.NO : 10172**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	Author of Sivalilarnavam is _____ a) Murari b) Nialakantha Diksita c) Kalidasa d)Krishna
CLO 1	2	2	स्वर is _____ a)Anuswara b) Vowel c) Consonant d) Sparsha
CLO 2	1	3	Author of sabharanjanasatakam is _____ a) Bana b) Nialakantha Diksita c) Kalidasa d)Bhoopala
CLO 2	2	4	Date of Appayya Dishita ___ Century AD – a) 13th b) 17th c) 16th d) 18th
CLO 3	1	5	यश: is _____ a) Fame b) King c)Teacher d)Sleep
CLO 3	2	6	Hamsasandesa was written by – a) Vedanta deshika b) BhartruHari c) Kalhana d) Jayadeva
CLO 4	1	7	Kumarasambava has ___ cantos. a)17 b)19 c) 25 d) 18
CLO 4	2	8	Date of Sankaracharya ____ Century AD. a) 8th b) 10th c) 12th d) 11th
CLO 5	1	9	Ashtapadi was written by a) Vedanta deshika b) BhartruHari c) Jayadeva d) Narayanateertha
CLO 5	2	10	Naishadam was written by a) Magha b) Kalidasa c) Sriharsha d) Dhanajeya
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Translate into English/Tamil भार्या ज्येष्ठा शिशु: श्याल: स्वातन्त्रयवर्तिनी । श्वशुरस्तु प्रवासीति जामातर्भाग्यधोरिणी ॥
CLO 2	2	12	Name the five vital relations in Kali Era.
CLO 3	1	13	Translate into English/Tamil पाषाणा: सर्वं एवैते पद्मरागेषु को गुणा: । प्रकाश: कश्चिद्त्रास्ते परत्र स न विद्यते ॥
CLO 4	2	14	What is the remedy for Poverty in KaliEra
CLO 5	2	15	Write a note on Kumarasambhava

Contd…

			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Annotate (ERC) कियती तत्र वर्णना । **(OR)** b) Annotate (ERC) भिषजां भाग्य हेतव: ।
CLO 2	3	17	a) Annotate (ERC) पञ्च प्राणा इमेऽपरे । **(OR)** b) Write a note on Tamil as Semmozhi
CLO 3	3	18	a) Annotate (ERC) अहो ज्ञानं महाधनम् । **(OR)** b) Annotate (ERC) कालमेघ इति स्तुति:।
CLO 4	4	19	a) Discuss the classification of Lyric poems **(OR)** b) Discuss Magha's Shishupalavadam
CLO 5	3	20	a) Write a note on Bhartru Hari **(OR)** b) Write a note on SriHarsha
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Give an account on Kalividambanam
CLO 2	3	22	Discuss Wisdom of Sabahranjanasatakam in detail
CLO 3	3	23	Give an account on Pancha Mahakavyas
CLO 4	3	24	Give an Account on Nilakanta Dikshita and his works
CLO 5	4	25	Elucidate Bhakti Kavyas in Detail

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., **COURSE CODE: 20U2SLK2**
COURSE TITLE : SANSKRIT –II A **QN.NO : 10182**
TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	Vedanta is _____ a) Samhita b)Brahmanam c) Upanisad d) Puranam
CLO 1	2	2	Vowels in Sanskrit Language _____ a)12 b) 13 c) 15 d) 20
CLO 2	1	3	खाद् = a)To Play b) To Eat c) To Read d) to sit
CLO 2	2	4	Gender of मन्दिरम् – a)Male b)Female c) Neuter d) None of these
CLO 3	1	5	Meaning of सा: – a)He b) They c)She d)None of these
CLO 3	2	6	Mahabharata has ____ parvas. a)13 b)19 c)18 d) 20
CLO 4	1	7	Nyaya _____ a) Panini b) Goutama c) Patanjali d) Kanada
CLO 4	2	8	कृष्णद्वैपायन (Krishnadvaipayana) - a)Vyasa b)Panini c) Valmiki d) Kalidasa
CLO 5	1	9	99 = a) नवतिः b) एकोनशतम् c)षड् d)विंशति:
CLO 5	2	10	Jayam is connected with - a)Ramayana b)Mahabharata c) Kavya d) Padya
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Write the classification of Sanskri Letters
CLO 2	2	12	Name the two Itihasas with their authors
CLO 3	1	13	Name the Adikavyam and its author
CLO 4	2	14	Name the three stages of developments of Mahabharata
CLO 5	2	15	Write a sentence on Sanskrit Future Tense with meaning

Contd…

			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Write a note on Sutra Period **(OR)** b) Discuss any one stage of Mahabharata briefly
CLO 2	3	17	a) Make Sentences अलम् & अपि **(OR)** b)छायामन्यस्य कुर्वन्ति स्वयं तिष्ठन्ति चातपे । फलन्ति च परार्थेषु नात्महेतुर्महाद्रुमा: ॥
CLO 3	3	18	a) Trace the origin of Ramayana. **(OR)** b) Translate Sankhya - Numbers 51-55 into Sanskrit
CLO 4	4	19	a) Write a note on HariVamsa **(OR)** b) Translate into Sanskrit (लट् LakaraH) अध्यापक: भवत: उपरि कोपं करिष्यति।
CLO 5	3	20	a) Translate into Sanskrit (Lrut LakaraH) 1. Soon he will be leaving the village. 2. We will go there tomorrow. **(OR)** b) Write a note on HariVamsa
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Discuss the work of Veda Vyasa in Detail
CLO 2	3	22	Write an account on Adikavyam in Classical period of Sanskrit Literature
CLO 3	3	23	Discuss Epic Literature in detail
CLO 4	3	24	Translate into Sanskrit (Future Tense - Lrut LakaraH) 1. The boy will read the lesson. 2. They will play with the ball tomorrow evening. 3. We will serve our country sacrificing our lives. 4. He will sometimes cook the food properly. 5. The father will not be in the home.
CLO 5	4	25	Give an account on Sanskrit Letters / Aksharam in Detail

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SEMESTER EXAMINATIONS –APRIL 2021

PROGRAMME: B.A., Tamil **COURSE CODE : 20U2TMC3**

COURSE TITLE : அற இலக்கியம் **QN.NO : 10204**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	பகுதி – I (10 x 1 = 10) அனைத்து வினாக்களுக்கும் சரியான விடைத் தேர்ந்தெடுத்து எழுதுக.
CLO 1	1	1	குருத்தின் கரும்புக்கு நிகரானது அ) கற்றவர் கேண்மை ஆ) உற்றவர் கேண்மை இ) செற்றவர் கேண்மை ஈ) மற்றவர் கேண்மை
CLO 1	2	2	ஐவாய வேட்கை எது? அ) ஐம்பூதம் ஆ) ஐங்கவ்வியம் இ) ஐம்பொறி ஈ) ஐயம்
CLO 2	1	3	வானம் வழங்காவிட்டால் தங்காதனவற்றைத் தேர்க. அ) சிறப்பு, பூசனை ஆ) ஒழுக்கம், பசி இ) தானம், தவம் ஈ) கடல், குளம்
CLO 2	2	4	வரிசைப்படுத்துக. அ) ஒளி ஊறு ஓசை சுவை நாற்றம் ஆ) சுவை ஒளி ஊறு ஓசை நாற்றம் இ) சுவை ஊறு ஓசை ஒளி நாற்றம் ஈ) ஊறு ஓசை நாற்றம் சுவை ஒளி
CLO 3	1	5	கடுமொழியாளர் தொடர்பு எதனைத் தரும் அ) துன்பம் ஆ) நன்மை இ) அன்பு ஈ) அறம்
CLO 3	2	6	இன்னா நாற்பது திரிகடுகம் சிறுபஞ்சமூலம் – இதற்குப் பொருத்தமான எண்களைத் தேர்க. அ) 3, 4, 5 ஆ) 4, 3, 5 இ) 5, 4, 3 ஈ) 4, 5, 3
CLO 4	1	7	நன்றிக்குப் புலவர் உவமிக்கும் மரத்தைத் தேர்க. அ) வேம்பு ஆ) முருங்கை இ) மருதம் ஈ) தென்னை
CLO 4	2	8	பொருத்தமான இணையைத் தேர்க. அ) நெல் – பனை ஆ) பனை – தென்னை இ) நெல் – புல் ஈ) நெல் - கரும்பு
CLO 5	1	9	_____ தன்வாயால் கெடும் அ) தவளை ஆ) தேரை இ) நுணல் ஈ) பல்லி
CLO 5	2	10	அடைய வேண்டியதாக ஏலாதி எதனைக் குறிப்பிடுகிறது? அ) செல்வம் ஆ) இறப்பின்மை இ) பிறவி ஈ) வீடு

			பகுதி - II (5 x 2=10) **அனைத்து வினாக்களுக்கும் விடையளிக்க.**
CLO 1	1	11	நான்மணிக்கடிகை – பொருள் விளக்கம் தருக.
CLO 2	2	12	தலைவியின் கண்களைப் பார்த்துத் தலைகவிழ்ந்தது எது? ஏன்?
CLO 3	1	13	ஆசாரக்கோவை - பெயர்க்காரணம் கூறுக.
CLO 4	2	14	எல்லோர்க்கும் மழை பொழிவது ஏன்? விளக்குக.
CLO 5	2	15	மரம் போக்கிக் கூலி கொண்டார் – பழமொழி உணர்த்தும் கருத்தை விளக்குக.
			பகுதி - III (5 x 5=25) **அனைத்து வினாக்களுக்கும் விடையளிக்க.**
CLO 1	2	16	அ) உள்ளக் குறிப்பினை அறிவது குறித்து நான்மணிக்கடிகைப் பாடல் கூறும் கருத்தினை புலப்படுத்துக. **(அல்லது)** ஆ) அறிவுப்பத்துச் செய்திகளை எடுத்துக் கூறுக.
CLO 2	3	17	அ) மழையின் இன்றியமையாமையை வள்ளுவர் வழி வெளிப்படுத்துக. **(அல்லது)** ஆ) இல்வாழ்வின் சிறப்புக்களைப் பகுத்துரைக்க.
CLO 3	3	18	அ) மாற்றம் அறியான் இயல்பினை இன்னா நாற்பது வழி விளக்குக. **(அல்லது)** ஆ) திரிகடுகம் ஆசாரக்கோவை நூல் குறிப்பு எழுதுக.
CLO 4	4	19	அ) மூதுரையில் உவமையால் புலப்படும் அறக்கருத்துக்களை வெளிக்கொணர்க. **(அல்லது)** ஆ) தெரியின் அறமே துணை – விவரிக்க.
CLO 5	3	20	அ) எளிது எவை? அரிது எவை? ஒப்பிட்டு உரைக்க. **(அல்லது)** ஆ) உலகின் உயர்வு குறித்துச் சிறுபஞ்சமூலம் கூறுவதைப் பாடலோடு எடுத்துரைக்க.
			பகுதி – IV (3 x 10=30) **எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக.**
CLO 1	2	21	இனியவை நாற்பது செய்திகளை விவரிக்க.
CLO 2	3	22	கேள்வி எது? அதன் சிறப்புக்களை வள்ளுவர்வழிப் பதிவு செய்க.
CLO 3	3	23	வாழ்வுக்கு உகந்த ஆசாரங்களைக் கோவைப்படுத்துக.
CLO 4	3	24	கல்வியின் சிறப்பை நீதிநெறி நின்று புலப்படுத்துக.
CLO 5	4	25	ஏலாதியின் பாடற் கருத்துக்களைப் புலப்படுத்துக.

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THE MADURA COLLEGE (Autonomous), MADURAI – 625 011

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., தமிழ் **COURSECODE : 20U2TMC4**
COURSE TITLE : நன்னூல் - சொல்லதிகாரம் **QN.NO : 10205**
TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	பகுதி – அ (10 x 1 = 10) அனைத்து வினாக்களுக்கும் சரியான விடைத்தேர்ந்தெடுத்து எழுதுக.
CLO 1	2	1	பகுபதமாகவோ, பகாப்பதமாகவோ ஒரு சொல் நின்று ஒரு பொருளைத் தருவது அ) தொடர்மொழி ஆ) பொதுமொழி இ) ஒருமொழி ஈ) இவற்றில் எதுவுமில்லை
CLO 1	1	2	செந்தமிழ் நாட்டில் வழங்கப்படும் சொல்..... அ) இயற்சொல் ஆ) திரிசொல் இ) திசைச்சொல் ஈ) வடசொல்
CLO 2	1	3	_____ என்பது தொகுதிப் பொருளைக் குறிக்கும். அ) திரிபு ஆ) தெரிநிலை இ) பிண்டம் ஈ) உருபுமயக்கம்
CLO 2	2	4	ஆல், ஆன், ஒடு, ஒரு என்பன பயின்று வரும் பொருண்மைகளைத் தேர்க. அ) உடன்நிகழ்வு , கருவி, கருத்தா ஆ) கருவி, கருத்தா, உடன்நிகழ்வு இ) செய்பவன், செயப்படுபொருள், உடனிகழ்வு ஈ) செய்யப்படுபொருள், உடனிகழ்வு, செய்பவன்
CLO 3	1	5	தொநிலையாகவும், குறிப்பாகவும் வரும் வினைச்சொற்கள் _____ வகைப்படும். அ) மூன்று ஆ) இரண்டு இ) நான்கு ஈ) ஐந்து
CLO 3	2	6	பெயர் கொண்டு முடியும் தன்மை வினைமுற்றுக்குச் சான்று அ) உண்டு வந்தேன் ஆ) காண்குயான் இ) உண்டனீர் ஈ) உண்மின்
CLO 4	1	7	வண்ணம், வடிவு, அளவு, சுவை என்னும் பண்புகளைப் பெற்று வருவது அ) அன்மொழித்தொகை ஆ) வினைத்தொகை இ) உம்மைத்தொகை ஈ) பண்புத்தொகை
CLO 4	2	8	வெண்திங்கள் - இதில் வெண் என்பது அ) இனமுள்ள அடைமொழி ஆ) இனமில்லா அடைமொழி இ) பண்பு அடைமொழி ஈ) சிறப்பு அடைமொழி
CLO 5	1	9	இடைச்சொல் எத்தனை வகைகளாகப் பிரிக்கப்படுகின்றன? அ) 8 ஆ) 6 இ) 4 ஈ) 3
CLO 5	2	10	உயிர்ப்பொருள், உயிரல்லா பொருள்களின் தொழிற்பண்பு அ) வளர் ஆ) ஈகை இ) அருள் ஈ) பொறை

பி.ப.பா...

			பகுதி – ஆ **(5 x 2=10)** **அனைத்து வினாக்களுக்கும் விடையளிக்க**
CLO 1	1	11	ஒருவர் என்னும் பெயருக்கான சிறப்பு விதியை எழுதுக?
CLO 2	1	12	ஏழாம் வேற்றுமைக்கான நூற்பாவை எழுதுக?
CLO 3	2	13	பெயரெச்ச வாய்பாடுகளைக் கூறுக
CLO 4	2	14	திணை வழு சான்று தருக
CLO 5	1	15	ஈரறிவு உயிர்களுக்கான நூற்பாவை எழுதுக?
			பகுதி – இ **(5 x 5=25)** **அனைத்து வினாக்களுக்கும் விடையளிக்க**
CLO 1	1	16	அ) இருவகை வழக்கின் வகைகளைச் சான்றுடன் விளக்கு? **(அல்லது)** ஆ) பெயர்ச்சொல்லின் இலக்கணத்தை வரையறுக்க
CLO 2	3	17	அ) இரண்டாம் வேற்றுமை உணர்த்தும் பொருட்களைச் சான்று விளக்குக **(அல்லது)** ஆ) உருபு மயக்கங்களைத் தெளிவுபடுத்துக.
CLO 3	4	18	அ) தெரிநிலை வினை, குறிப்பு வினை வகைப்படுத்தி விளக்குக? **(அல்லது)** ஆ) வினை எச்சம் வகைகளை வகைப்படுத்தி விளக்குக.
CLO 4	3	19	அ) தொகாநிலைத் தொடர்மொழிகளை வகைப்படுத்தி எழுதுக? **(அல்லது)** ஆ) எண்வகை விடைகளைச் சான்றுடன் விளக்கு?
CLO 5	2	20	அ) உயிர்ப்பொருள்களின் பண்புகளைக் குறிப்பிடுக **(அல்லது)** ஆ) அடிமறிமாற்றுப் பொருள்கோளைச் சான்றுடன் விளக்குக?
			பகுதி – ஈ **(3 x 10 = 30)** **எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக.**
CLO 1	2	21	ஆகுபெயர் - வகைகளைச் சான்றுடன் விவரிக்க?
CLO 2	3	22	விளி ஏற்கும் பெயர்கள் குறித்து கட்டுரைக்க?
CLO 3	4	23	வினையெச்ச வாய்பாடுகளையும் அவற்றுக்கு உரிய வினைச்சொற்களையும் ஒப்பிடுக?
CLO 4	3	24	தொகைகளின் வகைகளை எடுத்துக்காட்டுகளுடன் விளக்குக?
CLO 5	4	25	ஏகார, ஓகார என என்று இடைச்சொற்கள் உணர்த்தும் பொருள்களை பவணந்தி முனிவர் எங்ஙனம் எடுத்துரைக்கிறார்?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A தமிழ் **COURSECODE : 20U2TAC2**
COURSE TITLE : சிற்றிலக்கியம் **QN.NO : 10206**
TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	பகுதி – அ (10 x 1 = 10) அனைத்து வினாக்களுக்கும் சரியான விடைத்தேர்ந்தெடுத்து எழுதுக.
CLO 1	1	1	முத்தொள்ளாயிரத்தில் அமைந்துள்ள மொத்த பாடல்களின் எண்ணிக்கை? அ) 2700 ஆ) 3700 இ) 1700 ஈ) 4700
CLO 1	2	2	மருப்பூசி - ஓலை பொருத்துக. அ) வேல் -ஓலை ஆ) ஈட்டி -களம் இ) தந்தம் - மார்பு ஈ) இவை அனைத்தும்
CLO 2	1	3	நான்மறையைப் போற்றிப் பரவிய நாடாகக் கருதப்படுவது எது? அ) ஆரிய நாடு ஆ) தென்கரை நாடு இ) வடகரை நாடு ஈ) திராவிட நாடு
CLO 2	2	4	பிண்டி பாலம் - பொருள் உணர்த்துக. அ) கயிறு ஆ) ஆயுதம் இ) அணிகலன் ஈ) ஆடை
CLO 3	1	5	கிள்ளை விடு தூதுவில் எந்த மலையின் சிறப்புகள் மிகுதியாக இடம்பெற்றுள்ளன? அ) மருதமலை ஆ) அழகர் மலை இ) வெள்ளி மலை ஈ) கொல்லி மலை
CLO 3	2	6	தெள்ளு மணிவாயிற் செகமும் புறமம் காட்டிய நிகழ்வில் தொடர்புடைய இணையைத் தேர்க. அ) பலராமன்-யசோதை ஆ)கண்ணன்- யசோதை இ) பிரம்மன்- தேவகி ஈ) சிங்காத்திரி - தேவகி
CLO 4	1	7	ஆதி உலா என்று அழைக்கப்படுவது எது? அ) விக்கிரமசோழன் உலா ஆ) குலோத்துங்கசோழன் உலா இ) ஏகாம்பரநாதர் உலா ஈ) திருக்கயிலாய ஞான உலா
CLO 4	1	8	பாண்டிய மன்னனால் வளர்க்கப்பட்ட தமிழ்மொழி தவழ்ந்த மலை எது? அ) இமயமலை ஆ) மேரு மலை இ) பொதிகை மலை ஈ) வடமலை
CLO 5	1	9	முக்கூடற் பள்ளு நூலின் பாட்டுதை தலைவன் யார்? அ) உழவன் ஆ) நிலக்கிழார் இ) மூத்தபள்ளி ஈ) இளையபள்ளி
CLO 5	2	10	பகட்டு, கமலை - பொருத்துக அ) கருவி, ஆடம்பரம் ஆ) திருவடி, தாமரை இ) எருது , ஏர் உழும் கருவி ஈ) எருது, நீர் இறைக்கும் கருவி
			பகுதி – ஆ (5 x 2=10) **அனைத்து வினாக்களுக்கும் விடையளிக்க**
CLO 1	1	11	யானை நீட்டும் தன் கையை விளக்கிக்கூறுக
CLO 2	2	12	கரும்புகள் மண்ணில் புதைந்த காரணத்தைக் குறிப்பிடுக
CLO 3	1	13	திருமாலிருஞ்சோலையில் ஒலிக்கும் முரசுகள் யாவை?
CLO 4	2	14	சங்கம் வளர்ந்திட நின்ற பொலன் கொடி- விளக்குக.
CLO 5	2	15	ஈழ மின்னல், மலையாள மின்னல் விளக்கம் தருக.

பி.ப.பா...

			பகுதி – இ (5 x 5=25) **அனைத்து வினாக்களுக்கும் விடையளிக்க**
CLO 1	1	16	அ) குதிரை மறம் - விளக்குக. **(அல்லது)** ஆ) சேரனின் சினத்தைப் பாடல்வழியாகக் குறிப்பிடுக.
CLO 2	3	17	அ) கட்டுவிச்சி கூறும் குற்றால நாட்டின் இயற்கைச் சிறப்பினை விவரிக்க. **(அல்லது)** ஆ) மயாவித்தையை நிறுத்துமாறு பேய்க்ள வலியுறுத்தியதற்கான காரணத்தை வெளிப்படுத்துக.
CLO 3	2	18	அ) தலைவி கிளியை தூது அனுப்ப கூறிய காரணங்களை கூறுக. **(அல்லது)** ஆ) அழகரின் குணங்களை எடுத்துக்காட்டுக.
CLO 4	4	19	அ) தடாதகைப் பிராட்டியின் வீரத்தினை வெளிப்படுத்துக. **(அல்லது)** ஆ) இறைவன் உலாவருகையில் எண்திசை தேவர்களின் பணிகளை எழுதுக.
CLO 5	3	20	அ) மழை வரும் அறிகுறி தென்பட்டவுடன் உழவர்களின் செயல்பாட்டைக் காட்சிப்படுத்துக. **(அல்லது)** ஆ) நடுகையின் சிறப்பினைத் தொகுத்துரைக்க
			பகுதி – ஈ (3 x 10 = 30) **எவையேனும் மூன்று வினாக்களுக்கு மட்டும் கட்டுரை வடிவில் விடை தருக.**
CLO 1	2	21	பாண்டிய நாட்டின் வளத்தை விவரிக்க
CLO 2	3	22	தெய்வீக மணம் கமழும் குற்றால நாடு- இக்கூற்றைத் திறனாய்க.
CLO 3	3	23	அழகரின் பெருமைகளைத் தொகுத்துரைக்க.
CLO 4	4	24	பிள்ளைத் தமிழின் பருவங்களை பகுத்துரைக்க.
CLO 5	3	25	முக்கூடற்பள்ளுவில் மழையின் விளைவால் நிகழ்ந்த செயல்களைத் தொகுத்துரைக்க.

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No of Pages	3

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME:B.A., /B.Sc, **COURSE CODE : 20U1NEN1**
COURSE TITLE : English - I **QN.NO : 10301**
TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) **Answer all Multiple choice questions by choosing the correct option.**
CLO 1	1	1	Which of the following words is an example of an interjection? a) Soon b) When c) Ouch d) Within
CLO 1	2	2	I learnt my mother tongue by _____ a) listening b) talking c) speaking d) learning
CLO 2	1	3	some words are written in short forms They are called "……". a) tags b) contractions c) both d) none
CLO 2	2	4	Select the right part of speech of the given word' society '– a) noun b) verb c) adjective d) none
CLO 3	1	5	She is my..... Please come here, ...Carmel a) Aunt, aunt b) aunt,aunt c) Aunt,Aunt d) aunt,Aunt
CLO 3	2	6	They are building a new house,..... ? a) are they b) do they c) aren't they d) don't they
CLO 4	1	7	Which of the following words is an example of a conjunction? a) And b) Run c) Below d) Her
CLO 4	2	8	Choose the answer that names the part of speech of the capitalized word in the following sentence: The usher CLOSED the door. a) Noun b) pronoun c) Verb d) Adverb
CLO 5	1	9	Which of these is the best medium for advertisement? a) Television b) Newspapers c) Magazines d) Radio
CLO 5	2	10	A man plays a lover's role by busily a) exposing b) loving c) composing ballads d) none
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Did you have any difficulty in learning English? Why? Why not?
CLO 2	2	12	Write the singular or plural form of the words given below nations facilities method country
CLO 3	1	13	My college is arranging for a trip to Chennai () neethu -select proper punctuations.
CLO 4	2	14	Explain Email advertising.
CLO 5	2	15	Trace how is the man on the sixth stage?
			PART – C (5 x 5=25) **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Represent Irregular plurals with examples. **(OR)** b) Discover how adjectives can be used in three degrees.

Contd…

CLO 2	3	17	a) Give the singular or plural form of the words given below. Singular method country supplier material industry Plural nations facilities resources markets crops **(OR)** b) Weaker nations did not have education until stronger ones "gave" them education. Do you agree?
CLO 3	3	18	a) Frame questions so as to elicit the following answers. i) Paari is a doctor. (ii) This book costs 500 rupees. (iii) My grandmother told me this story. (iv) Alex is getting married on 5th June. (v) Harish visits his father once a week. **(OR)** b) Correct the following sentences. i) They are building a new house, weren't they? (ii) Where has been Anitha hiding? (iii) What a brilliant boy is Kannan! (iv) I do not liked fried meat. 55 TANII: CLIL Semester 1 (v) Do you think will computers replace printed books?
CLO 4	3	19	a) Construct newspaper advertising? **(OR)** b) Read the sentences about shops. Discover the best word (A–H) for each sentence? 0 You can buy aspirins and shampoo here. ..... 1 You can buy shorts and trousers here. ..... 2 You can buy meat here. ..... 3 You can buy fruit and vegetables here. ..... 4 You can send a parcel here. ..... 5 You can buy bread here. .....
CLO 5	4	20	**a)** Comment on Chapter 4Playing the Husband **(OR)** b) If human life is nothing but a 'tamasha', Discover what message does the poet want to convey to us ?
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	3	21	Find the Form ,Meaning and Use of the given words Imperialism and indigenous
CLO 2	2	22	Group the following words according to the pronunciation of the letter 'c'. nice cake policy education calendar culture spacing grimace challenge act panic pace pick cell colour
CLO 3	3	23	This extract has several punctuation mistakes. Locate the mistakes, correct them and write the corrected passage. i am afraid, that we have not been able, to contact, you by telephone My secretary called throughout the day yesterday at half hourly-interval's but was told that You were not available"! please contact Me personally as soon as possible. because we need to check a number of details in your order? you can reach me by telephone at any time this afternoon or tomorrow morning! Our office hours are from 8:30 a.m. to 5:00 p.m. you can leave a message for me, to call you back if necessary?

Contd…

CLO 4	3	24	1 Use the following cheque. Saravanan's mother K.S. Lakshmi needs an amount of Rs.2,000/- for her medical expenses at the Cancer Institute, Adyar. You are working in a company that sponsors medical treatment for the poor and needy. Send a cheque favouring the Cancer Institute, Adyar. Your company's A/c No. is 328146. …… Pay …..…….. ……..…… OR BEARER RUPEES ……. ……. INDIAN OVERSEAS BANK, Broadway Chennai 600 108 "243506" 10012002 10 A/C No. L/F Rs. …… Pay …..…….. ……..…… OR BEARER RUPEES ……. ……. INDIAN OVERSEAS BANK, Broadway Chennai 600 108 "243506" 10012002 10
CLO 5	4	25	What is an analysis of characters of Gangu and Gomti from "The Child" by Munshi Premchand?

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No of Pages	2

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Tamil **COURSE CODE :20U2NENA2**

COURSE TITLE : English - II **QN.NO : 10302**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) **Answer all Multiple choice questions by choosing the correct option.**
CLO 1	1	1	The Synonym of dynasty is _____ a) civilian b) ancestry c) voter d) dweller.
CLO 1	2	2	_____ is an important feature in a paragraph. a)Spelling b) Style c) Coherence d) None
CLO 2	1	3	_____ is used to denote an action at the time of speaking. a) Past b) Present c) Present continuous d) None of the above.
CLO 2	2	4	_____ is the adjective form of ' Political'. a) Politics b) politic c) polite d) Polity
CLO 3	1	5	_____ skill will involve in spoken interaction. a) Reading b) Listening c)Speaking d) writing.
CLO 3	2	6	'th' has _____ different pronunciations. a) 3 b) 2 c) 4 d) none
CLO 4	1	7	Telephone etiquette is _____. a) using cellar's name b) speaking clearly c) both a & b d) none
CLO 4	2	8	To end a telephone conversation _____ phrase is used. a) Thank you b) I'm ending c) How can I help you? d) Good bye
CLO 5	1	9	_____ is the old man in "Young Goodman Brown". a) Satan b) God c) Archangel Michael d) A troll
CLO 5	2	10	_____ is Dr. Abdul Kalam's father. a) Mohammed Ismail b) Jainulabuddin c) Asraf Malik d) Ibrahim
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Write any two naming words and two action words.
CLO 2	2	12	What are 'Imperatives'?
CLO 3	2	13	Explain the three basic skills of listening
CLO 4	2	14	Describe "Closing a call"
CLO 5	2	15	Describe the power of prayer according to Dr.Kalam.

Contd…

			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b).**
CLO 1	2	16	a) Describe Paragraph linkers. Illustrate with an example each. **(OR)** b) Unscramble the words and frame correct sentences: a) Study/history/past people/past events. b) events/interest us/ past/ many reasons. c) The story/human community. d) History/people's dreams/story. e) People/history began/events/writing.
CLO 2	2	17	a) Describe present continuous tense and its uses with three illustrations **(OR)** b) Write a paragraph by imagining that Ram is watching a cricket match and is giving commentary to his friends using present continuous tense.
CLO 3	1	18	a) List some methods of reading skill. **(OR)** b) Construct a paragraph on "The Importance of listening skill".
CLO 4	3	19	a) Identify the important points to be included in a newspaper report. **(OR)** b) Find any ten useful phrases for a telephonic conversation.
CLO 5	4	20	a) Discover the significance of the title character in Young Goodman Brown'. **(OR)** b) Discover how the poet and the neighbour mend the gaps in the poem The Mending wall.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	3	21	At a sandwich shop: It's your job to make the sandwiches, but you are very tired from a late night out and customers keep coming in to asking for more and more exotic sandwich fillings. You have to find the ingredients, or improvise with what you have asked your friend to prepare it for you. Construct a paragraph giving instructions regarding preparing sandwiches by using present continuous tense.
CLO 2	3	22	Find the Singular/Plural of the given words– Feet, Knife, Baby, Watch, Teeth, Media ,Shelf, Dictionary, Taxes, Industry .
CLO 3	2	23	Expand the proverb "Don't judge a book by its cover".
CLO 4	3	24	Write a dialogue between you and your friend over telephone discussing about the exam result.
CLO 5	4	25	Compare the attitude of the narrator and his neighbor in The Mending wall.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 20U2NENB2**

COURSE TITLE : English - II **QN.NO : 10303**

TIME : 3 Hours **MAX.MARKS :75**

Course Learning Outcome (CLO)	Bloom's K-level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO1	K1	1	The Synonym of desert is _____ area of land a) wet b) dry c) remote d) waste
CLO1	K2	2	The group of sentences is called _____. a) essay b) poem c) paragraph d) None of the above
CLO2	K1	3	I am _____ take up a new job next month. a) go b) will c) going to d) none of these
CLO2	K2	4	_____ is used to express decisions. a) Can b) Would c) Will d) May
CLO3	K1	5	There are _____ types of punctuation marks. a) 8 b)14 c) 5 d) 6
CLO3	K2	6	Good listening skill requires _____. a) clarity b) interest c) focus d) language
CLO4	K1	7	___English is used in everyday conversation and in personal Emails. a) Formal b) Informal c) Colloquial d) None
CLO4	K2	8	_____ quotations should be in a news report. a) At least 1 b) 3 c) 2 d) 5
CLO5	K1	9	____ is the literary form of "Mending Walls". a) Limerick b) Blank Verse c) Sonnet d) Haiku
CLO5	K2	10	Dr. Kalam felt that he had a very _____. a) secure childhood b) insecure c) peaceful d) disgusted
			PART – B (5 x 2=10) **Answer all questions.**
CLO1	K1	11	Where can we use visual communication?.
CLO2	K1	12	What is a verb? Illustrate with an example.
CLO3	K2	13	Show few ways to develop the reading skill.
CLO4	K2	14	Explain 'favour'.
CLO5	K2	15	Write Kalam's learning from his father.

Contd…

			PART – C (5 x 5=25) **Answer all questions by choosing either (a) or (b)**
CLO1	K2	16.	a) Unscramble the letters and make sentences: i) DORCRIET, ii) SEPCTISLAL, iii) SEOPOP iv) LFUERWPO v) HEDTACTA. **(OR)** b) List 5 'describing words' and 5 'action words'.
CLO2	K2	17.	a) Classify different types of tenses with examples. **(OR)** b) Write a paragraph on the following topics: i) My Dream Home ii) Ban of Plastics
CLO3	K1	18.	a) Recall the three basic listening skills. **(OR)** b) Match the words with its meaning and frame sentences for each word. i) inject - upset something ii) immunity - a person/thing found in a place iii) produce - to push/pull a cavity iv) presence - manufacture v) disturb - full protective resistance against infection
CLO4	K3	19.	a) Discover the uses of Role Play. **(OR)** b) Write five formal and informal expressions used to make suggestions.
CLO5	K4	20.	a) Analyze the idea " Good fences make good neighbours". **(OR)** b) Examine Kalam's father's daily routine in 'The Power of Prayer'.
			PART – D (3 x 10 = 30) **Answer any THREE questions.**
CLO1	K3	21	Write a paragraph on what your teacher was doing to determine the relationship between the human and nature. Use linkers like then, after that, next, first, etc.
CLO2	K3	22	Discuss what you understood about subject-verb agreement.
CLO3	K2	23	Expand the proverb "Don't judge a book by its cover".
CLO4	K3	24	Fill in the blanks with suitable verbs given in the bracket:- evaporates, puffing, , wrap, made, turning, make, melts, roll, repeat, fold, created, trapped 1. Chapati is _____ of wheat flour. 2. A cat survived after being _____ underwater in an air pocket for nearly four hours. 3. Water _____ as gas on heating. 4. The chimney was _____ out clouds of smoke. 5. Great heat _____ iron. 6. Vasanth's hair is _____ gray. 7. You can't _____ an omelette without breaking eggs. 8. _____ all your glasses in newspaper. 9. She was chomping on a bread ____. 10. _____ the paper along the dotted line.
CLO5	K4	25	Organize about the theme of William blake's The Echoing green.

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No of Pages	2

SEMESTER EXAMINATIONS – APRIL -2021

PROGRAMME: B.A., Economics **COURSE CODE : 20U2NENC2**

COURSE TITLE : English- II **QN.NO : 10304**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	_____ is a word that describes a verb. a) adjective b) adverb c) noun d) verb
CLO 1	2	2	Vocabulary means _____. a) alphabets b) phrases c) Idioms d) words
CLO 2	1	3	We use the simple past to talk about____. a) Completed action b) an action in progress c) to express intension d) promises
CLO 2	2	4	The Imperative is used without a/an _____ a) object b) subject c) predicate d) noun
CLO 3	1	5	The_____is also an important factor in reading skill. a) spelling b) comprehension c) time d) writing
CLO 3	2	6	Good listening skill requires _____. a) clarity b) interest c) focus d) language
CLO 4	1	7	News report is written in ___. a) Present tense b) Past tense c) Future tense d) Present Continuous
CLO 4	2	8	__ I speak to Mrs. O'Neil? a) Should b) Can c) Must d) Need
CLO 5	1	9	Dr. Kalam felt that he had a very ____. a) secure childhood b) insecure c) peaceful d) disgusted
CLO 5	2	10	There are ___ lines in "Mending Wall". a) 46 b) 23 c) 18 d) 27

Contd…

			PART – B **(5 x 2=10)** **Answer all questions.**
CLO 1	1	11	Define Vocabulary.
CLO 2	2	12	State the form for present continuous tense.
CLO 3	1	13	What are the four basic skills?
CLO 4	2	14	Show how you will begin a telephone conversation.
CLO 5	2	15	Select the symbolism in the poem 'Mending wall'.
			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Describe Paragraph linkers. Illustrate with an example each. **(OR)** b) List 5 'describing words' and 5 'action words'.
CLO 2	3	17	a) Classify different types of tenses with examples. **(OR)** b) Write a paragpraph on the following topics: 1. How to control water pollution. 2. My Aim in Life
CLO 3	3	18	a) Summarise active listening. **(OR)** b) List some methods of reading skill.
CLO 4	4	19	a) Identify the important points to be included in a newspaper report. **(OR)** b) Discover the uses of Role Play.
CLO 5	3	20	a) Discover the significance of the title character in Young Goodman Brown' **(OR)** b) Examine Kalam's father's daily routine in 'The Power of Prayer'
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Write a paragraph on what your teacher was doing to determine the relationship between the human and nature. Use linkers like then, after that, next, first, etc.
CLO 2	3	22	Discuss what you understood about subject-verb agreement.
CLO 3	4	23	Expand the proverb "Don't judge a book by its cover".
CLO 4	3	24	Write a dialogue between you and your friend over telephone discussing about the exam result.
CLO 5	4	25	Organize about the theme of William Blake's "The Echoing green".

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No of Pages	2

SEMESTER EXAMINATIONS – APRIL -2021

PROGRAMME: B.Sc., Maths / Physics **COURSE CODE : 20U2NEND2**

COURSE TITLE : English - II **QN.NO : 10305**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	A ___ is a piece of writing that deals with one subject. a) Sentence b) word c) paragraph d) grammar
CLO 1	2	2	A Paragraph is related to _____ topic. a) few b) Many c) single d) Two.
CLO 2	1	3	There are _____ types of tenses. a) 4 b) 8 c) 5 d) 12
CLO 2	2	4	_____ is used to denote an action at the time of speaking a) Past b) Present c) Present continuous d) None of the above.
CLO 3	1	5	Reading skill enriches _____. a) reason b) memory c) vocabulary d) none of the above
CLO 3	2	6	Effective _____ is an important life skill. a) teaching b) solving c) listening d) reading
CLO 4	1	7	To end a telephone conversation ___ phrase is used. a) Thank you b) I'm ending c) How can I help you? d) Good bye
CLO 4	2	8	Performing the part of a person or character is a ____. a) role play b) magic show c) game show d) mime
CLO 5	1	9	_____ is Dr. Abdul Kalam's father. a) Mohammed Ismail b) Jainulabuddin c) Asraf Malik d) Ibrahim
CLO 5	2	10	Meaning of "Old folk" is _____ a) a group of old people b) uneducated people c) aged people d) none
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	What is the goal of Physics?
CLO 2	2	12	State the form for present continuous tense.
CLO 3	1	13	Explain listening skill.
CLO 4	2	14	Represent two sentences for asking favour.
CLO 5	2	15	Describe the power of prayer according to Dr.Kalam.

Contd…

			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Explain fluorescent with its form, meaning and frame three sentences. **(OR)** b) Describe Paragraph linkers. Illustrate with an example each.
CLO 2	3	17	a) Explain 'will' and 'going to'. **(OR)** b) Write a paragraph on the following topics: 1. My Dream Home 2. Ban of Plastics
CLO 3	3	18	a) Radioactivity Influenced by the invention of the of X-rays, Henri Bacquerel also made an accidental experiment that further led to the invention of radioactivity by the couple scientists Pierre and Marie Curie. It happened when Henri wrapped all his equipment with a cloth during the winter season and left them in a drawer. When he came back, he saw a burnt image on the photographic plate caused by the uranium crystal. And this accidental experiment has led to the discovery of nuclear weaponry Read the passage and answer the questions: 1. What led to the discovery of radioactivity? 2. Give an example of the use of radioactivity. **(OR)** b) Punctuate the following sentences. i) What are you doing here ii) Today is world environment day iii) oh god what a lovely painting iv) Ram has two brothers and two sisters v) In summer we prefer going to hill station
CLO 4	4	19	a) Find any ten useful phrases for a telephonic conversation. **(OR)** b) Discover the uses of Role Play.
CLO 5	3	20	a) Comment on the poet's idea in the poem "The Echoing Green". **(OR)** b) Examine Kalam's father's daily routine in "The Power of Prayer".
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Identify the features of a Paragraph.
CLO 2	3	22	Discuss what you understood about subject-verb agreement.
CLO 3	4	23	"Reading maketh a full man". Indicate the importance of effective reading skill.
CLO 4	3	24	Write a dialogue between you and your friend over telephone discussing about the exam result.
CLO 5	4	25	Infer the title of Kalam's 'The Power of Prayer'

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSE CODE:20U2NENE2**
COURSE TITLE : English-II **QN.NO : 10306**
TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	The term 'solvent' is a _____. a) verb b) noun c) adverb d) adjective
CLO 1	2	2	The term 'classify' is a _____. a) verb b) noun c) adverb d) adjective
CLO 2	1	3	Each paragraph should focus on _____ topic/s. a) a single b) more than one c) two d) no
CLO 2	2	4	Chemistry _____ (help/helps) you to understand the world around you.
CLO 3	1	5	The term 'concentration' is a _____. a) noun b) verb c) conjunction d) preposition
CLO 3	2	6	Imperative sentences do not have_____. a) verbs b) subjects c) articles d) prepositions
CLO 4	1	7	_____ sentences are either commands or requests. a) Interrogative b) assertive c) imperative d) exclamatory
CLO 4	2	8	Which of the following is a noun? a) Instruction b) solve c) listen d) utilze
CLO 5	1	9	Good listening skill requires _____. a) clarity b) interest c) focus d) language
CLO 5	2	10	Identify continuous tense. a) Will do b) do c) is doing d) done
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Explain two different types of paragraph with examples.
CLO 2	2	12	State the form for present continuous tense.
CLO 3	1	13	Explain'Reading aloud'.
CLO 4	2	14	Discuss 'Suggestion'.
CLO 5	2	15	Outline how the poet and his neighbour mend the gaps in the wall.
			PART – C (5 x 5=25) **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Describe Paragraph linkers. Illustrate with an example each. **(OR)** b) Trace the parts of speech of the given words : 1.reaction 2. Balance 3. Alkaline 4. Classify 5. Reduction 6. Saturated 7. Concentrate 8. Dehydration 9. Corrosive 10.molecular

Contd…

CLO 2	3	17	a) Explain 'will' and 'going to'. **(OR)** a) Use imperative sentences to describe your partner aboutthe receipe of your favourite dish.
CLO 3	3	18	a) Site five words for 'tion' sounds at the end of the words. **(OR)** b) Trace five /b/ sound words.
CLO 4	4	19	a) Write a dialogue between you and your friend over telephone discussing about the exam result. **(OR)** a) Apply role play to discover the information about the procedure to apply for a College ID card.
CLO 5	3	20	a) Discover how the poet and the neighbour mend the gaps in the poem The Mending wall. **(OR)** a) Comment on the poet's idea in the poem "The Echoing Green".
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	3	21	Write a paragraph on what your teacher was doing todetermine the relationship between the human and nature.Use linkers like then, after that, next, first, etc.
CLO 2	3	22	Discuss what you understood about subject-verb agreement.
CLO 3	4	23	Discover the parts of speech, meaning of the given words and frame sentences : Orbit, renowned, deploy
CLO 4	3	24	Collect in detail about supporting and non supporting suggestions with examples.
CLO 5	4	25	Compare the attitude of the narrator and his neighbor in "The Mending wall".

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Botany / Micro Biology **COURSECODE:20U2NENF2**

COURSE TITLE : English - II **QN.NO : 10307**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	The Synonym of apex is _____ area of land. a) wet b) tip c) remote d) waste
CLO 1	2	2	___ is the adjective form of ' Season'. a) Seasonal b) Seasoning c) Seasonable d) Seasoned
CLO 2	1	3	_____ skill will involve in spoken interaction. a) Reading b) Listening c) Speaking d) writing.
CLO 2	2	4	___ is used to express decisions. a) Can b) Would c) Will d) May
CLO 3	1	5	The sign‘ ; ’ stands for _____. a) semi colon b) colon c) comma d) hyphen
CLO 3	2	6	Effective _____ is an important life skill. a) teaching b) solving c) listening d) reading
CLO 4	1	7	_____ is the expression used to connect two people on the telephone. a) I'm talking you through b) I'm putting you through c) I'm sending you through d) I'm telling you through
CLO 4	2	8	___ is essential for a role play. a) Action b) Conversation c) Dancing d) Singing
CLO 5	1	9	_____ is the theme of the poem, "The Echoing Green". a) The power of dreams b) The importance of hard work c) The joy of playing outdoors d) The beauty of nature
CLO 5	2	10	Good fences make good _____. a) Neighbours b) friends c) relations d) none
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Name any four commonly used linkers in English.
CLO 2	2	12	State one rule for Subject-Verb agreement.
CLO 3	1	13	Write any four words having ‘w’ sound.
CLO 4	2	14	Represent two sentences for asking favour.
CLO 5	2	15	Explain the journey symbolized in ‘Young Goodman Brown’.

Contd…

			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) List 5 'describing words' and 5 'action words'. **(OR)** b) Unscramble the letters and make sentences. i) DORCRIET ii) SEPCTISLAL iii) SEOPOP iv) LFUERWPO v) HEDTACTA
CLO 2	3	17	a) Write 5 pairs of words having ‘p’ and ‘b’ sounds. **(OR)** b) Compute 10 words with ‘th’ sound.
CLO 3	3	18	a) Site five words for 'tion' sounds at the end of the words. **(OR)** b) Detect the ‘v’ sound in the following words. i) individual ii) flower iii) environment iv) convert v) world vi) convert
CLO 4	4	19	a) Examine the uses of Role Play. **(OR)** b) Write five formal and informal expressions used to make suggestions.
CLO 5	3	20	a) Comment on the poet’s ideain the poem “The Echoing Green”. **(OR)** b) Discover how the poet and the neighbour mend the gaps in the poem The Mending wall.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	3	21	Write a paragraph on what your teacher was doing to determine the relationship between the human and nature. Use linkers like then, after that, next, first, etc.
CLO 2	3	22	Compare and contrast ‘will’ and ‘going to’.
CLO 3	3	23	Give the steps to compost the kitchen waste using imperatives.
CLO 4	3	24	Write a dialogue between you and your friend over telephone discussing about the exam result.
CLO 5	4	25	Compare the attitude of the narrator and his neighbor in ‘The Mending wall’.

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No of Pages	2

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., (Zoology / Bio technology) **COURSE CODE : 20U2NENG2**

COURSE TITLE : English-II **QN.NO : 10308**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	_____ is the adjective form of season. a) seasonal b) seasoning c) seasonable d) seasoned
CLO 1	2	2	A _____ is a piece of writing that deals with one subject a) sentence b) word c) paragraph d) grammar
CLO 2	1	3	You are visiting India. Identify the tense. a) simple present b) present perfect c) present continuous d) present perfect continuous
CLO 2	2	4	_____ is used to express decisions. a) can b) would c) will d) may
CLO 3	1	5	The speaker says that one day he _____ like a cloud which was floating above hills and valleys. a) is wandering b) was wandering c) wandered d) none
CLO 3	2	6	Good listening skills require _____ a) clarity b) interest c) focus d) language
CLO 4	1	7	Telephone etiquette is a) using caller's name b) speaking clearly c) both a & b d) none
CLO 4	2	8	Saying 'no' is _____ a favour a) accepting b) refusing c) agreeing d) connecting
CLO 5	1	9	_____ is the literary form of "Mending wall" a) Limerick b) Blank verse c) Sonnet d) Haiku
CLO 5	2	10	Good Fences make good _____ a) neighbours b) friends c) relations d) none

Contd...

			PART – B **(5 x 2=10)** **Answer all questions.**
CLO 1	1	11	What do you mean by vocabulary?
CLO 2	2	12	Give two example sentences for present continuous tense
CLO 3	1	13	Explain what is pronunciation in reading.
CLO 4	2	14	What do you mean by closing a cell?
CLO 5	2	15	What is the power of prayer according to Dr.Kalam?
			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) List five describing words and five action words **(OR)** b) Explain the ways to analyse a paragraph
CLO 2	3	17	a) Write down the rules for past continuous tense. **(OR)** b) Explain imperatives in detail.
CLO 3	3	18	a) Name five techniques you can use to develop listening skills **(OR)** b) List some of the methods of reading skills.
CLO 4	4	19	a) List out the useful phrases for a telephone conversation. **(OR)** b) What should a newspaper report include?
CLO 5	3	20	a) How does the poet and his neighbour mends the gaps in the wall in "Mending Wall"? **(OR)** b) What is the poet talking about in the poem "The Echoing Green"?
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Frame sentences for the following words: Technology, agriculture, scientific, laboratory, enzymes, fertilize, research, diagnostics, fermentation, domestication.
CLO 2	3	22	Fill in the blanks with past continuous tense: 1. When I phoned my friend, he _____ (play) monopoly. 2. Yesterday at six I _____ (prepare) dinner. 3. Julie _____ (sleep) at 30' clock 4. I ____ (paint) all day yesterday. 5. As I _____(walk) down the road, I saw Ram. 6. The phone rang while I _____ (eat) dinner. 7. When I entered the room, she _____ (play) the piano 8. The dog _____ (bark) at us. 9. Those people _____ (walk) towards the library. 10. The police _____ (chase) the thief.
CLO 3	4	23	Differentiate voiced out voiceless sounds in English.
CLO 4	3	24	Explain in detail about supporting and non-supporting suggestions in English with examples
CLO 5	4	25	Write about the theme of William Blake's "The Echoing Green".

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., (CS / IT) **COURSE CODE : 20U2NENH2**

COURSE TITLE : English-II **QN.NO : 10309**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	The group of sentences is called _____. a) essay b) poem c) paragraph d) none of the above
CLO 1	2	2	_____ is the verb form of protection a) protests b) protect c) producing d) protesting
CLO 2	1	3	There are _____ types of tease a) 4 b) 8 c) 5 d) 12
CLO 2	2	4	Instruction in another word is _____ a) command b) request c) decision d) none
CLO 3	1	5	Reading skill enriches _____ a) reason b) memory c) vocabulary d) none of the above
CLO 3	2	6	Effective _____ is an important life skill. a) teaching b) solving c) listening d) reading
CLO 4	1	7	News – report is written in _____ a) present tense b) past tense c) future tense d) present continuous
CLO 4	2	8	_____ is essential for role play a) action b) conversation c) dancing d) singing
CLO 5	1	9	_____ is the old man in "Young Goodman Brown" a) Satan b) God c) Archangel Michael d) A troll
CLO 5	2	10	Dr. Kalam felt that he had a very _____ a) secure childhood b) insecure c) peaceful d) disregard

Contd....

			PART – B **(5 x 2=10)** **Answer all questions.**
CLO 1	1	11	Explain two different types of paragraph with examples.
CLO 2	2	12	State the form for present continuous tense
CLO 3	1	13	Explain listening skill.
CLO 4	2	14	Represent two sentences for asking favour.
CLO 5	2	15	Select the symbolism in the poem "Mending Wall".
			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Explain 'gadget' with its form, meaning and frame three sentences. **(OR)** b) Trace all naming words, describing words and action words from the word list given below. Disable, control, virus, install, harmless, downloadable, database, corrupt, malware, abrupt.
CLO 2	3	17	a) Write a paragraph on the following topics: 1) My Dream House 2) Ban of Plastics **(OR)** b) Use imperative sentences to describe your partner about the receipe of your favourite dish
CLO 3	3	18	a) You have now learned to create a WhatsApp group and add participants with the help of your smart phone. Ask your friend Meena to watch your. Just explain to her how you will create a WhatsApp group and add participants. **(OR)** b) Use the following words and frame sentences: confine, visualise, gadget, logical
CLO 4	4	19	a) Write five formal and informal expressions used to make suggestions **(OR)** b) Discover the uses of Role play
CLO 5	3	20	a) Analyse the idea "Good fences make good neighbours" **(OR)** b) Discover the significance of the title character in Young Goodman Brown
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Write a paragraph on what your teacher was doing to determine the relationship between the human and nature.
CLO 2	3	22	Find the singular / plural of the given words – feet knife, baby, watch, teeth, media, shelf, dictionary, taxes, industry
CLO 3	4	23	"Reading Maketh a full man". Indicate the importance of effective reading skill.
CLO 4	3	24	Write a dialogue between you and your friend over telephone discussing about the exam result.
CLO 5	4	25	Infer the title of Kalam's "The power of prayer".

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 20U1NMC1**

COURSE TITLE : British Literature -I **QN.NO : 10401**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	The period before Renaissance is called as ____ a) The Golden Age b) The Age of Glory c) The Middle Age d) The Feudal Age
CLO 1	2	2	The 18th Century in English literature is also called as ____ a) The Age of Puritanism b) The Age of Reason c) The Age of excessive passion d) The Age of Sentimentalism
CLO 2	1	3	___ is the full name of Sir Roger. a) Sir Roger Thomas b) Sir Roger de Coverley c) Sir Roger I d) Sir Roger Patrik
CLO 2	2	4	Joseph Addison is recognised as the best satirist of ___ a) 17th Century b) 18th Century c) 19th Century d) 16th Century
CLO 3	1	5	The wife of Bath had ___ husbands. a) 2 b) 3 c) 4 d) 5
CLO 3	2	6	In the title, 'To His Coy Mistress', "COY' means ____. a) lover b) young and inexperienced c) unwilling d) married
CLO 4	1	7	____ instruct Faustus in the dark arts. a) Wagner and Robi b) The Scholars c) The good and bad angels d) Cornelius and Valdes
CLO 4	2	8	Anthony suffers from ___ disease. a) Narcolepsy b) Rheumatism c) Ghout d) Shingles
CLO 5	1	9	___ are *Pamela*'s parents. a) Paul and Rebecca Andrews b) James and Deborah Andrews c) John and Elizabeth Andrews d) Luke and Susannah Andrews
CLO 5	2	10	___ attends *Pamela* at her wedding . a) Mrs. Jewkes b) Mrs. Dervis c) Miss. Darnford d) Nan
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Who are the three main tribes of Old English Period?
CLO 2	2	12	Name the famous contribution by Charles Lamb
CLO 3	1	13	What is the moral of the Nun's Priest's Tale
CLO 4	2	14	Which trick does Faustus, while invisible play on the Pope?
CLO 5	2	15	Trace where are Mr.B.'s two estates located?

Contd…

			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) What are the characteristic features of 'Humanism' **(OR)** b) How is Middle English different from Old English?
CLO 2	2	17	a) Summarize the central idea of Bacon's 'Of Friendship' **(OR)** b) Explain the role of Sir Roger in 'Sir Roger de Coverley'
CLO 3	3	18	a) Examine the Wife of Bath's Prologue **(OR)** b) Illustrate how 'A Valediction: Forbidding Mourning' celebrate the spiritual quality of love?
CLO 4	2	19	a) Discuss about the Good Angel and Evil Angel in the drama. **(OR)** b) Relate how is Lucy responsible for conflict in *The Rivals*?
CLO 5	3	20	a) Find the reasons for controversy in the ending of "Pamela". **(OR)** b) Identify the way the novel. The Vicar of Wakefield is a satire?
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Discuss the development of Middle English period.
CLO 2	2	22	Write down the significance of Bacon's essay, 'Of Friendship'
CLO 3	3	23	Examine the theme of Spenser's 'Prothalamion
CLO 4	3	24	Bring out the dramatic significance of the characters in *The Rivals*
CLO 5	4	25	Examine the significance of the novel. The Vicar of Wakefield.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE :20U1NMC2**

COURSE TITLE : British Literature - II **QN.NO : 10402**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	Neoclassical Era was a time of comfortableness in _____. a) Italy b) England c) Australia d) America
CLO 1	2	2	Trace the three groups that invaded Britain in 449. a) Angle, Saxon, Judes b) Angle, Xasons, Jutes c) Angles, Saxons, Jutes d) none of the above
CLO 2	1	3	A Dissertation Upon Roasted Pig" was written by _____. a) Charles Lamb b)Charles Dickens c) Mary Lamb d) Chaucer
CLO 2	2	4	Alfred George Gardiner is one of the most delightful _____ of the modern times. a) novelists b) essayists c) playwrights d) poets
CLO 3	1	5	Hopkins used the form of _____ in his poem "The Windhover". a) A rock ballad b)a Petrarchan Sonnet c) A Shakespearean Sonnet d) A Villanelle
CLO 3	2	6	What is the tone used in '"Dover Beach"? a) hopeful b) pessimistic c) lonely d) tranquil
CLO 4	1	7	What position does Thomas hold at the time of his murder? a) Archbishop b)King c) Exchequer d) Chancellor
CLO 4	2	8	_____ is the main theme of most of Galsworthy's plays. a) Fraternity b) social problems of his time c) family history d) love
CLO 5	1	9	Who sets the fire in Rochester's bedroom? a) Mrs. Fairfax b)Bertha c) Grace Poole d) Jane
CLO 5	2	10	Dickens wrote *Oliver Twist* in response to what piece of legislation? a) The Law of Estates and Inheritance b) The institution of the death penalty c) The Poor Law of 1834 d) The Decency Act
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	What are the historical factors that influenced Victorian literature?
CLO 2	2	12	Was this essay "Confessions of an Opium Eater" Quincey's personal life story?
CLO 3	1	13	Make a list of the different things Hopkins Compares the windhover to.
CLO 4	2	14	Describe how does Galsworthy present the prison as a torturing machine?
CLO 5	2	15	Explain*Jane Eyre* as a bildungsroman?

Contd..

			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a)Why was Alfred considered as great? Explain. **(OR)** b) Elaborate the central features of Romanticism.
CLO 2	2	17	a) Discuss the theme of the essay "A Dissertation Upon Roasted Pig". **(OR)** b) Confessions of an English Opium Eater" is an autobiographical work by Thomas De Quincy – Discuss.
CLO 3	3	18	a) Identify the literary devices used in the poem "The Windhover" and what functions do they serve? **(OR)** b) Find out the poetic language is used in Hopkin's poem "The Windhover
CLO 4	2	19	a) Discuss "Murder in the Cathedral" as a poetic drama **(OR)** b) Find out the reason why Falder as a tragic hero
CLO 5	3	20	a)Identify the meaning of the imagery of birds in the story of Charlotte Bronte's novel *Jane Eyre*? **(OR)** b)Find out the reason why does St. John want Jane to marry him in *Jane Eyre*?
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Illustrate the characteristics of Romantic period and Victorian period.
CLO 2	4	22	Examine the scene of Dover and comment on its poetic meaning in the poem "Dover Beach" by Matthew Arnold.
CLO 3	3	23	Explain in your own words, "What freedom means" with reference to Gardiner's essay.
CLO 4	3	24	Make use of the ideas of martyrdom in the play "Murder in the Cathedral" and discuss.
CLO 5	4	25	Analyze the solutions does Dickens offer to the social problems that he sketches out in *Oliver Twist*?

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 20U1NAC1**

COURSE TITLE : Social History of England **QN.NO : 10403**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option
CLO 1	1	1	The name of the first English poet is-------. a)Caedom b)Bede c)Chaucer d)Gower
CLO 1	2	2	The Renaissance means ----------. a)reget b)rebirth c)regain d)reform
CLO 2	1	3	Charles-II was restored to the English throne in ---------- a)1660 b)1666 c)1685 d)1695
CLO 2	2	4	The rule of the East India Company ended in India in ----------.() a)1600 b)1858 c)1885 d)1886
CLO 3	1	5	.The Agrarian Revolution brings transformation in --------. a)Agriculture b)Industry c)mining d)religion
CLO 3	2	6	The Industrial revolution brought a new philosophy of --------. a)Socialism b)Captialism c)Individualism d)Spiritualism
CLO 4	1	7	Chartism was a movement started by---------- in 1836. a)Wellington b)Gladstone c)Lord Derby d)WilliamLovett
CLO 4	2	8	Factory workers in the Victorian age lived in ----------. a)mines b) sanitary conditions c) insanitary conditions d)ware house
CLO 5	1	9	The telephone was invented by ---------. a)James Watt b)AlexanderGrahamBell c)Samuel Morse d)Galileo
CLO 5	2	10	Charles Darwin refuted---------- a)theBible b)Tennyson c)origin of spices d)writings
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Who was called the Morning star of the Reformation?
CLO 2	2	12	Which was the popular sports in the Restoration period?
CLO 3	2	13	Which cattle was experimented with Robert Bakewell?
CLO 4	1	14	When did William Lovett call his demand for Political reform?
CLO 5	2	15	What does post modernism say about society ?

Contd...

			PART – C **(5 x 5=25)** **Answer all questions by choosing either a) or b)**
CLO 1	2	16	a)Give an account of King Henry -I **(OR)** b)Give a brief note on The Hundred years war
CLO 2	3	17	a)Write a note on Coffee houses of London **(OR)** b)Bring out the occurances of closure of Theaters
CLO 3	3	18	a)Compare and contrast the effects of Industrial revolution? **(OR)** b)Write a short note on Consequences of Industrial revolution.
CLO 4	4	19	a) Write a note on Florence Nightingale in the Crimean war. **(OR)** b) Discuss the contribution of Robert Owen.
CLO 5	2	20	a)Discuss the Railway and its advantages. **(OR)** b)Identity the development of Telephone.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	3	21	Describe the growth of English Literature from the 10th to 15th century.
CLO 2	2	22	Explain the relationship of Cromwell with Parliament.
CLO 3	4	23	Categorise the factors that contributed to the grown of Industrial revolution.
CLO 4	2	24	Write a note on Florence Nightingale in the Crimean war.
CLO 5	4	25	Examine the main features of Post Modernism.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., English **COURSE CODE : 20U2NMC3**

COURSE TITLE : Indian Writing in English **QN.NO : 10404**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q. No	PART – A (10 x 1 = 10) **Answer all Multiple choice questions by choosing the correct option.**
CLO 1	1	1	'Can the Subaltern Speak' is a seminal work by_____ a) Sujata Bhatt b) Gayatri Spivak c) Kamala Markandeya d) Kamala Das
CLO 1	2	2	Identify the themes associated with diasporic literature a) failure and hopeless b) depression and anxiety c) acculturation and alienation d) angst and anxiety
CLO 2	1	3	Whose attire are the weavers weaving at dawn? a) Youth b) queen's veil c) old man's cloth d) new- born
CLO 2	2	4	'The Great Pan ' symbolises _____existing in the Indian religions a) atheism b) patriotism c) theismd) pantheism
CLO 3	1	5	A.P.J.Kalam served as -----president of India a) 10 b) 11 c) 12 d) 9
CLO 3	2	6	Gandhi was assassinated on ------ a)January 28 b) January 29 c) Jan 30 d) Jan 31
CLO 4	1	7	The heroine of the play in Chandalika is ---- a) Keerthi b) Prakriti c) Rithika d) Reshma
CLO 4	2	8	Mahesh Dattani as born at _____ a)Delhi b) Bangalore c) Chennai d) Manipur
CLO 5	1	9	Train to Pakistan was written in the year a)1946 b) 1936 c)1956 d) 1926
CLO 5	2	10	Who was immigrants? a) settlers b) beginners c) new comers d) finders
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	What are the themes in diasporic literature ?
CLO 2	2	12	Why is the lotus regarded as the queenliest of flowers?.
CLO 3	1	13	How Nehru expresses inner feelings in his speech?
CLO 4	2	14	Tagore was famous for writing drama? Explain

Contd…

CLO 5	2	15	Train to Pakistan was written by Khushwant Singh-say true or false
			PART – C (5 x 5=25) **Answer all questions by choosing either (a) or (b).**
CLO 1	2	16	a) Explain the special characteristics of subaltern writers and their social concerns. **(OR)** b) Describe the salient features and themes of Indian diaspora
CLO 2	3	17	a) Interpret the theme of Toru Dutt's 'Lotus' **(OR)** b) Elucidate Aurobindo's use of symbolism in his poem 'The Bird of Fire'
CLO 3	3	18	a) Develop a short biography of A.P.J.Kalam. **(OR)** b) Identify the relationship between a patient and a doctor in A Doctor s word.
CLO 4	4	19	a) Describe about the socio cultural aspects in Chandalika **(OR)** b) Mahesh Dattani a well known writer-Illustrate
CLO 5	3	20	a) Illustrate the relationship between Train to Pakistan conveys **(OR)** b) Describe how immigrants are related with these novels.
			PART – D (3 x 10 = 30) **Answer any THREE questions.**
CLO 1	2	21	Compare and contrast the diasporic literature with the partition literature in the Indian context.
CLO 2	3	22	Analyse the themes and techniques in Sarojini Naidu's 'Indian Weavers'.
CLO 3	4	23	Apply Nehru's contributions to the freedom struggle.
CLO 4	3	24	Analyse the character sketch of Prakriti in Chandalika.
CLO 5	4	25	Analyse the travel between Train to Pakistan by Khushwant Singh.

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No of Pages	3

SEMESTER EXAMINATIONS – APRIL2021

PROGRAMME: B.A., English **COURSECODE: 20U2NMC4**

COURSE TITLE : Advanced English Grammar **QN.NO : 10405**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) **Answer all Multiple choice questions by choosing the correct option.**
CLO 1	1	1	What is noun? a) Action words b) Naming words c) Joining words d) Qualifying words
CLO 1	2	2	Declarative sentence is otherwise called as a) Assertive Sentences b) Interrogative Sentences c) Exclamatory Sentences d) Imperative Sentences
CLO 2	1	3	The subject in the active voice goes to the end of the sentence preceded by the word a) From b) Since c) By d) For
CLO 2	2	4	Find the odd one out a) Active voice b) Present Tense c) Past Tense d) Future Tense
CLO 3	1	5	Choose the indirect speech for the word now a) Then b) There c) That d) Those
CLO 3	2	6	The superlative for the word 'Little' a) Little b) Less c) Least d) A Little
CLO 4	1	7	Which symbol is used at the end of question tag? a) @ b) ' c) ? d) "
CLO 4	2	8	Which short form is used in the question tag? a) "n'd" b) "n't" c) "N'd" d) "N't"
CLO 5	1	9	Write carelessly or hurriedly a) Legible b) Scribble c) Cursive d) Neatly
CLO 5	2	10	Choose the correct sentence a) like I English to Learn b) I like to learn English c) English I like learn to d) I to learn English like
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Name the kinds of sentences.
CLO 2	2	12	Write the Past tense and past participle for the following words a) Buy b) Cut c) awake d) come
CLO 3	1	13	Write the indirect speech for the following words. a) This b) These c) Today d) Tomorrow
CLO 4	2	14	Define Question Tag?

Contd…

CLO 5	2	15	Write the meaning for the following idioms a) A blessing in disguise b) Call it a day
			PART – C (5 x 5=25) **Answer all questions by choosing either (a) or (b).**
CLO 1	2	16	a) Define Preposition and give examples. **(OR)** b) Write five examples for Declarative sentences.
CLO 2	3	17	a) Change the following sentences to passive vo 1. His father praised 2. Kalidas wrote Shakuntalam. 3. The noise frightened the horse. 4. Some boys were helping the wounded man. 5. He will finish the work in a fortnight. **(OR)** b) Write the four forms of past tenses with examples
CLO 3	3	18	a) Explain Simple, Compound and complex sentences with one example each. **(OR)** b) Convert the compound sentences to complex sentences i) Search his pockets and you will find the watch ii) He saw the danger but passed on. iii) I had lost a book but I have found it.
CLO 4	4	19	a) Correct the following sentences 1. Patience and perseverance are necessary for success. 2. Everyone of the men were punished 3. Every boy and every teacher have their own books. 4. Neither Mohan nor Afzal have come. 5. Lamb's Tales are an interesting book. **(OR)** b) Explain the following one word substitution 1) Vendor 2) Pinch 3) Starvation 4) Contradiction 5) Palmyra
CLO 5	3	20	a) Explain five steps followed in Question Tag. **(OR)** b) Write the meaning for the following idioms and makes sentences using the same. i) Beat around the Bush ii) Hit the Sack iii) Break the ice iv) Ignorance is bliss
			PART – D (3 x 10 = 30) **Answer any THREE questions.**
CLO 1	2	21	Explain Kinds of Sentences in detail with examples.
CLO 2	3	22	Write an essay on Sequence of Tenses.

Contd…

CLO 3	4	23	Change the degrees of the following sentences. a) Mount Everest is the highest peak in the world. b) Calcutta is one of the largest cities in the world. c) Very few boys are so industrious as Veer. d) The pen is mightier than the sword, e) A wise enemy is better than a foolish friend
CLO 4	3	24	Select the correct form of the verbs: 1. Which one of these umbrellas ___ (is/are) yours. 2. One of the boys ___ (was/were) punished. 3. None but the brave ___ (deserves/deserve) the fair. 4. Many a boy ___ (was/were) present. 5. Either you or he ___ (has/have) done it. 6. A hundred Kilometers ___ (is/are) a good distance. 7. Neither the children nor their mother ___ (were/was) admitted. 8. The quality of the mangoes ___ (was/were) not good. 9. Each of the boys ___ (was/were) given a prize. 10. Mohan as well as his friend ___ (is/are) guilty.
CLO 5	4	25	Add suitable question tag to the following: 1. I am very anxious ____ 2. I didn't agree to this proposal ___ 3. He hasn't completed the work ___ 4. I am confident of his success ___ 5. He is a mischievous boy ___ 6. He has been helping the poor ___ 7. I shall punish him ___ 8. The train had left the station ___ 9. She will be here tomorrow ___ 10. He is an honest man ___

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No of Pages	2

SEMESTER EXAMINATIONS – APRIL2021

PROGRAMME: B.A., English **COURSECODE: 20U2NAC2**
COURSE TITLE : History of English Literature **QN.NO : 10406**
TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	Which of the following was the closest contemporary of Chaucer? a) William Langland b) Wyclif c) John Barbour d) John Gower
CLO 1	2	2	One of the Tales in Chaucer's Canterbury Tales is in prose which is it? a) The Parson's Tale b) The Knight's Tale c) The Monk's Tale d) The Pardoner's Tale
CLO 1	1	3	In which play of the following tragedies of Shakespeare is there a role of a ghost. a) Othello b) Hamlet c) Macbeth d) King Lear
CLO 1	2	4	Which metaphysical poet was a mystic like Richard Crashaw? a) George Herbert b) Robert Herrick c) Henry Vaughan d) George Marvell
CLO 1	1	5	What is Pope's poem The Rape of the Lock based on? a) Pope's dream b) a real fact c) an old legend d) a rumor
CLO 1	2	6	Prior to writing Robinson Crusoe what was Daniel Defoe's profession? a) Priest b) Sea captain c) Journalist d) Government worker
CLO 1	1	7	Shelley was interested in the teachings of _____ a) Thomas Hobbes b) William Godwin c) Both d) None
CLO 1	2	8	Charles lamb is best known for his _____ a) Essays of Elia b) Tales from Shakespeare c) Lyrics d) Short stories
CLO 1	1	9	Dover Beach and A Summer Night resemble the poems of _____ a) William Wordsworth b) S.T. Coleridge c) Robert Browning d) Thomas Gray
CLO 1	2	10	_____ is considered as the masterpiece of George Eliot. a) Adam Bede b) Middle March c) The Mill on the Floss d) Daniel Deronda

Contd…

			PART – B **(5 x 2=10)** **Answer all questions.**
CLO 1	1	11	Name the University Wits.
CLO 1	1	12	What does *Prothalamion* and *Epithalamion* denote?
CLO 2	2	13	Examine the three types of poem by Dryden.
CLO 2	2	14	Identify the poetic plays of Shelley.
CLO 2	2	15	Write the notable works of Matthew Arnold.
			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b).**
CLO 1	1	16	a) What are the main events during the age of Chaucer. **(OR)** b) Define George Peele as a dramatist.
CLO 2	2	17	a) Explain the aspects of Spenser's poetry. **(OR)** b) Write a note on Milton's personal life.
CLO 3	3	18	a) Describe Addison as an essayist. **(OR)** b) Distinguish between the essayists Addison and Steele.
CLO 4	4	19	a) Analyse the supernatural atmosphere in Coleridge's poem. **(OR)** b) Describe Shelley as a Lyrical poet.
CLO 4	3	20	a) Explain the art of characterization of Thomas hardy. **(OR)** b) Examine Thomas Hardy as the creator of demographic novels.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 4	4	21	Comment on the works, achievement and limitations of Christopher Marlowe.
CLO 3	3	22	Develop an essay on the salient features of Metaphysical poetry.
CLO 3	3	23	Discuss Dryden as a Dramatist.
CLO 4	2	24	Comment on Coleridge's treatment of nature.
CLO 5	3	25	Develop an essay on the life and works of Alfred Lord Tennyson.

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No of Pages	2

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 20U1VMC1**

COURSE TITLE : Micro Economics – 1 **QN.NO : 10501**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	The term 'Economics' derived from a) Latin word b) Russian word c) Greek word d) American word
CLO 1	2	2	Which of the following is the study of aggregates of an economy as a whole? a) Micro Economics b) Macro Economics c) Agricultural Economics d) Managerial Economics
CLO 2	1	3	The first Law of Consumption is popularly known as a) The Law of Demand b) The law of Substitution c) The Law of Diminishing Marginal Utility d) The Law of Equi- Marginal Utility
CLO 2	2	4	The Indifference Curve Approach was introduced by a) Alfred Marshall b) R. G. D. Allen and J. R. Hicks c) Lionel Robbins d) Paul Samuelson
CLO 3	1	5	The locus of all commodities combinations which the consumer derives the same level of satisfaction is called a) Indifference Curve b) Isoquants c) Iso-product Curve d) Offer Curve
CLO 3	2	6	Indifference curves never intersect each other due to a) Different levels of satisfaction b) Same levels of satisfaction c) Convex to the origin d) Concave to the origin
CLO 4	1	7	In economics, demand means a) Desire along with ability to pay b) Desire along with willingness to buy **c)** Desire, ability to pay and willingness to buy d) Desire with decision to buy
CLO 4	2	8	Other things being the same, quantity supplied is directly related to the price of the commodity is called a) Law of demand b) Law of consumption c) Law of supply d) Law of production
CLO 5	1	9	Production refers to a) Creation of utility b) Destruction of utility c) Consumption of goods d) Manufacture of goods
CLO 5	2	10	Goods which are used for further production of wealth is called a) Wealth b) Capital c) Organisation d) Resources

Contd…

			PART – B **(5 x 2=10)** **Answer all questions.**
CLO 1	1	11	List out the concepts of Economics.
CLO 2	1	12	What do you mean by Marginal Utility?
CLO 3	2	13	Express the meaning of Marginal Rate of Substitution.
CLO 4	2	14	Write a note on Demand
CLO 5	2	15	Write a short note on Production Function
			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a). Illustrate the characteristics of wants **(OR)** b) Describe Robins Scarcity Definition of Economics
CLO 2	3	17	a) Determine the importance of Equi-marginal utility. **(OR)** b) Find out the concepts of Utility.
CLO 3	3	18	a) Construct the consumer's equilibrium. **(OR)** b) Find the assumptions of Indifference Curve Analysis.
CLO 4	4	19	a) Analyse the reasons for negative slope of demand curve. **(OR)** b) Analyse the factors influencing supply.
CLO 5	2	20	a) . Discuss the various features of Land. **(OR)** b) . Explain the characteristics of Labour.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Discuss the various methods of Economics.
CLO 2	3	22	Find out the consumer's surplus with diagrammatic presentation.
CLO 3	3	23	Determine superiority of Indifference Curve over the Cardinal Utility Analysis.
CLO 4	4	24	Examine the various degrees of price elasticity of demand.
CLO 5	3	25	Illustrate the law of variable proportions.

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No of Pages	2

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 20U1VMC2**

COURSE TITLE : Economics of Marketing **QN.NO : 10502**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	The term market is derived from the a) French word b) American word c) Latin word d) German word
CLO 1	2	2	The identifying, anticipating and satisfying customer's need and desires is relates to a) Marketing b) Market Information c) Market Segmentation d) Marketing Mix
CLO 2	1	3	Which of the following is concerned with the collection and concentration of goods of the same type from different sources at a place for further movement? a) Buying b) Sellin c) Assembling d) Standardization
CLO 2	2	4	The producers can adopt different strategies for different market taking into account the rival strategies that relate a) Marketing b) Market Information c) Market Segmentation d) Marketing Mix
CLO 3	1	5	The delivery of products at the right time and at the right place is called a) Distribution b) Promotion c) Transportation d) Marketing
CLO 3	2	6	Marketing manager should have a thorough knowledge about the a) 5 P's b) 3 P's c) 4 P's d) 6 P's
CLO 4	1	7	Which price policy can win the confidence of the public? a) Increasing price policy b) Decreasing price policy c) Stable price policy d) None of these
CLO 4	1	8	The policy of setting the price of the product and service by the management after taking into account various internal and external factors is called a) Factor Analysis b) Pricing Policy c) Cost Analysis d) Policy Making
CLO 5	2	9	The benefits of marketing facilitates a) the development of action programmes only b) the development of action plan for achieving set goals c) the implementation of actual plan d) the action programmes only
CLO 5	1	10	When the information is obtained directly, specially for the problem, it is known as a) Secondary data b) Primary data c) Tabulation d) Interpretation

Contd..

			PART – B **(5 x 2=10)** **Answer all questions.**
CLO 1	1	11	What do you mean by Market?
CLO 2	1	12	State the meaning of Transportation.
CLO 3	2	13	Write a note on Product Mix.
CLO 4	2	14	Write a short note on Channels of Distribution
CLO 5	2	15	Explain the concept MIS.
			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Discuss the various objectives of pricing. **(OR)** b) Write a note on evolution of marketing.
CLO 2	4	17	a) Comment on the importance of market segmentation. **(OR)** **b)** Infer the methods of market segmentation
CLO 3	2	18	a) Explain the product promotion related strategies. **(OR)** b) Discuss the Product Life Cycle.
CLO 4	4	19	a)Comment on Pricing Policy. **(OR)** b) Examine the functions of marketing channels.
CLO 5	3	20	a) Identify the essential qualities of a Good Market Information System. **(OR)** **b)** Determine the advantages of Marketing Research.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Discuss the various concepts of marketing.
CLO 2	4	22	Examine the importance of marketing.
CLO 3	3	23	Determine the factors influencing the marketing mix.
CLO 4	4	24	Analyse the factors influencing the choice of channels.
CLO 5	3	25	Determine the essential requisites of a good market information system.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 20U1VAC1**

COURSE TITLE : Economic Statistics - I **QN.NO : 10503**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) **Answer all Multiple choice questions by choosing the correct option.**
CLO 1	1	1	Statistics deals with only a) Qualitative data b) Quantitative data c) Raw data d) Qualitative and quantitative data
CLO 1	2	2	Secondary data a) Should never be used b) Should be used after careful scrutiny c) No scrutiny is required while using it d) While scrutinizing the only thing to see is who collected it
CLO 2	1	3	Which of the following classification represents the data classified on region-wise? a) Geographical classification b) Chronological classification c) Qualitative classification d) Quantitative classification
CLO 2	2	4	Which of the following represents one dimensional diagram? a) Bar diagram b) Circle c) Cylinder d) Rectangles
CLO 3	1	5	The value which occurs the greatest number of frequency in a series is called a) Arithmetic mean b) Median c) Geometric mean d) Mode
CLO 3	2	6	Which of the following is correct? a) Mode = 3 Median – 2 Mean b) Mode = 2 Mean – 3 Median c) Mode = 3 (Median – Mode) d) Mode = 3 (Mode – Median)
CLO 4	1	7	Dispersion is the measures of a)Variation b) Data c) Facts d) Numbers
CLO 4	2	8	What is the formula for finding the relative measure of Range? a) L – M b) M – L c) L – S d) S – L
CLO 5	1	9	Fisher's Price Index Number is given by the geometric mean of a) Laspeyre's formula b) Paasche's formula c) Laspeyre's and Paasche's form d) Marshall Edgeworth formula
CLO 5	2	10	Which of the following base year may change from year to year? a) Fixed base b) Chain base c) Average base d) Free base
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	List out any two functions of Statistics
CLO 2	1	12	Define Histogram.
CLO 3	2	13	Trace the median of 34, 32, 48, 38, 24, 30, 27, 21, 35.
CLO4	2	14	Write a note on Standard deviation
CLO 5	2	15	Write a note on index numbers.

Contd…

PART – C **(5 x 5=25)**

Answer all questions by choosing either (a) or (b)

CLO 1 | 1 | 16

a) Explain the characteristics of Statistics.

(OR)

b) Define Primary Data and Secondary Data. Give the examples for each.

CLO 2 | 3 | 17

a) Draw a suitable diagram for the following data.

Village	**I**	**II**	**III**
Male **Female**	800 700	1000 950	1200 900
Total	1500	1950	2100

(OR)

b) For the following data, draw a frequency polygon and frequency curve.

No. of Grains	5 - 10	10 – 15	15 - 20	20 – 25	25 – 30	30 - 35	35 - 40
No. of Plants	5	12	18	23	26	15	8

CLO 3 | 3 | 18

a) Compute the missing frequency if its median

Ages	0-10	10-20	20-30	30-40	40-50
No .of Persons	5	25	?	18	7

(OR)

b) Compute the mode for the following data:

C.I.	100-110	110-120	120-130	130-140	140-150	150-160	160-170
Frequency	4	6	20	32	33	8	2

CLO 4 | 3 | 19

a) Calculate the mean deviation from the following data

X	2	4	6	8	10
F	1	4	6	4	1

(OR)

b) Identify the merits and demerits of mean deviation.

CLO 5 | 4 | 20

a) For the following data, construct the price index by (a) simple aggregative method (b) average price relative method by using arithmetic mean

Commodities	**Price in 2005 (in Rs.)**	**Price in 2006 (in Rs.)**
A	40	50
B	60	60
C	20	30
D	50	70
E	80	90

(OR)

b) From the data given below calculate the price index number using Fisher's ideal formula.

Commodity	**Base Year**		**Current Year**	
	Price	**Quantity**	**Price**	**Quantity**
A	10	50	12	69
B	8	30	9	32
C	5	35	7	40

Contd…

<table>
<tr><td></td><td></td><td></td><td>PART – D (3 x 10 = 30)
Answer any THREE questions.</td></tr>
<tr><td>CLO 1</td><td>2</td><td>21</td><td>Draw the difference between Primary and secondary data</td></tr>
<tr><td>CLO 2</td><td>4</td><td>22</td><td>From the following distribution of wages, draw
(i) Histogram (ii) Frequency polygon
(iii) Frequency curve
<table>
<tr><td>Wages (Rs.)</td><td>20 – 30</td><td>30 -40</td><td>40 – 50</td><td>50 – 60</td><td>60 - 70</td><td>70 – 80</td><td>80 - 90</td></tr>
<tr><td>No. of Workers</td><td>2</td><td>6</td><td>10</td><td>25</td><td>15</td><td>11</td><td>6</td></tr>
</table></td></tr>
<tr><td>CLO 3</td><td>3</td><td>23</td><td>If the median of the distribution is 28.5, What are the values of x and y, also find its mean.
<table>
<tr><td>C.I.</td><td>0-10</td><td>10-20</td><td>20-30</td><td>30-40</td><td>40-50</td><td>50-60</td></tr>
<tr><td>f_i</td><td>5</td><td>x</td><td>20</td><td>15</td><td>Y</td><td>5</td></tr>
</table></td></tr>
<tr><td>CLO 4</td><td>3</td><td>24</td><td>Compute quartile deviation from the following data
<table>
<tr><td>C.I.</td><td>4-8</td><td>8-12</td><td>12-16</td><td>16-20</td><td>20-24</td><td>24-28</td><td>28-32</td><td>32-36</td><td>36-40</td></tr>
<tr><td>f_i</td><td>6</td><td>10</td><td>18</td><td>30</td><td>15</td><td>12</td><td>10</td><td>6</td><td>2</td></tr>
</table></td></tr>
<tr><td>CLO 5</td><td>4</td><td>25</td><td>Compute quantity index for the following data by using
(i) Laspeyre’s method (ii) Paasche’s method
(iii) Fisher’s method.
<table>
<tr><td rowspan="2">Commodity</td><td colspan="2">2000</td><td colspan="2">2005</td></tr>
<tr><td>Price</td><td>Quantity</td><td>Price</td><td>Quantity</td></tr>
<tr><td>A</td><td>30</td><td>50</td><td>32</td><td>50</td></tr>
<tr><td>B</td><td>25</td><td>40</td><td>30</td><td>35</td></tr>
<tr><td>C</td><td>18</td><td>50</td><td>16</td><td>55</td></tr>
</table></td></tr>
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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 20U2VMC3**

COURSE TITLE : Micro Economics – II **QN.NO : 10504**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	Which cost expresses the pains and sacrifices involved in producing a commodity? a) Implicit cost b) Explicit cost c) Money cost d) Real cost
CLO 1	2	2	The relationship between cost and output is known as a) Cost function b) Revenue function c) Production function d) Utility Function
CLO 2	1	3	Under perfect competition, market price is determined by two forces of a) Demand and supply b) Revenue and cost c) Input and output d) Profit and loss
CLO 2	2	4	Under long-run in the perfect competition, the firms can earn a) abnormal profit only b) either abnormal or loss c) loss only d) normal profit alone
CLO 3	1	5	The condition of equilibrium for the monopolist is a) MR = MC b) MC = AR c) MR = Price d) AC = AR
CLO 3	2	6	In Monopoly, the MR curve a) coincides with AR curve b) lies below AR curve c) lies above AR curve d) is a horizontal line
CLO 4	1	7	Which means the minimum amount of food, clothing and shelter which a worker and his family required for existence? a) Subsistence b) Standard of living c) Wage rate d) Minimum wage
CLO 4	2	8	Quasi-Rent is a) rent of dry land b) long-run rent of the land c) earnings of capital goods in the short-run d) rent of land
CLO 5	1	9	The Liquidity Preference Theory of Interest was propounded by a) Wicksell b) Senior c) D.H.Robertson d) J. M. Keynes
CLO 5	2	10	Innovation Theory of profit was propounded by a) Schumpeter b) Knight c) Walker d) Hawley

Contd…

			PART – B **(5 x 2=10)** **Answer all questions.**
CLO 1	1	11	Define equilibrium.
CLO 2	2	12	State the feature of a perfectly competitive market.
CLO 3	1	13	Express the meaning of monopolistic competition.
CLO 4	2	14	Outline the meaning of Quasi rent.
CLO 5	2	15	Indicate the three motives for liquidity preference.
			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Examine the relationship between fixed and variable cost. **(OR)** b) Describe the average cost and marginal cost.
CLO 2	3	17	a) Associate the importance of Marshall's time element. **(OR)** b) Indicate the equilibrium of the firm and under perfect competition.
CLO 3	3	18	a) Comment on characteristics of monopoly. **(OR)** b) Estimate the price discrimination under monopoly.
CLO 4	4	19	a) Identify the assumptions of Ricardian theory of rent. **(OR)** b) Identify the wage fund theory of wages.
CLO 5	3	20	a) Comment on loanable funds theory of rate of interest. **(OR)** b) Identify the innovation theory of profit.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Indicate the relationship between AR and MR curves under perfect competition and imperfect competition.
CLO 2	3	22	Construct the equilibrium of the firm under perfect competition during short run and long run.
CLO 3	4	23	Find the price and output determination under monopolistic competition.
CLO 4	3	24	Critically examine the marginal productivity of theory of distribution.
CLO 5	3	25	Describe the liquidity preference theory of interest

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 20U2VMC4**

COURSE TITLE : Entrepreneurship Development **QN.NO : 10505**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	The term Entrepreneur is derived from the a) French word b) American word c) Latin word d) German word
CLO 1	2	2	An entrepreneur is motivated by a) Salaries b) Profit c) Interest d) Rent
CLO 2	1	3	Who suffer a lot in raising and meeting the financial needs of the business? a) Women entrepreneurs b) Managers c) Entrepreneurs d) Men entrepreneurs
CLO 2	2	4	The new industrial policy has stressed the importance of a) Entrepreneurship among men b) Entrepreneurship among women c) Entrepreneurship among all d) None of the above
CLO 3	1	5	The most important cause of industrial disputes is a) Demand for more wages b) Demand for bonus c) Demand for improved working conditions d) Demand for implementation of labour acts
CLO 3	2	6	The traditional small scale industries are a) Highly labour intensive b) Highly land intensive c) Highly sophisticated machinery d) Highly sophisticated equipment
CLO 4	1	7	SSIB stands for a) Small Scale Industries Board b) Small Scale Industrial Bureau c) Small Scale Industries Bureau d) Small Scale Investment Board
CLO 4	2	8	Conventional industrial estate is also known as a) Traditional industrial estate b) Specific industrial estate c) Particular industrial estate d) None of these
CLO 5	1	9	Funds required for about a year or two is called a) Long term finance b) Short term finance c) Medium term finance d) None of these
CLO 5	2	10	The funds required for land, building, plant and machinery is called a) Fixed Capital b) Variable Capital c) Working Capital d) Capital gain

Contd…

			PART – B **(5 x 2=10)** **Answer all questions.**
CLO 1	1	11	Define Entrepreneur.
CLO 2	2	12	List out the characteristics of women entrepreneurs.
CLO 3	1	13	Express the meaning of MSMEs.
CLO 4	2	14	Relate general industrial estates with specific industrial estates.
CLO 5	2	15	Write a note on Institutional finance.
			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	1	16	a) Examine the Differences between entrepreneur and manager. **(OR)** b) Identify the various types of entrepreneurs.
CLO 2	2	17	a) Describe the problems of women entrepreneurs. **(OR)** b) Indicate the schemes to assist the women entrepreneurs.
CLO 3	3	18	a) Find the causes of industrial disputes. **(OR)** b) Identify the measures to develop the small scale industries.
CLO 4	3	19	a) Identify the various objectives of industrial estates. **(OR)** b) Identify the measures of industrial estates.
CLO 5	3	20	a) Identify the various functions of SISIs. **(OR)** b) Determine the different sources of finance.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Explain the various functions of an entrepreneur.
CLO 2	3	22	Identify the training programmes for women entrepreneurship.
CLO 3	4	23	Analyse the role of small scale and cottage industries in Indian Economy.
CLO 4	3	24	Identify the measures to solve industrial disputes.
CLO 5	4	25	Analyse the various functions of ICICI.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., Economics **COURSE CODE : 20U2VAC2**

COURSE TITLE : Economic Statistics – II **QN.NO : 10506**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	Who has developed Correlation coefficient? a) Bowely b) Yule c) Karl Pearson d) Spearman
CLO 1	2	2	The rank correlation coefficient was developed by a) Bowely b) Yule c) Karl Pearson d) Spearman
CLO 2	1	3	When two variables are correlated, there will be a a) Regression b) Correlation c) Skewness d) Time series\
CLO 2	2	4	Find the value of Y, in the regression equation y = 8.5x+ 34.5 when x = 6 a) 85.5 b) 77.5 c) 67.5 d) 70
CLO 3	1	5	If for two attributes the class frequencies(AB)(αβ)=(Aβ)(αB), then Q is equal to: a) 0 b) -1 c) +1 d) ∞
CLO 3	2	6	If two attributes A and B have perfect positive association the value of coefficient of association is equal to: a) +1 b) -1 c) 0 d) (r-1)(c-1)
CLO 4	1	7	An arrangements of statistical data in accordance with chronological is called a) Time series b) Regression c) Correlation d) Numbers
CLO 4	2	8	The straight line equation is represented a) Y =a+b b) Y = a+bx c) Y =a+by d) Y =b+a
CLO 5	1	9	The value of probability lies between a) -1 and +1 b) 0 and 1 c) -1and 0 d) None of these
CLO 5	2	10	When the probability occurrence of A and B when they are independent is given by a) P(A) X P(B) b) P(A) X P(B) – P(AB) c) P(A) + P(B) X P(AB) d) P(A) + P(B)
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Define correlation.
CLO 2	2	12	State any two uses of regression.
CLO 3	1	13	Show the Yule's coefficient.
CLO 4	2	14	Write a note on Moving Average Method.
CLO 5	2	15	Indicate the Addition theorem .
			PART – C (5 x 5=25) **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Calculate the coefficient correlation for given data **X** 2 3 6 5 8 9 **Y** 6 5 7 8 12 11 **(OR)**

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			b) Calculate coefficient of correlation by the method of rank differences from the following data **X** 20 11 72 65 42 27 50 **Y** 60 63 26 35 43 51 37
CLO 2	3	17	a) With the help of regression equation Y on X for the following data. Calculate the value of x when y = 20 **X** 10 12 13 17 18 **Y** 5 6 7 9 13 **(OR)** b) Distinguish between correlation and regression.
CLO 3	3	18	a) From the following data find out the missing frequencies AB = 100, A = 300, N = 1000, B = 600 **(OR)** b) What is meant by association of attributes, how does it differ from correlation?
CLO 4	4	19	a) Fit a trend line for the following data using free hand curve method **Year** 1998 1999 2000 2001 2002 2003 2004 **Production** 22 24 21 23 26 24 27 **(OR)** b) Fit a straight line trend by the method of least squares for the following data **Year** 1995 1996 1997 1998 1999 **Profit** 70 74 80 86 90
CLO 5	3	20	a) A bag contains 4 white, 3 black, and 5 red balls. Compute the probability of getting a white or red ball at random in a single drawn? **(OR)** b) Identifying the multiplication theorem of probability.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Find the Karl Pearson's coefficient correlation. **X** 160 164 172 182 166 170 178 192 186 **Y** 292 280 260 234 266 254 230 190 200
CLO 2	4	22	Develop the two regression equations from the following data **Husband** 25 22 28 26 35 20 22 40 20 18 **Wife** 18 15 20 17 22 14 16 21 15 14
CLO 3	3	23	Calculate Yule's coefficient of association for the following data: (i) (A) = 600; (B) = 800 ;(AB) = 480; N = 1000 (ii) (A) = 600; (B) = 800; (AB) = 600; N = 1000 (iii) (A) = 600; (B) = 800; (AB) = 400; N = 1000 (iv) (A) = 600; (B) = 800; (AB) = 500; N = 1000
CLO 4	3	24	Find four yearly centered moving average for the following data **Years** 1996 1997 1998 1999 2000 2001 2002 2003 2004 **Workers** 126 134 142 165 178 190 228 236 252
CLO 5	3	25	There are 50 balls in a box consecutively numbered from 1 to 50. One ball selected at random find out the probability that its number is divisible by 5 0r 6.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME : B.Sc., Mathematics **COURSECODE : 20U2MMC3**

COURSE TITLE : Analytical Geometry of Three Dimension and Vector Calculus **QN.NO : 10604**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	Equation of the plane having intercepts a,b,c with the coordinate axes is _____ a) $\frac{x}{a}+\frac{y}{b}+\frac{z}{c}=1$ b) $\frac{x}{a}+\frac{y}{b}+\frac{z}{c}=-1$ c) $\frac{x}{a}+\frac{y}{b}+\frac{z}{c}=0$ d) $\frac{x}{a}+\frac{y}{b}+\frac{z}{c}=3$
CLO 1	2	2	Length of the perpendicular from a point A $(1,1,1)$ to the plane $2x+2y+z+3=0$ is _____ a) $\frac{8}{5}$ b) $\frac{8}{\sqrt{5}}$ c) $\frac{8}{3}$ d) $\frac{8}{\sqrt{3}}$
CLO 2	1	3	The curve of intersection of two spheres is_____ a) a plane b) a circle c) an ellipse d) a parabola
CLO 2	2	4	The equation of the tangent plane to the sphere $x^2+y^2+z^2+2ax+2by+2cz+d=0$ at the origin is _____ a) $x+y+z=d$ b) $ax+by+cz=d$ c) $ax+by+cz+d=0$ d) $x+y+z-d=0$
CLO 3	1	5	Direction ratio of the line $\frac{x}{1}=\frac{y}{-2}=\frac{z}{3}$ is_____ a)1, 2,3 b) 1,-2,3 c) -1,2,-3 d) -1,-2,-3
CLO 3	2	6	Equation of the right circular cone with vertex origin, axis the z-axis and semi-vertical angle $\alpha=\frac{\pi}{2}$ is _____ a) $x^2+y^2=0$ b) $x^2+y^2=z^2$ c) $x^2+y^2=-z^2$ d) $x^2+y^2+z^2=0$
CLO 4	1	7	A vector $\vec{f}$ is called harmonic vector if_____ a) $\nabla\vec{f}=\vec{0}$ b) $\nabla^2\vec{f}=\vec{f}$ c) $\nabla\vec{f}=\vec{f}$ d) $\nabla^2\vec{f}=0$
CLO 4	2	8	If $\vec{f}$ and $\vec{g}$ are irrotational then $\vec{f}\times\vec{g}$ is _____ a) irrotational b) harmonic c) solenoidal d) neither solenoidal nor irrotational
CLO 5	1	9	If C is the straight line joining (0,0,0) and (1,1,1). Thus $\int_C \vec{r}.d\vec{r}$ is _____ a) $\frac{1}{2}$ b) 1 c) $\frac{3}{2}$ d) 2
CLO 5	2	10	The value of $\int_0^1\int_x^1(x^2+y^2)dy\,dx$ is _____ a) $\frac{1}{2}$ b)1 c) $\frac{2}{3}$ d) $\frac{1}{3}$

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			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	2	11	Find angle between two planes $2x-y+z=6$ and $x+y+2z=7$.
CLO 2	2	12	Find the equation of the sphere on AB as diameter where A is (1,2,3) and B(3,2,1).
CLO 3	3	13	Find the equation of the cone whose vertex is (1,1,1) and base circle is $x^2+y^2=4;\ z=2$.
CLO 4	1	14	Prove that $\nabla(\vec{f}\times\vec{g})=\vec{g}.(\nabla\times\vec{f})-\vec{f}.(\nabla\times\vec{g})$.
CLO 5	2	15	Evaluate $\iint_R 2(3y-xy)dxdy$ and R is the region bounded by straight line y=6-2x and x=0 to x=3.
			PART – C (5 x 5=25) **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Prove that equation of the plane having intercepts a,b,c with the coordinate axes is $\frac{x}{a}+\frac{y}{b}+\frac{z}{c}=1$. **(OR)** b) Prove that $2x^2-6y^2-12z^2+18yz+2zx+xy=0$ represents a pair of planes and find the angle between them.
CLO 2	4	17	a) Prove that the circles $x^2+y^2+z^2-2x+3y+4z-5=0;\ 5y+6z+1=0$ and $x^2+y^2+z^2-3x-4y+5z-6=0;\ x+2y-7z=0$ lie on the same sphere and find its equation. **(OR)** b) Find the equation of the sphere though the circle $x^2+y^2+z^2+2x+3y+5z=0;\ 2x+6y+5z-6=0$ and passing through the centre of the sphere $x^2+y^2+z^2-2x-4y+6z+1=0$
CLO 3	3	18	a) Find the equation of the cone whose vertex is the origin and whose base is the circle through the points $A(1,0,0),\ B(0,1,0),C(0,0,1)$. **(OR)** b) Find the equation of the right circular cylinder which passes through the circle $x^2+y^2+z^2=9;\ x+y+z=3$
CLO 4	1	19	a) If $\vec{f}$ is solenoidal. Prove that curl curl curl curl $\vec{f}=\nabla^4\vec{f}$. **(OR)** b) Find equation of the (i) tangent plane and (ii) normal line to the surface xyz=4 at point(1,2,2).
CLO 5	3	20	a)Verify $\int_C \vec{f}.d\vec{r}$ where $\vec{f}=(x^2+y^2)\vec{i}-2xy\,\vec{j}$ and the curve C is the rectangle in x-y plane bounded by y=0, y=b, x=0, x=a. **(OR)** b) By using stoke's theorem prove that $\int_C (yz\,dx+zx\,dy+xy\,dz)=0$ where C is the curve $x^2+y^2=1,\ z=y^2$.

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			PART – D (3 x 10 = 30) **Answer any THREE questions.**
CLO 1	3	21	Find the bisector of the obtuse angle between the planes $3x+4y-5z+1=0$; $5x+12y-13z=0$.
CLO 2	3	22	A moving plane intersects the coordinate axes in A,B,C. If the plane always passes through a fixed point (a, b, c). Prove that the locus of the centre of the sphere OABC is $\frac{a}{x}+\frac{b}{y}+\frac{c}{z}=2$.
CLO 3	3	23	Find the angle between the lines of intersection of the cone $6xy-2yz+3zx=0$ and $x+y+z=0$
CLO 4	2	24	Find the equation of the i) tangent line & ii) normal plane to curve of intersection of surfaces $3x^2+y^2z+2=0; 2xz-x^2y-3=0$ at the point (1,1,1).
CLO 5	4	25	Verify Stoke's theorem for $\vec{f}=(x^2-y^2)\vec{i}+2xy\,\vec{j}$ in the rectangular region x=0, y=0, x=a, y=b.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Mathematics **COURSE CODE : 20U2MMC4**

COURSE TITLE : Discrete Mathematics **QN.NO : 10605**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	2	1	If $n(A) = 20, n(B) = 30$ and $n(A \cup B) = 40$, then $n(A \cap B)$ is _ a) 20 b) 30 c) 40 d) 10
CLO 1	1	2	The dual of a set equation is obtained by a) interchanging the symbols $\cup$ and $\cap$ b) interchanging the symbols $\cup$ and Δ c) interchanging the symbols **U** and $\emptyset$ d) interchanging the symbols $\cup$ and $\cap$ and also **U** and $\emptyset$
CLO 2	1	3	A relation R on a set A which is reflexive, antisymmetric and transitive is said to be a a) partial order relation b) equivalence relation c) transitive relation d) inequivalence relation
CLO 2	2	4	The relation R on N defined by aRb if and only if 'a divides b' is a) Transitive, symmetric but not reflexive b) Reflexive, asymmetry but not transitive c) Reflexive, transitive but not symmetric d) Symmetric, Reflexive, and antisymmetric
CLO 3	1	5	The truth value of $p \rightarrow q$ is F if and only if the truth values of p and q are respectively a) T and T b) T and F c) F and T d) F and F
CLO 3	2	6	Which of the following formulae is neither CNF nor DNF? a) $\neg p \vee (p \wedge q)$ b) $(p \vee q) \vee (q \wedge \neg p) \wedge \neg q$ c) $\neg p \vee q \vee (p \wedge q)$ d) $\neg p \wedge (p \vee q)$
CLO 4	1	7	Which of the following is the recurrence relation for the Fibonacci sequence? a) $Fn = Fn-1 + Fn-2$ b) $Fn - Fn-1 + Fn-2 = 0$ c) $Fn = Fn-1 - Fn-2$ d) $Fn = F0 + Fn-2$
CLO 4	2	8	Find the value of a4 for the recurrence relation $a_n = 2a_{n-1} + 3$, with $a_0 = 6$. a) 320 b) 221 c) 65 d) 141
CLO 5	1	9	The system of linear equations AX = B is consistent if and only if a) ss b) rank of A = rank of (A, B) c) rank of (A, B) < rank of B d) rank of A < rank of (A, B)
CLO 5	2	10	Which of the following cannot be the determinant of a skew symmetric matrix of even order? a) 9 b) 7 c) 49 d) 4

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			PART – B **(5 x 2=10)** **Answer all questions.**
CLO 1	1	11	Find the number of subsets of {1,2,3,4,5,6,7,8,9,10} with at least 7 elements:
CLO 2	2	12	If f is the function defined on A = {1, 2, 3} by $f(1) = 2$, $f(2) = 1$ and $f(3) = 3$,compute f^3
CLO 3	1	13	Which of the following is/are not well-formed formula? -Justify. i) (p v q) ii) (p Λ q → ¬p v q) iii) ((p → q) → (Λ q))
CLO 4	2	14	The number of bacteria in a colony doubles every hour and the colony begins with 5 bacteria. Find the recurrence relation which represents the number of bacteria in the colony after n hours.
CLO 5	2	15	Reduce the matrix to canonical form: $\begin{pmatrix} 1 & 2 & -1 \\ 1 & 1 & 2 \\ 2 & 4 & -2 \end{pmatrix}$
			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Among 50 students in a class, 26 passed in first semester and 21 passed in second semester exams. If 17 did not pass in either semester, how many passed in both semesters? **(OR)** b) State and prove De Morgan's Laws for sets.
CLO 2	3	17	a) Verify the identity $(g \circ f)^{-1} = f^{1} \circ g^{-1}$ for bijective functions: **(OR)** b) Determine whether or not the relation "congruence modulo m" over the set of positive integers is an equivalence relation.
CLO 3	3	18	a) Prove that i) ¬(P ↔ Q)⇔(P ∨ Q) Λ¬ (P Λ Q) ii) ¬(P ↔ Q)⇔(P Λ¬ Q) ∨ (¬ P Λ Q) **(OR)** b) Obtain the conjunctive normal form of (p Λ ¬ (q ∨ r)) ∨ (((pΛq) ∨ ¬ r) Λp)
CLO 4	4	19	a) Solve the recurrence relation $u_{n+3} - 6u_{n+2} + 11u_{n+1} - 6u_n = 0$, $u_0 = 2$, $u_1 = 0$, $u_2 = -2$. **(OR)** b) Solve: $S(k) + 5S(k-1) = 9$, $S(0) = 6$, using generating functions.
CLO 5	3	20	a) Verify Cayley – Hamilton theorem for the matrix. $A = \begin{pmatrix} 2 & 1 & 1 \\ 0 & 1 & 0 \\ 1 & 1 & 2 \end{pmatrix}$ **(OR)** b) Examine the consistency of the following system of equations and solve it if it is consistent.$x + 2y + 3z = 5$; $2x + 3y + 4z = 5$; $x + 7y - 3z = 15$

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			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	In a survey of 100 students, it was found that 40 studied Mathematics, 64 studied Physics, 35 studied Chemistry, 1 studied all the three subjects, 25 studied Mathematics and Physics, 3 studied Mathematics and Chemistry and 20 studied Chemistry and Physics. Find the number of students who studied Chemistry only and the number students studied none of these subjects.
CLO 2	3	22	Let f(x) = x + 2, g(x) = x – 2 and h(x) = 3x for $x \in R$. Evaluate f○g, g○f, f○ f , g ○g, f○ h, h ○g, h ○ f and f○g○h.
CLO 3	4	23	Which of the following statements are tautologies? i) $(q \vee r) \rightarrow (p \wedge \neg r)$ ii) $(p \wedge (p \leftrightarrow q)) \rightarrow q$ iii) $(p \rightarrow q) \leftrightarrow (\neg p \vee \neg q))$
CLO 4	3	24	Solve the recurrence relation $S(k) + 5S(k-1) + 6S(k-2) = 3k^2 – 2k + 1$
CLO 5	4	25	For what values of λ and μ the system of equations is i) Inconsistent ii) Consistent and iii) Consistent and the solution is unique. $x + y + z = 6$; $x + 2y + 3z = 10$; $x + 2y + \lambda z = \mu$

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 20U2MAC2**

COURSE TITLE : Allied Mathematics-II **QN.NO : 10606**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	The order of the differential equations $2x^2\frac{d^2y}{dx^2}-3\frac{dy}{dx}+y=0$ is_____. a)2 b) 1 c)0 d)None
CLO 1	2	2	The differential equation $(x^2-4xy-2y^2)dx+(y^2-4xy-2x^{2)}=0 is$ _____. a)An exact differential equation b)A Partial differential equation c)A second order partial differential equation d)A linear differential equation of higher order
CLO 2	1	3	The particular integral of $(D^2+1)y=x$ is _____. a) x b) x^2 c)1 d) 0
CLO 2	2	4	If linear differential equation of second order satisfies $1+p+q=0$ then the one part of C.F is _____. a) $y=e$ b) $y=e^x$ c) $y=e^{2x}$ d) $y=e^{3x}$
CLO 3	1	5	The partial differential equation, by eliminating the arbitrary constants a and b from $z=axy+b$ is _____. a) $px+qy=0$ b) $py+qx=0$ c) $px-qy=0$ d) $py-qx=0$
CLO 3	2	6	The PDE after the elimination of the arbitrary function f from $z=f\left(\frac{y}{x}\right)$ is a) $p\,x-q\,y=0$ b) $p\,x+q\,y=0$ c) $p\,y+q\,x=0$ d) $py-qy=0$
CLO 4	1	7	$L(\cos ax)=$ _____. a) $\frac{s}{s^2-a^2}$ b) $\frac{s}{s^2+a^2}$ c) $\frac{a}{s^2-a^2}$ d) $\frac{a}{s^2+a^2}$
CLO 4	2	8	$L^{-1}[x]=$ _____. a) $\frac{1}{s}$ b) $\frac{-1}{s^2}$ c)1 d)0
CLO 5	1	9	If $U_x=ab^x$ and the interval of differencing is h then ΔU_x is _____ a) $ab^x(b^h-1)$ b) $a^x\,b(b^h-1)$ c) $ab^x(1-b^h)$ d) $(ab)^x(b^h-1)$
CLO 5	2	10	If the interval of differencing is 1 then $\Delta^3 x^3$ is _____ a) $3x^2$ b) $3(x^2+1)$ c) $6(x+1)$ d) $3(x+1)^3$
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Find the solution of $(D^3+3D^2+3D+1)y=e^{-x}$.

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CLO 2	2	12	Define complementary function.
CLO 3	2	13	State classification of integrals in PDE.
CLO 4	2	14	If $L[f(x)]=F(S)$ then prove that $L[e^{-ax}f(x)]=F(S+a)$.
CLO 5	1	15	Define Lagrange's formula.
			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Solve $y-x\frac{dy}{dx}=a\left(y^2+\frac{dy}{dx}\right)$ **(OR)** b) Solve $(x^2+y^2)dx-2xydy=0.$
CLO 2	3	17	a) Solve $(D^2+9)y=\cos 3x.$ **(OR)** b) Determine $\left(D^3-3D^2+3D-1\right)y=x^2e^x$.
CLO 3	4	18	a) Find the general solution of PDE $p\cot x+q\cot y=\cot z$. **(OR)** b) Examine the PDE type and solve $4(1+z^3)=9z^4\,pq.$
CLO 4	2	19	a) Find the Laplace transformation of x^2e^{-ax}. **(OR)** b) Find $L^{-1}\left[\frac{1}{s(s+1)(s+2)}\right]$.
CLO 5	2	20	a) Find Δ^5U_0 Where $U_0=1,\ U_1=5,\ U_2=8,\ U_3=3,\ U_4=7,\ and\ U_5=0$. **(OR)** b) Prove that $U_0=\frac{1}{2}(U_1+U_{-1})-\frac{1}{8}\left(\frac{1}{2}(U_3-U_1)-\frac{1}{2}(U_{-1}-U_{-3})\right)$ by using means of Lagrange's formula.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	3	21	Verify whether $y(xy+2x^2y^2)dx+x(xy-x^2y^2)dy=0$ is not exact if so solved.
CLO 2	3	22	Solve $(D^2-4D+4)y=3x^2e^{2x}\sin 2x.$
CLO 3	4	23	Solve $p^3+q^3=27z.$
CLO 4	3	24	Using Laplace transform, solve $\frac{dx}{dt}+y=\sin t$ and $\frac{dy}{dt}+x=\cos t$ given $x(0)=2$ and $y(0)=0.$
CLO 5	3	25	Determine by Lagrange's formula the percentage number of criminals less than 35 years.

Age	Percentage of criminals
Under 25 years	52.0
Under 30 years	67.3
Under 40 years	84.1
Under 50 years	94.4

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Physics **COURSE CODE :20U2PMC3**
COURSE TITLE : Heat &Thermodynamics **QN.NO : 10806**
TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	The unit for specific heat is _____ a) calorie/g°C. b) gram c) calorie d) Kelvin
CLO 1	2	2	The manometer used in Regnault's method measures the _____ of the gas a) Pressure b) Volume c) density d) viscosity
CLO 2	1	3	A perfectly black body is that which _____ a) absorbs all radiation incidents on it b) Emits all radiations c) absorbs and emits all radiations d) does not emits radiations.
CLO 2	2	4	The ratio of thermal conductivity to thermal capacity per unit volume is defined as _____ a) Thermal diffusivity b) thermal expansion c) Thermal conductivity d) viscosity
CLO 3	1	5	The mean free path of a gas molecule is inversely proportional to _____ a) Square of the diameter of the molecule b) square root of the diameter of the molecule c) molecular diameter d) forth power of the diameter.
CLO 3	2	6	Viscosity of the gas is proportional to _____ a) Temperature b) density of the gas c) $\sqrt{T}$ d) T^2
CLO 4	1	7	First law of thermodynamics is a consequence of the conservation of _____ a) Momentum b) charge c) Mass d) energy
CLO 4	2	8	The second law of thermodynamics is concerned essentially with _____ a) nature of heat flow b) amount of heat flow c) Direction of heat flow d) speed of heat flow
CLO 5	1	9	Entropy remains constant in _____ a) Adiabatic process b) isothermal process c) Isochoric process d) isolated process
CLO 5	2	10	When water vapour condenses into water, its entropy _____ a) Increases b) decreases c) remains unchanged d) First increases and then decreases

Contd…

			PART – B **(5 x 2=10)** **Answer all questions.**
CLO 1	1	11	Define Calorie.
CLO 2	2	12	State Wien's displacement law.
CLO 3	1	13	Give any 2 postulates of kinetic theory of gases.
CLO 4	2	14	State zeroth law of thermodynamics.
CLO 5	2	15	Give the expression for entropy. What is the unit of entropy?
			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Determine the specific heat capacity of a gas at constant pressure (C_p) by Regault's method. **(OR)** b) Find the specific heat of a liquid which takes 2 minutes in cooling from 50°Cto 40°Cin a vessel in which the same volume of water takes
CLO 2	3	17	Describe Water flow pyrheliometer and explain how solar constant is determined from it. **(OR)** State and explain Kirchhoff's laws. Give its application.
CLO 3	3	18	Calculate the values of Critical constants in terms of the constants of the Van der Waal's equation. **(OR)** Explain the principle of regenerative cooling with neat diagram.
CLO 4	4	19	State& prove Carnot's theorem. Show that temperature below zero Kelvin is not possible. **(OR)** Show that for an adiabatic change in a perfect gas PV^{γ}= constant.
CLO 5	3	20	Derive an expression for change of entropy of a perfect gas. **(OR)** State and prove the principle of increase of entropy.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	How will you find the specific heat of a liquid by the Newton's law of cooling method?
CLO 2	3	22	How will you find the specific heat of a liquid by the Newton's law of cooling method?
CLO 3	3	23	List out the difference between Joule Thomson expansion and adiabatic expansion.
CLO 4	3	24	Find the efficiency of Carnot's engine working between steam point and ice point
CLO 5	4	25	Derive Maxwell's thermo dynamical relations.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Physics **COURSE CODE : 20U2PMC4**
COURSE TITLE : Optics **QN.NO : 10807**
TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) **Answer all Multiple choice questions by choosing the correct option.**
CLO 1	1	1	Who proposed the principle of least time a) Christian Huygens b) Isaac Newton c) Pierre de Fermat d) Michael Faraday
CLO 1	2	2	When light rays travel in a homogeneous medium a) Straight line b) Circular path c) Parabola path d) Elliptical path
CLO 2	1	3	What is the purpose of implementing achromatic combination of lenses a) To reduce Spherical aberration b) To reduce chromatic aberration c) To reduce astigmatism d) To reduce coma
CLO 2	2	4	Indicate the correct form of eyepiece in a telescope if the telescope is designed by Ramsden'seyepiece a) Positive eyepiece b) Negative eyepiece c) Positive meniscus d) Negative meniscus
CLO 3	1	5	Who suggests the light propagates in a form of wave. a) Christian Huygens b) Isaac Newton c) Pierre de Fermat d) Michael Faraday
CLO 3	2	6	Indicate the phenomenon involving in the Michelson's interferometer a) Diffraction b) Polarization c) Coherence d) Interference
CLO 4	1	7	Name the suitable phenomenon by the following statement, light waves are bending of around the edges of an obstacle. a) Diffraction b) Scattering c) Polarization d) Interference
CLO 4	2	8	Indicate the correct option regarding the resolving power of the prism a) Directly proportional to the length of the base of the prism b) Rate of change of refractive index to wavelength c) $t\ \frac{d\mu}{d\lambda}$ d) All the above
CLO 5	1	9	Which device is used to produce unpolarized light into polarized light a) Interferometer b) Diffractometer c) Polarizer d) Analyzer
CLO 5	2	10	Trace the suitable device to produce elliptically polarized light a) Full wave plate b) Half wave plate c) Full wave plate d) Both half wave plate and full wave plate

Contd…

			PART – B **(5 x 2=10)** **Answer all questions.**
CLO 1	1	11	State principle of least time.
CLO 2	2	12	Write any two merits of Huygen's eyepiece
CLO 3	1	13	Write a short note on thin film
CLO 4	2	14	Write a short on zone plate
CLO 5	2	15	Write a short note on polarization.
			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) State Fermat's principle of extremum path and describe it. **(OR)** b) How the direct vision spectroscope is constructing with crown and flint glass prism?
CLO 2	3	17	a) Discover the focal lengths of achromatic combination of two lenses namely A and B whose mean focal length is 30cm and its dispersive power in the ratio of 1:2 **(OR)** b) Calculate the focal lengths of a convex lens of crown glass (dispersive power 0.012) and a concave lens of flint glass (dispersive power 0.020) So that when placed in contact they form an achromatic converging combination of focal length 30cm.
CLO 3	3	18	a) Summarize the concept of interference **(OR)** b) Discuss the theory of Newton's rings experiment with neat diagram.
CLO 4	4	19	a) Prepare an account of the phenomenon and related theory of diffraction due to a straight edge. **(OR)** b) According to Fresnel, the resultant effect at an external point due to a wavefront will depend on the factors. Discuss it
CLO 5	3	20	a) Manipulate the phase difference relation between extraordinary ray and ordinary ray. **(OR)** b) Calculate the least thickness of a calcite plate which would convert plane polarized light into circularly polarized light. Given $\mu_0 = 1.658$, $\mu_e = 1.486$ and wavelength of light is 5890Å.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Suppose if the object is at finite distance to solve the Lens maker's equation of a thin lens.
CLO 2	3	22	Differentiate between Huygen's and Ramsden's eyepiece.
CLO 3	4	23	Explain the principle and working of a Michelson's interferometer.
CLO 4	3	24	Describe and explain the Fraunhoffer pattern obtained with a narrow silt and illuminated by a parallel beam of monochromatic light.
CLO 5	4	25	Build an experiment for the production and detection of the circularly polarized light.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: BSc., **COURSECODE: 20U2PAC2**

COURSE TITLE: Allied Physics-II **QN.NO : 10809**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	The Unit of charge is a) Ampere b) volt c) farad d) coulomb
CLO 1	2	2	The specific resistance of the material of the wire depends on the a) area of cross section b) length c) mass d) all of the above
CLO 2	1	3	Lenz's law is based on which of the following conservation? a) Charge b) Mass c) Momentum d) Energy
CLO 2	2	4	A solenoid is connected to a battery so that a steady current flow through it. If an iron core is inserted into the solenoid, the current will a) Increase b) Decrease c) Remains the same d) First increase then decrease
CLO 3	1	5	What causes spectral lines? a) Transition of electrons between two energy levels b) Transition of electrons between wavelength ranges c) Magnetic and electric field exiting in an atom d) Transition of electrons from electric to magnetic field.
CLO 3	2	6	What type of reaction takes place in sun? a) Nuclear fusion b) Nuclear fission c) Spontaneous fission d) Double beta decay
CLO 4	1	7	What are the charge carriers in semiconductors? a) Electrons and holes b) Electrons c) Holes d) Charges
CLO 4	2	8	Zener diode is designed to specifically work in which region without getting damaged? a) Active region b) Breakdown region c) Forward bias d) Reverse bias
	1	9	The digital systems usually operate on _____ system. a) Binary b) Decimal c) Octal d) Hexadecimal
	2	10	The number 12_8 is equivalent to decimal a) 12 b) 20 c) 10 d) 4

Contd…

			PART – B **(5 x 2=10)** **Answer all questions.**
CLO 1	1	11	State Ohm's law
CLO 2	2	12	State Faraday's law
CLO 3	1	13	State Bragg's law
CLO 4	2	14	What is intrinsic and extrinsic semiconductors
CLO 5	2	15	Label the action of NOT gate.
			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Describe the condensers in series and parallel **(OR)** b) State and explain the Kirchoff's first and second law
CLO 2	3	17	a) Explain the self-inductance of a long solenoid. **(OR)** b) Write and explain the expression for quality factor and bandwidth from the graph between current and the frequency in the LCR series circuit?
CLO 3	4	18	a) A 10 kg satellite circles earth once every 2hours in an orbit having a radius of 8000 km. Assuming that Bohr's angular momentum postulate applies to satellites just as it does to an electron in the hydrogen atom, Analyze the quantum number of the orbit of the satellite? **(OR)** b) Comment: why in the absorption spectrum of hydrogen, absorption lines of only lyman series appear.
CLO 4	2	19	a) Describe the formation of depletion layer. **(OR)** b) Write a note on transistor biasing.
CLO 5	3	20	a) Calculate A) add 110011_2 to 101101_2 b) subtract 0111_2 from 1001_2 **(OR)** b) Demorganize the expression: $\overline{(A+B)(C+D)}$
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Explain with necessary theory how a Carey Foster bridge may be used to compare two nearly equal resistances? Hence show how the specific resistance can be measured with a Carey Foster bridge?
CLO 2	3	22	Determine the AC circuit containing resistance, inductance and capacitance.
CLO 3	4	23	Examine the mass defect, the total binding energy and the binding energy per nucleon of $^{62}_{28}$Ni, which has the highest binding energy per nucleon of all nuclides. The neutral atomic mass of $^{62}_{28}$Ni is 61.928345 u.
CLO 4	3	24	Explain the Hartley oscillator
CLO 5	3	25	Solve and Prove the following Boolean identity: a) (A+B) (A+$\bar{B}$) ($\bar{A}$ + C) = AC b) ABC + $A\bar{B}$C+AB$\bar{C}$ = A (B+C)

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 20U1CAC1**

COURSE TITLE : Allied Chemistry - I **QN.NO : 10903**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) **Answer all Multiple choice questions by choosing the correct option.**
CLO 1	1	1	How many number of electrons (maximum) can be accommodated in an orbit? a) 2n b) n^2 c) $2n^2$ d) 2n+1
CLO 1	2	2	Show the orbital with n=3 and l=2 a)3s b) 3p c) 3d d) 3f
CLO 2	1	3	Which one is correct in greater extent manner? a) p > f > d > s b) f > d > p > s c) s > p > d > f d) f > s > p > d
CLO 2	2	4	A sigma bond is formed by..... overlapping of orbitals a)axial b) co-axial c) lateral d) none of these
CLO 3	1	5	Which among the following aldehyde is used in the manufacture of plastics? a) Propanaldehyde b) Acetaldehyde c) Benzaldehyde d) Formaldehyde
CLO 3	2	6	The name of $(CH_3)_2NH$ is a) Trimethylamine b) *N*-methylamine c) Methylamine d) Dimethylamine
CLO 4	1	7	The process of adsorption is a) exothermic b) endothermic c) endergonic d) none of the above
CLO 4	2	8	Physical adsorption generally_____with increasing temperature. a) decreases b) increases c) no effect d) none of these
CLO 5	1	9	An enzyme used for the inversion of cane sugar_____ a) Maltase b) Zymase c) Invertase d) Urease
CLO 5	2	10	An enzyme used for the hydrolysis of maltose is_____ a) Maltase b) Invertase c) Urease d) Zymase
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	What are the limitations of Sommerfeld atomic model?
CLO 2	1	12	Define hybridization with example
CLO 3	2	13	Write four uses of haloalkanes
CLO 4	2	14	Write short notes on Physical Adsorption
CLO 5	2	15	Write short notes on catalytic promoter

Contd…

			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	1	16	a) How Bohr's model of atom successfully explains the spectrum of hydrogen atom? **(OR)** b) Describe the shapes of s, p, and d-orbitals with a neat diagram.
CLO 2	3	17	a) Write down the salient features of the concept of hybridization. **(OR)** b) Explain sp^2 hybridization with example.
CLO 3	3	18	a) How will you prepare 1-butanol and benzophenone? **(OR)** b) How will you prepare n-propylamine and ethyl *p*-aminobenzoate
CLO 4	3	19	a) Classify Physical adsorption and chemical adsorption process. **(OR)** b) Distinguish the Adsorption, Absorption, Adsorbate and Adsorbent.
CLO 5	4	20	a) Bring out difference between Promotors and catalysts. **(OR)** b) Briefly explain the Inversion of sucrose reaction.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Explain the following: i) Heisenberg uncertainty principle with example **(5)** ii) Aufbau principle with illustration **(5)**
CLO 2	4	22	Describe SP^3 hybridization of orbital of carbon atom in methane molecule.
CLO 3	3	23	Discuss addition reaction with suitable examples.
CLO 4	3	24	Deduce Freundlich adsorption isotherm of a gas on a solid surface.
CLO 5	4	25	Explain the intermediate compound formation theory.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSECODE: 20U2CMC3**

COURSE TITLE : General Chemistry – III **QN.NO : 10906**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct opt
CLO 1	1	1	Which one of the following statement is correct? a) The boiling point of iso-butane is lower than n-butane b) The boiling point of iso-butane is higher than n-butane c) The boiling point of iso-butane is equal to n-butane d) None of the above
CLO 1	2	2	Identify the homogenous catalyst used for reduction of alkenes? a) H_2/Ni b) H_2/Pt c) $RhCl(PPh_3)_3$ d) H_2/Pd
CLO 2	1	3	What would result from dehydrohalogenation reaction of 2-bromobutane with alc.KOH? a) 1-Butene b) 2-Butene c) 2-Butanol d) 2-Methyl propene
CLO 2	2	4	Out of the following alkenes which one is the most stable? a) cis-2-Butene b) Ethene c) Propene d) trans-2-Butene
CLO 3	1	5	Which one of the following shows evidence in support of Baeyer's strain theory for stability of cycloalkanes? a) Heat of combustion values b) ring opening reactions c) steric hindrance d) all of these
CLO 3	2	6	The most stable and preferred conformation of cyclopentene is: a) Planar b) Chair c) Envelope d) Boat
CLO 4	1	7	What will be the Diels-Alder product formed by the reaction of 1,3-butadiene and 1,2-dichloroethene? a) cyclohexene b) 3-chloro cyclohexene c) 3, 4-dichlorocyclohexene d) 1, 2-dichlorocyclohexene.
CLO 4	2	8	What would happen if addition of bromine to 1,3-butadiene is carried out at elevated temperatures above 60 °C? a) 1, 4-addition product will be major product formed. b) Thermodynamically stable product will be selectively formed. c) 1, 4-Dibromo-2-butene will be selectively formed in large amount. d) All of above statements are true.
CLO 5	1	9	Which one of the following relationship explains Boyle's law: a) Volume α $[Pressure]^{-1}$ b) Volume α [Pressure] c) Volume α [Temperature] d) all of these
CLO 5	2	10	The temperature at which the second virial coefficient of a real gas is zero is called a) Critical temperature b) Boiling point c) Boyle temperature d) none of these

Contd…

			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	State Markownikoff's rule and give an example.
CLO 2	2	12	How will you show that acetylene is more acidic than ethylene?
CLO 3	1	13	What will be the angle strain, if a cycloalkane has an internal bond angle of 135°?
CLO 4	2	14	How will you synthesize cis1, 2-cyclohexanediol from cyclohexene?
CLO 5	2	15	Define critical pressure, and critical volume of a gas.
			PART – C (5 x 5=25) **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Write a short note on "Kolbe's electrolyte method" for the synthesis of alkanes. **(OR)** b) Discuss the stereochemistry of addition of halogen to carbon-carbon double bond.
CLO 2	3	17	a) How would you explain the following statement : "Acetylene is less reactive than ethene though it is highly unsaturated" **(OR)** b) Clarify why acetylene is a stronger acid than ammonia but weaker acid than water.
CLO 3	3	18	a) Outline the product formed from addition of HBr to cyclopropane, cyclobutane and cyclohexane. Give reason. **(OR)** b) Account for the relative stabilities of 3,4,5 and 6 membered cyclic system using Baeyer's strain theory and discuss its limitations.
CLO 4	4	19	a) Explain why 1,4-addition is the major mode of addition to a conjugated diene? **(OR)** b) Outline the synthesis of trans-1,2-cyclohexane diol.
CLO 5	3	20	a) Using equations, Relate Average Velocity, RMS Velocity and Most Probable Velocity. **(OR)** b) Write the expressions for Expansivity and Compressibility. Show that for an ideal gas $\alpha = 1/T$ and $\kappa = 1/P$.

Contd…

			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	a) Write the mechanism of reduction of alkyl halide to alkane by zinc and acetic acid. (5) b) Suggest the possible reason why a peroxide effect is applicable for HBr and not for HCl. (5)
CLO 2	3	22	a) Can you distinguish with mechanism between Lindlar's catalyst and metal-ammonia (Birch reduction) catalyst used for the reduction of alkynes? (5) b) Explain with mechanism hydroboration of alkynes. Comment on its stereoselectivity. (5)
CLO 3	3	23	a) Predict and justify the products formed from oxidation and reduction of cyclohexane and cyclohexane. (5) b) What do you understand by the term "Banana bonds"? Discuss its applications. (5)
CLO 4	3	24	Explain with mechanism the preparation of trans-2-methylcyclopentanol by hydroboration-oxidation reaction.
CLO 5	4	25	Explain the terms collision diameter, collision cross-section, collision number, collision frequency and mean free path. Show that the mean free path of a gas molecule increases by decreases in pressure.

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No of Pages: 2

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Chemistry **COURSECODE: 20U2CMC4**

COURSE TITLE : General Chemistry – IV **QN.NO : 10907**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K-Level	Q.No.	PART – A (10 x 1 = 10) **Answer all Multiple choice questions by choosing the correct option.**
CLO1	1	1	The reciprocal of viscosity is called a) surface tension b) frictional resistance c) fluidity d) none of these
CLO 1	2	2	Insects can walk on the surface of water due to a) viscosity b) surface tension c) refractivity d) optical activity
CLO 2	1	3	Which of the following metals is used for drying organic solvents? a) Magnesium b) Sodium c) Platinum d) Nickel
CLO 2	2	4	Which of the property of alkali metals is not listed correctly? a) The least electronegative metal: Cs b) A natural radioactive metal: Fr. c) The alkali metal with lowest density: K d) The most abundant alkali metal in earth's crust: Na
CLO3	1	5	Magnesium is an important component of which bio-molecule occurring extensively in living world? a) Haemoglobin b) ATP c) Chlorophyll d) Vitamin B12
CLO3	2	6	Among the alkaline earth metals, the element forming predominantly covalent compounds is: a) Barium b) Beryllium c) Strontium d) Calcium
CLO4	1	7	The molarity is defined as the number of moles of solute present in a) One litre of the solvent b) One litre of the solution c) One kilogram of the solvent d) One kilogram of the solution
CLO4	2	8	Choose the colour change used in acid-base indicator as phenolphthalein. a) Pink b) Red c) Yellow d) Colourless
CLO5	1	9	Zone refining is a method to obtain: a) Very high temperature b) Ultrapure Al c) Ultrapure metal d) Ultrapure oxides
CLO5	2	10	Leaching is a process of: a) Reduction b) Concentration c) Refining d) Oxidation
			PART – B (5 x 2=10) **Answer all questions.**
CLO1	1	11	What are liquid crystals?
CLO2	2	12	Why are alkali metals not found in nature?
CLO3	1	13	Halides of Beryllium are soluble in organic solvents. Why?
CLO4	2	14	Write the requirements of a primary standard solution.
CLO5	2	15	Aluminium metal is frequently used as a reducing agent for the extraction of metals such as chromium and Manganese. Why?

Contd...

			PART – C (5 x 5=25) **Answer all questions by choosing either (a) or (b).**
CLO1	2	16	a) Draw and discuss the vapour pressure diagrams of true liquid and liquid crystals **(OR)** b) Define the term viscosity, coefficient of viscosity and fluidity. What are the factors affecting the viscosity of liquid?
CLO2	3	17	a) Explain the significance of sodium and potassium in biological fluids. **(OR)** b) Compare the solubility and thermal stability of the following compounds of the alkali metals with those of the alkaline earth metals: (i) Nitrates (ii) Carbonates (iii) Sulphates. (2+2+1)
CLO3	3	18	a) How can magnesium be extracted from magnesite? **(OR)** b) Explain the biological significance of Ca and Mg
CLO4	4	19	a) Explain normality and morality of a solution with example. **(OR)** b) Summarize the criteria for primary and secondary standard solution.
CLO5	3	20	a) Differentiate the following giving a suitable example : (i) Mineral and ore (ii) Calcination and roasting (2.5+2.5) **(OR)** b) Explain the following process: (i) Van Arkel process: (ii) Mond's process (2.5+2.5)
			PART – D (3 x 10 = 30) **Answer any THREE questions.**
CLO1	2	21	Write notes on classification of thermotropic crystals.
CLO2	3	22	Examine the physical properties of group I elements.
CLO3	4	23	Highlight the anomalous behaviour of Li and Be.
CLO4	3	24	a) Calculate 1N solution of NaOH in litre. b) Write a preparation of standard solution. (5+5)
CLO5	4	25	Describe the principle of extraction of Aluminium from its chief ore.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSECODE: 20U2CAC2**

COURSE TITLE : Allied Chemistry – II **QN.NO : 10908**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) **Answer all Multiple choice questions by choosing the correct option.**
CLO 1	1	1	Identify the compound that is not a Lewis acid a) BF_3 b) $AlCl_3$ c) $BeCl_2$ d) $BaCl_2$
CLO 1	2	2	The addition of HCl will not suppress the ionization of _____ a) CH_3COOH b) H_2SO_4 c) H_2S d) C_6H_5COOH
CLO 2	1	3	Which class of carbohydrate cannot be hydrolyzed further? a)Disaccharides b) Polysaccharides c) Proteoglycan d) Monosaccharide
CLO 2	2	4	Write the place where Glycogen is stored in animals _____ a) Liver & spleen b) Liver &muscles c) Liver &bile d) Liver & adipose tissue
CLO 3	1	5	The pH at which the amino acid shows no tendency to migrate when placed in an electric fields is _____ a) Isoelectric point b) Dipole moment c) Iodine number d) Wavelength
CLO 3	2	6	Glycine is a unique amino acid because it _____ a) Has no chiral carbon b) Has a sulfur containing R group c) Cannot form a peptide bond d) Is an essential amino acid
CLO 4	1	7	Which one promotes the formation of chlorophyll and acts as an oxygen carrier? a) Iron b) Manganese c) Copper d) Zinc
CLO 4	2	8	Identify the macro nutrient a) Nitrogen b) Zinc c) Calcium d) Sulfur
CLO 5	1	9	Which of the following methods is **NOT** used for the prevention of corrosion? a) Greasing b) Painting c) Plating d) Heating
CLO 5	2	10	_____ has been used for making the handles of a variety of utensils a) Nylon b) PVC c) Polyester d) Bakelite
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Define Arrhenius acids.
CLO 2	2	12	Outline the reaction of fructose on fermentation.
CLO 3	1	13	List out any two uses of glycine.
CLO 4	2	14	Write note on manures.
CLO 5	2	15	Write about galvanic corrosion.

Contd…

			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b).**
CLO 1	2	16	a) Illustrate the buffer action of an acidic buffer. **(OR)** b) Explain common ion effect with examples.
CLO 2	3	17	a) Identify the point of differences between glucose, fructose and sucrose. **(OR)** b) Construct the structure of starch.
CLO 3	3	18	a) (i) Make use of Strecker synthesis and Koop synthesis to prepare alanine (with equations). **(OR)** b) What happens when glycine is treated with (i) HCl (ii) CH_3COCl ?
CLO 4	4	19	a) Analyze the classification of proteins. **(OR)** b) What would happen if vitamin K and vitamin B2 become deficient?
CLO 5	3	20	a) Organize and explain homopolymers and heteropolymers with examples. **(OR)** b) Build up and explain corrosion inhibitors.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	i) Explain molarity and molality. (7) ii) 45 g of glucose, $C_6H_{12}O_6$ are dissolved in 500 g of water. Calculate the molality of the solution. (3)
CLO 2	3	22	Explain the manufacture of sucrose with neat diagram and give explanation.
CLO 3	4	23	i) Summarize the physical properties of amino acids. ii) What would happen if alanine is treated with (i) HCl and (ii) HNO_2?
CLO 4	3	24	Construct the role of various elements in plant growth and explain in detail.
CLO 5	4	25	Illustrate and organize the electro - chemical corrosion by hydrogen evolution and oxygen absorption mechanism.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Botany **COURSE CODE : 20U2BMC3**

COURSE TITLE : Gymnosperms and Palaeobotany **QN.NO : 11005**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	Endosperms in gymnosperm are formed a) at the time of fertilization b) before fertilization c) after fertilization d) Along with development of embryo
CLO 1	2	2	*Sequoia sempervirens* is a/an a) Angiosperms b) Gymnosperms c) Bryophytes d) Pteridophytes
CLO 2	1	3	Which is not the component of male cones of gymnosperms? a) Microspores b) Microsporophyll c) Microsporangium d) Nucellus
CLO 2	2	4	The female gametes (ovum) of gymnosperms are found in a) Embryo sac b) embryo c) archegonium d) integument
CLO 3	1	5	In *cycas,* seed germination is a) Hypogeal b) Viviparous c) Epigeal d) None of these
CLO 3	2	6	_____ is the symbionts of cycas corolloid roots. a) *Ulothrix* b) *Agaricus* c) *Aspergillus* d) *Anabaena*
CLO 4	1	7	Ovuliferous scale formed in a) *Gnetum gnemon* b) *Ephedra foliata* c) *Cycas revoluta* d) *Araucaria araucana*
CLO 4	2	8	They serve as a connecting link between the angiosperms and gymnosperms a) *Gnetales* b) *Coniferales* c) *Ginkgoales* d) *Cycadales*
CLO 5	1	9	Cast is formed by a) Bones or shells b) Sediments c) Soft tissues d) teeth or bones
CLO 5	2	10	Which era is the longest? a) Cenozoic b) Paleoproterozoic c) Mesozoic d) Proterozoic
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	List the xeromorphic characters of gymnosperms.
CLO 2	2	12	What are the 3 methods of dating rocks?
CLO 3	1	13	How is microspore germinated in *Cycas*?
CLO 4	2	14	Write short notes on the centripetal xylem.
CLO 5	2	15	What are Palynomorphs.

Contd…

			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Describe the salient features of gymnosperms. **(OR)** b) Write brief account on distribution of gymnosperms in India
CLO 2	3	17	a) Discuss the phylogeny of gymnosperms. **(OR)** b) Write an illustrated account of *progymnosperms*
CLO 3	3	18	a) Discuss the angiospermic features of *Gnetum.* **(OR)** b) Differntiate *cycadales* from *gnetales* of gymnosperms.
CLO 4	4	19	a) Draw a well labelled diagram to illustrate the structure of the female gametophyte of *Cycas.* **(OR)** b) Give an account of female gametophyte of *Auracaria*
CLO 5	3	20	a) Discuss the different types of Fossils. **(OR)** b) Explain the role of Palaeobatany in Petroleum exploration.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Write an outline the classification of gymnosperms by sporne (1965)
CLO 2	3	22	Compare the male gametophytes of Gnetales and Coniferales
CLO 3	4	23	Illustrate the life cycle of Cycas with the help of labelled sketches.
CLO 4	3	24	Explain the structure of male cone of *Auracaria* with the help of labelled diagram.
CLO 5	4	25	Elaborate on the contributions of Birbal Sahni to Paleobotany.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Botany **COURSE CODE : 20U2BMC4**

COURSE TITLE : Plant Anatomy and Embryology **QN.NO : 11006**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option
CLO 1	1	1	An embryonic meristem is a) Primary meristem b) Secondary meristem c) Intercalary meristem d) Promeristem
CLO 1	2	2	Parenchyma with large air spaces in hydrophytes is called a) Aerenchyma b) collenchyma c) Sclerenchyma d) Prosenchyma
CLO 2	1	3	Casparian strips are made up of a) Callose b) Cellulose c) Suberin d) Cutin
CLO 2	2	4	Bulliform cells are often found in a) Monocot leaf b) Monot root c) Dicot leaf d) Dicot root
CLO 3	1	5	To develop anther wall layers and sporogenous tissue the archesporium undergoes a) Meiosis I b) Meiosis II c) Mitosis d) Karyokinesis
CLO 3	2	6	Microgametophyte is _____ in nature a) Haploid b) Diploid c) Triploid d) Tetraploid
CLO 4	1	7	Name the largest cell of the female gametophyte a) Embryo sac b) Embryo c) Nucellus d) Egg
CLO 4	2	8	One of the following shows one celled suspensor a) Wheat b) Petunia c) Hedra d) Solanum
CLO 5	1	9	Who discovered polyembryony? a) Leeuwenhoek b) Albert Einstein c) Ernest Rutherford d) Isaac Newton
CLO 5	2	10	Isolation of embryo from mature seeds and culturing them in laboratory is known as _____ methods a) in vitro b) in vivo c) in situ d) ex situ
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	What is plumule?
CLO 2	2	12	Highlight differentiated cortex.
CLO 3	1	13	What is microsporangium?
CLO 4	2	14	List out the different types of pollination.
CLO 5	2	15	State the importance of polyembryony.

Contd…

			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Illustrate the types of cambium. **(OR)** b) Depict the components of phloem.
CLO 2	3	17	a) Illustrate the anatomy of dorsiventral leaf. **(OR)** b) Depict the anatomy of monocot root.
CLO 3	3	18	a) Expound the structure and functions of tapetum. **(OR)** b) Narrate the critical stages in the development of microsporangium.
CLO 4	4	19	a) List out the advantages and disadvantages of cross pollination. **(OR)** b) Elucidate the types of endosperms.
CLO 5	3	20	a) Summarise the advantages of apomictic seeds. **(OR)** b) Enumerate the prospects and significance of endosperm culture
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Illustrate the components of simple permanent tissues.
CLO 2	3	22	Trace the characteristic secondary growth in *Achyranthes* stem.
CLO 3	4	23	Illustrate the cellular organizations of different types of embryosac.
CLO 4	3	24	Elaborate the stages of embryonic developments in Monocot.
CLO 5	4	25	Give an elaborate account on apomixis and its applications for crop improvement.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology | **COURSE CODE : 20U1ZMC1**

COURSE TITLE : Invertebrata-I | **QN.NO : 11101**

TIME : 3 Hours | **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	Who is the father of classification? a) Carolous Linnaeus b) Wittaker c) Leuis Pasteur d) Alexander Flemming
CLO 1	2	2	Metamerism is the term denotes a) integumentary organs b) morphology c) body fluid d) segmentation
CLO 2	1	3	Which of the following is not related to Phylum Platyhelminthes? a) Turbellaria b) Trematoda c) Cestoda d) Nematoda
CLO 2	2	4	A characteristic feature, which is present only in the phylum Coelenterata is a) flame cells b) nematocysts c) hermaphroditism d) polymorphism
CLO 3	1	5	Coral reef forming coelenterates belong to the class a) Hydrozoa b) Scyphozoa c) Anthozoa d) All the above
CLO 3	2	6	Which one of the following is a Coelenterate? a) Sea Fan b) Sea Dollar c) Sea Cucumber d) Sea Horse
CLO 4	1	7	The balancing structures in medusae of cnidarians are a) statocysts b) tentacles c) combplates d) none of these
CLO 4	2	8	Sponge skeletons made of calcium carbonate or silica are called a) tests b) spicules c) sponging d) valves
CLO 5	1	9	Most of the sponges are a) solitary b) colonial c) freshwater forms d) cold water inhabitants
CLO 5	2	10	The only freshwater species of sponge is a) *Scypha* b) *Spongilla* c) *Euspongia* d) *Oscarella*
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Define Species
CLO 2	1	12	What is Cnidoblasts?
CLO 3	2	13	Comment on Polymorphic colony.
CLO 4	2	14	Highlight the functions of Blastostyles.
CLO 5	2	15	Bring out the functions of canal system in sponges.

Contd…

			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	1	16	a)Write a short note on binomial nomenclature. **(OR)** b) Write a note on types of symmetry.
CLO 2	3	17	a) Describe the classification (up to class) of Porifera with examples. **(OR)** b) Explain the general characteristic features of liver fluke.
CLO 3	3	18	Illustrate the structure of medusa of *Obelia*. **(OR)** a) Give an account on salient features of Ctenophora.
CLO 4	4	19	a) Examine the life cycle of *Plasmodium* in mosquito. **(OR)** . Critically comment on life history of liver fluke.
CLO 5	2	20	a) Comment on spicules and canal system of *Leucosolenia*. **(OR)** b) Summarize the parasitic diseases caused by helminthic worms.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Discuss Whittaker's five kingdom classification.
CLO 2	3	22	Describe the general characters of Porifera.
CLO 3	4	23	Elucidate the characteristic features for Platyhelmithes by drawing suitable diagrams.
CLO 4	3	24	Demonstrate the different types of canal system in sponges.
CLO 5	3	25	Enumerate the coral reefs.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSE CODE : 20U1ZMC2**

COURSE TITLE : Invertebrata-II **QN.NO : 11102**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) **Answer all Multiple choice questions by choosing the correct option.**
CLO 1	1	1	Which of the following group of animals have radially symmetrical body? a) Annelids b) Aschelminths c) Molluscs d) Echinoderms
CLO 1	2	2	The anaerobic respiration is present in a) *Ascaris* b) *Pila* c) *Penaeus* d) *Asterias*
CLO 2	1	3	Nematoda is one of the classes of Phylum a) Annelida b) Aschelminthes c) Mollusca d) Echinodermata
CLO 2	2	4	Radula is present in a) *Pila* b) Starfish c) *Ascaris* d) *Megascolex*
CLO 3	1	5	Ambulacral system is unique to a) Annelids b) Aschelminthes c) Molluscs d) Echinoderms
CLO 3	2	6	Which of the following animal does not excrete ammonia? a) *Pila* b) *Asterias* c) *Ascaris* d) *Penaeus*
CLO 4	1	7	During torsion in Gastropods, Visceral mass is turned through a) 90° b) 180° c) 270° d) 360°
CLO 4	2	8	Dermal branchiae are the respiratory organ in a) *Pila* b) *Asterias* c) *Ascaris* d) *Penaeus*
CLO 5	1	9	*Megascolex* is a a) Endoparasite b) Herbivore c) Ectoparasite d) Detrivore
CLO 5	2	10	Which of the following phylum includes nematode parasites a) Annelida b) Aschelminthes c) Mollusca d) Arthropoda
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Define Sexual dimorphism.
CLO 2	1	12	What is Shell?
CLO 3	2	13	Bring out the significance of Osphradium.
CLO 4	2	14	Highlight the functions of Tube-feet.
CLO 5	2	15	Give examples for Parasites.

Contd…

			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	1	16	a) Write a note on Sacculina. **(OR)** b) Demonstrate the life cycle of *Ascaris.*
CLO 2	3	17	a)Sketch the characters of phylum Annelida **(OR)** b) Write a detailed note on gastropods.
CLO 3	3	18	a) Discuss the structure and functions of water vascular system. **(OR)** b)Write a detailed note on coelom and its types
CLO 4	4	19	a) Examine the life cycle of *Megascolex* in relation to its ecology. **(OR)** b) Illustrate the structure of eye in prawn with neat diagrams.
CLO 5	2	20	a) Give an account on echinoderm larva. **(OR)** b)Torsion plays a key role in gastropods' life – Interpret
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Cephalopods are advanced molluscs"- Explain.
CLO 2	3	22	Write a detailed note on general characters of Aschelminthes
CLO 3	4	23	Analyze the importance of torsion in gastropods' life.
CLO 4	3	24	Enumerate the parasitic adaptations in Aschelminthes with neat diagrams
CLO 5	3	25	Write a detailed account on beneficial insects.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSECODE:20U2ZMC3**

COURSE TITLE : Chordata – I **QN.NO : 11106**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option
CLO 1	1	1	Concentration of nervous tissue and sense organs in or towards the head is known as a) appendages b) metamerism c) cephalization d) segmentation
CLO 1	2	2	Which organism is considered as sea potato? a) *Balanoglosus* b) *Salpa* c) Ascidian d) *Amphioxus*
CLO 2	1	3	What is the basis of classification of Protochordata a) Gut b) Gill c) Brain d) Notochord
CLO 2	2	4	The larva of Balanoglossus is a) Pseudocoelomate b) Acoelomate c) Coelomate d) none of these
CLO 3	1	5	Ciliary feeding is seen in a) *Petromyzon* b) *Salpa* c) Ascidian d) *Balanoglossus*
CLO 3	2	6	Retrogressive metamorphosis is seen in a) Ascidian b) Balanoglassus c) Amphioxus d) Branchiostoma
CLO 4	1	7	In the respiratory system of Ascidian, the pharynx is perforated by numerous gill slits called a) stomata b) stigmata c) stigma d) none of the above
CLO 4	2	8	How many types of excretory system are present in Amphioxus a) 2 b) 3 c) 4 d) 5
CLO 5	1	9	In Ascidian the dorsal lamina consists of a single row of 20-30 ciliated tongue like process called a) endostyle b) languets c) lanset d) lancelet
CLO 5	2	10	Long travel of fishes from freshwater to sea for breeding is called a) Oceanodromous b) Potamodromous c) Catadromous d) Anadromous
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Define gill-slits
CLO 2	1	12	What is Protogyny?
CLO 3	2	13	Highlight the significance of Ampullae of Lorenzini
CLO 4	2	14	Highlight the functions of pyloric gland
CLO 5	2	15	Comment on Elver's larva

Contd…

			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	1	16	a) Discuss the classification of Pisces with examples **(OR)** b) Demonstrate the outline classification of Chordates (up to class) with examples
CLO 2	3	17	a) Write down the general characters of Urochordata **(OR)** b) Describe the general characters and classification of Cephalochordates with examples
CLO 3	3	18	a) Demonstrate the characteristic features of Ascidian **(OR)** b) Discuss the types of fins and their function
CLO 4	4	19	a) Analyze the salient features of Ostracoderms. **(OR)** b) Examine the life history of Ascidain
CLO 5	2	20	a) Explain about reproductive system of shark **(OR)** b) Comment on Tornaria larva
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Discuss the general characters of Hemichordates
CLO 2	3	22	Describe the general characters of Pisces
CLO 3	4	23	Analyze the retrogressive metamorphosis in Ascidia
CLO 4	3	24	Narrate the accessory respiratory organs in fishes
CLO 5	3	25	Enumerate the circulatory system of shark

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Zoology **COURSECODE: 20U2ZMC4**

COURSE TITLE : Chordata – II **QN.NO : 11107**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) **Answer all Multiple choice questions by choosing the correct option.**
CLO 1	1	1	Which of the following include modern and extinct birds? a) Archaeornithes b) Ratitae c) Neornithes d) Odontognathae
CLO 1	2	2	Double respiration is exhibited by a) Frogs b) Lizards c) Birds d) Rabbits
CLO 2	1	3	The wings are paddle like in a) Geese b) Ducks c) Swans d) Penguins
CLO 2	2	4	*Diplocaulus* is an example for a) Labyrinthodontia b) Lepospondyli c) Lissamphibia d) Temnospondyli
CLO 3	1	5	Chromotophores found in Frog are a) Melanophores b) Liphophores c) Guanophores d) All of these
CLO 3	2	6	The flight muscles are firmly attached to a) Keel b) Synsacrum c) Rachis d) Pecten
CLO 4	1	7	*Phyllomedusa* deposits the eggs in a) Mud nests b) Leaf nests c) mud burrow d) All of these
CLO 4	2	8	True placenta is found in a) Prototherians b) Metatherians c) Eutherians d) None of these
CLO 5	1	9	Which era is called as Golden age of Reptiles? a) Palaeozoic b) Mesozoic c) Coenozoic d) Psychozoic
CLO 5	2	10	Which of the following kidney is otherwise called as Head kidney? a) Archinephros b) Pronephros c) Mesonephros d) Metanephros
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	What is meant by poikilothermic animal?
CLO 2	1	12	Define stem reptiles
CLO 3	2	13	Write a note on thecodont
CLO 4	2	14	Explain about aerial animals
CLO 5	2	15	Comment of metanephric kidney

Contd…

			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	1	16	a) Write a note on amphibious life. **(OR)** b) Comment on glorified reptiles.
CLO 2	3	17	a) Sketch the characters of phylum Reptilia **(OR)** b) Describe the features of Prototheria.
CLO 3	3	18	a) Demonstrate the unique features of limbless amphibians. **(OR)** b) Sketch and comment on beak modifications in birds.
CLO 4	4	19	a) Examine the excretory system of *Calotes* with a neat diagram. **(OR)** b) Critically comment on the digestive system of Frog.
CLO 5	2	20	a) Explain about Geological time scale **(OR)** b) Demonstrate the evolution of aortic arches.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Write a detailed classification of Reptiles with suitable examples.
CLO 2	3	22	Write a detailed note on salient features of class Eutheria up to order level
CLO 3	4	23	Examine about metamorphosis in Amphibians.
CLO 4	3	24	Enumerate the adaptations of aquatic mammals with suitable examples.
CLO 5	4	25	Comment on the adaptive radiation of mammals.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., **COURSE CODE : 20U2ZAC2**

COURSE TITLE : Allied Zoology-II **QN.NO : 11108**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) **Answer all Multiple choice questions by choosing the correct option.**
CLO 1	1	1	*Apis dorsata* refer to a) Rock bee b) Little bee c) Indian bee d) European bee
CLO 1	2	2	The larvae of lac insects feed a) Leaves of the plant b) Stem of the plant c) Juice of the plant from phloem d) Insect of other group
CLO 2	1	3	Silk is produced by a) cocoon b) adult moth c) larva d) larva and adult moth
CLO 2	2	4	Pebrine disease in silkworms is caused by a) Fungus b) Bacteria c) Virus d) Protozoan
CLO 3	1	5	The major component of egg shell is a) Calcium phosphate b) Calcium chloride c) Calcium carbonate d) Dicalcium phosphate
CLO 3	2	6	The ingredient is removed from skim milk is a) protein b) carbohydrate c) mineral d) Fat
CLO 4	1	7	Management and rearing of fishes called as _____ a) Aquaculture b) Pisciculture c) Apiculture d) Fishery
CLO 4	2	8	The moisture level required for vermicomposting should be between _____. a) Below 30 per cent b) 40 and 50 per cent c)70 and 80 per cent d) Above 90 per cent
CLO 5	1	9	Shells of molluscs are used for preparing ointments because they are rich in a) a) Zink and Calcium b) Zink and iodine c) Zink and Sodium d) Zink and Potassium
CLO 5	2	10	Which pearl is rare a)White b) Cream c) Pink red d) Rainbow colour
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Mention the uses of bee wax.
CLO 2	2	12	What is muscardine ?
CLO 3	1	13	Define dairy farming.
CLO 4	2	14	Name any two shell fishes
CLO 5	2	15	How is a pearl formed?

Contd…

			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a. Explain the composition and uses of bee venom. **(OR)** b. Describe the methods of rearing and uses of lac insect.
CLO 2	3	17	a. Explain the types of silk worm, **(OR)** b. Describe the structure of silk gland,
CLO 3	3	18	**a.** Comment on nutrition in poultry. **(OR)** b. Describe the nutritive value of milk,
CLO 4	4	19	a. Comment on polyculture of carps, (OR) b.Write briefly on vermiwash,
CLO 5	3	20	a. Explain briefly on preservation of edible oysters. **(OR)** b. Describe the pearl formation and culture of pearls.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Explain the types of honey bees and economic importance of honey
CLO 2	3	22	Write an essay on life cycle of silkworm
CLO 3	4	23	Explain the methods for construction of poultry house.
CLO 4	3	24	Write an essay on method of vermiculture and uses of vermicompost.
CLO 5	4	25	Discuss briefly on culture methods and uses of seaweeds.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 20U1DMC1**

COURSE TITLE : Programming in C **QN.NO : 11201**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	Which one of the following is a string constant? a) '3' b) 30 c) "hello" d) none
CLO 1	2	2	Defines the order of evaluation when operators have the same precedence Encoding a) priority b) precedence c) associativity d) none
CLO 2	1	3	The statement used to send back any value to the calling function a) break b) continue c) exit d) return
CLO 2	2	4	The format specifier that is used to read or write a character is_____ a) %c b) %d c) %f d) %s
CLO 3	1	5	_____function is said to be a function calling itself. a) call by value b) call by reference. c) recursive. d) All above.
CLO 3	2	6	The parameters in a function call are a) actual parameters b) formal parameters c) dummy parameters. d) real parameters
CLO 4	1	7	Which function is used to search for a substring in a string?. a) strstr b) strchr c) strspn d) strcpy
CLO 4	2	8	A _____ structure is one which contains a pointer to its own type. a) nested b) array c) pointer d) self referential
CLO 5	1	9	The function used for writing a character to a file is_____ a) fputc() b) fputs() c) fputchar() d) putw()
CLO 5	2	10	Which among the following is odd one out? a) printf() b) fprintf() c) putchar() d) scanf()
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	List out the rules adopted for constants in C.
CLO 2	2	12	Write a syntax of nested if statement with an example.
CLO 3	1	13	What is meant by scope and visibility of a variable?
CLO 4	2	14	List out any two string operations in C with examples.
CLO 5	2	15	Write a syntax of fscanf () and fprintf () function.

Contd…

CLO	K – level	Q.No	PART – C (5 x 5=25) Answer all questions by choosing either (a) or (b)
CLO 1	1	16	a. Describe about type conversion in C.. (OR) b. Construct a program by making use of all unary operators in C.
CLO 2	3	17	a. Write a program to find the sum of digits. (OR) b. Develop a program to find the factorial of a given number
CLO 3	4	18	a. Devise the advantages of functions in C. (OR) b. Comment on static storage class with an example
CLO 4	3	19	a. Compare structure and union with an example (OR) b. Devise array of structure with an example.
CLO 5	3	20	a. Conclude command line argument (OR) b. Examine the following function (i) getw() (ii) putw()
			PART – D (3 x 10 = 30) Answer any THREE questions.
CLO 1	3	21	Develop a program for the following a)To find whether the given number is perfect or not. b)To find whether the given number is palindrome or not.
CLO 2	3	22	Analyze the following statement with examples, a)printf() b)scanf().
CLO 3	4	23	Categorize the various functions used in C and comment on each functions in detail with an example
CLO 4	2	24	Write a C program to sort the names in an Ascending order.
CLO 5	3	25	Build a program to count the number of characters, spaces, lines of a file.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 20U1DMC2**

COURSE TITLE : Digital Computer Fundamentals **QN.NO : 11202**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) **Answer all Multiple choice questions by choosing the correct option.**
CLO 1	1	1	What is the output state of an OR gate if the inputs are 0 and 1? [a] 0 [b] 1 [c] not defined. [d] 2
CLO 1	2	2	In which function each term known as max term. [a] SOP [b] POS [c] Hybrid [d] Both SOP and Hybrid.
CLO 2	1	3	Which is the commutative property? [a] A+B=B+A. [b] A+1=1+A. [c] B+1=1+B. [d] A+B+C=C+B+A.
CLO 2	2	4	S-R type flip-flop can be converted into D type flip-flop if S is connected to R through _____. [a] EX-OR gate [b] inverters [c] AND gate [d] Full Adder
CLO 3	1	5	In synchronous counter all flip flops are _____. [a] clocked simultaneously. [b] not clocked simultaneously. [c] initially clocked. [d] all of the above .
CLO 3	2	6	Memory that is called a read write memory is [a] ROM [b] EPROM [c] RAM [d] Registers
CLO 4	1	7	A 4-bit counter has a maximum modulus of _____. [a] 3 [b] 6 [c] 8 [d] 16
CLO 4	2	8	Synchronous counters differ from asynchronous by [a] clock pulse [b] input [c] output [d] Time
CLO 5	1	9	Binary counter that counts increments and decrements are called [a] Up-down counter [b] Down counter [c] LSI counter [d] D.Up counter
CLO 5	2	10	A decimal counter has _____ states. [a] 5 [b] 10 [c] 15 [d] 20

Contd…

			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Draw the logic circuit of NAND and NOR gate.
CLO 2	1	12	What is SOP and POS?
CLO 3	2	13	Draw the truth table of XOR gate.
CLO 4	2	14	List the types of Shift registers.
CLO 5	2	15	Draw the circuit of MOD-3 counter.
			PART – C (5 x 5=25) **Answer all questions by choosing either (a) or (b)**
CLO 1	1	16	a)Convert decimal 65,535 to its hexadecimal and binary equivalents **(OR)** b)Perform the binary subtraction of $(125)_{10}$ from $(200)_{10}$
CLO 2	3	17	a) Describe about Don't care conditions. **(OR)** Explain about 1-to-10 demultiplexer with a circuit diagram
CLO 3	3	18	a) Draw the logic circuit whose Boolean equation Is Y=A+B+C **(OR)** b) Draw the AND-OR network for the given SOP equation Y=ABC+ABC+ABC+ABC
CLO 4	4	19	a) Explain about JK flip flop with it circuit and truth table. **(OR)** b) Explain about MOD-3 ripple counter
CLO 5	2	20	a) Explain about 16-to-1 multiplexer with diagram **(OR)** b) Write a detailed note on Exclusive-OR gates and its applications.
			PART – D (3 x 10 = 30) **Answer any THREE questions.**
CLO 1	2	21	What is the simplified Boolean equation for the following logic equation expressed by min-terms? Draw AND-OR network for the simplified equation. Y=F(A,B,C,D)= $\sum$m(7,9, 10, 11, 12, 13, 14, 15)
CLO 2	3	22	Explain about Decimal –to-BCD encoder.
CLO 3	4	23	Explain about parallel-in and parallel-out shift register.
CLO 4	3	24	Explain about JK flip-flop with its circuit and truth table and waveform diagram
CLO 5	3	25	Realize all basic gated using NAND gate only

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 20U1DAC1**
COURSE TITLE : Discrete Mathematics **QN.NO : 11203**
TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) **Answer all Multiple choice questions by choosing the correct option.**
CLO 1	1	1	The Compound Propositionns p and q are called logically equivalent if _____ is a Tautology. a) $p \leftrightarrow q$ b) p ∧ q c) p → q d) p ∨ q
CLO 1	2	2	In proving 5 as irrational, we begin with assumption 5 is rational in which type of proof ? a) Direct proof b) Proof by Contradiction c) Vacuous proof d) Mathematical Induction
CLO 2	1	3	There are 32 microcomputers in a computer center. Each microcomputer has 24 ports. How many different ports to a microcomputer in the center are there? a) 32 b) 56 c) 768 d) 24
CLO 2	2	4	Find the value of P 8, 5 _____ a) 6720 b) 6270 c) 6200 d) 6000
CLO 3	1	5	A graph with all vertices having equal degree is known as_____ a) Multi Graph b) Regular Graph c) Simple Graph d) Complete Graph
CLO 3	2	6	What is the number of vertices in an undirected connected graph with 39 edges, 7 vertices of degree 2, 2 vertices of degree 5 and remaining of degree 6? a) 18 b) 11 c) 14 d) 19
CLO 4	1	7	Sn is the symmetric group. Then order of Sn is a) n b) $n2$ c) $n!$ d) $2n$
CLO 4	2	8	A subset H of a group $(G,*)$ is a group if a) $a, b \in H \Rightarrow a * b \in H$ b) $a \in H \Rightarrow a{-}1 \in H$ c) $a, b \in H \Rightarrow a * b{-}1 \in H$ d) Hcontains the identity element
CLO 5	1	9	If every two elements of a poset are comparable then the poset is called _____ a) sub ordered poset b) sub lattice c) totally ordered poset d) semigroup
CLO 5	2	10	Different partially ordered sets may be represented by the same Hasse diagram if they are a) same b) lattices with same order c) isomorphic d) order-isomorphic
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Define conjunction with an example.
CLO 2	2	12	Define: The Product rule and the Sum rule.

Contd…

CLO 3	1	13	Represent the graph in K_4 with an adjacency matrix.
CLO 4	2	14	Define: Ring and give an example.
CLO 5	2	15	Explain: Boolean algebra.
			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Show that p ∨(q ∧r) and (p ∨q) ∧(p ∨r) are logically equivalent. **(OR)** b) Show that (p ∧q) → (p ∨q)is a tautology.
CLO 2	3	17	a) Use mathematical induction to prove that $2^n < n!$ for every integer $n$with $n \geq 4$. (Note thatthis inequality is false for $n = 1, 2, and\ 3$). **(OR)** b)Use mathematical induction to prove that $7^{n+2} + 8^{2n+1}$ is divisible by 57 for every non negative integer n.
CLO 3	3	18	a) Show that there is a simple path between every pair of distinct vertices of a connected undirected graph. **(OR)** b) Let *G* be a graph with adjacency matrix **A** with respect to the ordering $v_1, v_2, \ldots, v_n$ of the vertices of the graph (with directed or undirected edges, with multiple edges and loopsallowed). The number of different paths of length *r* from v_i to v_j, where *r* is a positiveinteger, equals the *(i, j)*th entry of A^r.
CLO 4	4	19	(a) Find all the subgroups of (a) Z_{12},+12 ; Z_7 ∗,×7 . **(OR)** (b) Find all the subgroups of S_4 generated by the permutations $\begin{pmatrix} 1\ 2\ 3\ 4 \\ 1\ 3\ 2\ 4 \end{pmatrix}$ and $\begin{pmatrix} 1\ 2\ 3\ 4 \\ 1\ 3\ 2\ 4 \end{pmatrix}$
CLO 5	3	20	a) Let $L, *, \oplus$ be a distributive lattice. For any $a, b, c \in L$, $a * b = a * c \wedge a \oplus b = a \oplus c \Rightarrow b = c$. **(OR)** b) Explain: Subalgebra, Direct Product, and Homomorphism.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Formulate a conjecture about the final decimal digit of the square of an integer and prove your result.
CLO 2	3	22	Compute the following: a) In a version of the computer language BASIC, the name of a variable is a string of one or two alphanumeric characters, where uppercase and lowercase letters are not distinguished. (An *alphanumeric* character is either one of the 26 English letters or one of the 10 digits.) Moreover, a variable name must begin with a letter and must be different from the five strings of two characters that are reserved for programming use. How many different variable names are there in this version of BASIC? b) How many bit strings of length eight either start with a 1 bit or end with the two bits 00?
CLO 3	4	23	The bipartite graph G = (V ,E) with bipartition (V1, V2) has a complete matching from V1 to V2 if and only if |N(A)| ≥ |A| for all subsets A of V1.
CLO 4	3	24	Show that order of a subgroup of a finite group divides the order of the group.
CLO 5	4	25	Let $L, \leq$ be a lattice in which ∗ and ⊕ denote the operations of meet and join respectively. Show that $a \leq b \Leftrightarrow a * b = a \Leftrightarrow a \oplus b = b$ where $a, b \in L$.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 20U2DMC3**

COURSE TITLE : Data Structures and Algorithms **QN.NO : 11205**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	_____ is not the operation that can be performed on queue. a) Insertion b) Deletion c) Traversing d) Retrieval
CLO 1	2	2	Representation of data structure in memory is known as _____ a) Storage structure b) File structure c) Abstract data type d) None of the above
CLO 2	1	3	In a linked list, insertions can be done as _____ a) End b) Beginning c) Middle d) All of the above
CLO 2	2	4	A linear collection of data elements where the linear node is given by means of pointer is called? a) Linked list b) Node list c) Primitive list d) Unordered list
CLO 3	1	5	A graph is a collection of node called _____and line segments called _____that connect pair of nodes. a) Edges, path b) Vertices, edges c) Vertices, path d) Path,arcs
CLO 3	2	6	In binary trees nodes with no successor are called _____ a) End nodes b) Terminal nodes c) Last node d) Final node
CLO 4	1	7	A technique for direct search is _____ a) Hashing b) Tree search c) Binary search d) Linear search
CLO 4	2	8	The time for repositioning the arm of a disk is called the _____. a) Transfer time b) Access time c) Seek time d) Latency time
CLO 5	1	9	Block access time can be reduced by using _____. a) Scheduling b) Buffering c) File organization d) Logging
CLO 5	2	10	Partition and exchange sort is _____. a) Quick sort b) Tree sort c) Heap sort d) Bubble sort
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	What are the criteria of algorithm analysis?
CLO 2	2	12	What is the postfix notation of (a + b)*(c+b)?
CLO 3	1	13	Write the different types of traversal techniques in a tree.
CLO 4	2	14	Write the purpose of symbol table.
CLO 5	2	15	Outline the various query types.
			PART – C (5 x 5=25) **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Describe about multiple stacks. **(OR)** b) What is stack? Explain its operations.

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CLO 2	3	17	a) Illustrate the circular linked list. **(OR)** b) Write a note on polynomial addition in list.
CLO 3	3	18	a) Prepare a spanning tree with a suitable example. **(OR)** b) Construct the binary tree representations.
CLO 4	4	19	a) Comment on K-way merging. **(OR)** b) Compare static tree table and dynamic tree table.
CLO 5	3	20	a) Write a note on random organization. **(OR)** b) Apply the concept of insertion sort to arrange the elements.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Explain the difference between stack and queue with a suitable example.
CLO 2	3	22	Write a detail note on doubly linked list.
CLO 3	4	23	Develop and explain the breadth first search.
CLO 4	3	24	Comment on storage device in detail.
CLO 5	4	25	Write a note on Merge sort with the help of example.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 20U2DMC4**
COURSE TITLE : Computer Organization and Architecture **QN.NO : 11206**
TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	The transfer of new information to be stored into the memory is called a ___ operation. a) read b) write c) rewrite d) delete
CLO 1	2	2	The ____ micro operation adds one to a number in register. a) add b) shift c) xor d) increment
CLO 2	1	3	Evaluation of expressions in Reverse Polish Notation can be carried out with the help of _____. a) Program Counter b) Bounds Register c) Stack d) Data Bus
CLO 2	2	4	The reverse polish form of the expression (A * B) + (C * D) is _____. a) AB*CD*+ b) CD*AB+* c) +AB*CD d) AB+CD**
CLO 3	1	5	In the addition algorithm, if the signs are identical the magnitudes are _____. a) added b) subtracted c) multiplied d) divided
CLO 3	2	6	The product of 10 x 11 is (binary multiplication) _____. a) 0111 b) 0110 c) 0101 d) 0010
CLO 4	1	7	PSW stands for _____. a) Push Word b) Process Status Word c) Program Status Word d) Process Word
CLO 4	2	8	The bootstrap loader is stored in _____. a) Auxillary memory b) cache memory c) ROM d) RAM
CLO 5	1	9	_____ represents an organization that includes many processing units under the supervision of a common control unit. a) SIMD b) MMID c) SSID d) MSID
CLO 5	2	10	A _____ system employs separate buses between each memory module and each CPU. a) Time shared common bus b) Multiport memory c) Crossbar switch d) Bus memory

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			PART – B **(5 x 2=10)** **Answer all questions.**
CLO 1	1	11	What is MAR?
CLO 2	2	12	What are two-address instructions? Give an example.
CLO 3	1	13	What are RISC Computers?
CLO 4	2	14	Write the principle of locality of reference.
CLO 5	2	15	Write the use of a pipeline register.
			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Describe the Memory Transfer Micro operations. **(OR)** b) Examine the various computer generations.
CLO 2	3	17	a) Compare Register Stack and Memory Stack. **(OR)** b) What is Reverse Polish Notation? Explain with examples.
CLO 3	3	18	a) Prepare a flowchart for the addition & subtraction of signed magnitude data. **(OR)** b) Model the block diagram for BCD Adder.
CLO 4	4	19	a) Illustrate the working of magnetic disks. **(OR)** b) Devise an expression for the match logic for an associative
CLO 5	3	20	a) Prepare a list of the characteristics of multiprocessors. **(OR)** b) Make use of Flynn's classification to classify parallel processing systems.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Enumerate the essential features of the von Neumann Architecture.
CLO 2	3	22	Model the Stack Organization used in Digital Computers.
CLO 3	4	23	Illustrate the floating point multiplication and division algorithms.
CLO 4	3	24	Illustrate DMA Transfer with a diagram.
CLO 5	4	25	Model the design of a micro programmed control unit.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Computer Science **COURSE CODE : 20U2DAC2**

COURSE TITLE : Microprocessors 8086 / 88 **QN.NO : 11207**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) **Answer all Multiple choice questions by choosing the correct option.**
CLO 1	1	1	A microprocessor is a _____ chip integrating all the functions of a CPU of a computer. a) multiple b) single c) double d) triple
CLO 1	2	2	The intel 8086 microprocessor is a _____ processor. a) 8 bit b) 16 bit c) 32 bit d) 4 bit
CLO 2	1	3	The work of EU is _____ a) encoding b) decoding c) processing d) calculations
CLO 2	2	4	Expansion of CBW is_____. a) Convert byte into word b) Convert byte into double word c) Convert byte into width d) Convert byte into long word
CLO 3	1	5	Which is not the control bus signal: a) READ b) WRITE c) RESET d) None of these
CLO 3	2	6	ALE is a pulse to _____that signals external circuitry when a valid address word is on the bus. a) logic 1 b) logic 0 c) logic 2 d) None
CLO 4	1	7	STI stands for_____. a) Set interrupt flag b) Stay interrupt enable flag c) Store interrupt enable flag d) Set interrupt enable flag
CLO 4	2	8	The chip 74LS245 is a) bidirectional buffer b) 8-bit input port c) one that has 8 buffers d) all of the mentioned
CLO 5	1	9	INTR implies the_____ signal. a) Interrupt Request b) Interrupt Reset c) Interrupt Clear d) Clock
CLO 5	2	10	____ identifies the highest priority interrupt. a) 0 b) 1 c) 256 d) 255
			PART – B **(5 x 2=10)** **Answer all questions.**
CLO 1	1	11	What is Microprocessor?
CLO 2	2	12	Discuss the arithmetic instruction.
CLO 3	1	13	Explain the function of clock signals.
CLO 4	2	14	Explain the Input Output Instructions.
CLO 5	2	15	List some of the features of INTEL 82C59A.

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			PART – C **(5x 5 = 25)** **Answer all questions by choosing either (a) or (b).**
CLO 1	2	16	a) Explain the Software Model of the 8088/8086 Microprocessor. **(OR)** b) State the Instruction Pointer of 8088/8086 Microprocessor.
CLO 2	3	17	a) Calculate 32 bit addition using ADC. **(OR)** b) Apply compare instruction with following data: AX=BEEDH BX=1000H.
CLO 3	3	18	a) Model the Pin Diagram of Address/Data Bus of Minimum Mode interface signals. **(OR)** b) Construct the Read Bus Cycles for Minimum Mode Memory
CLO 4	4	19	a) Analyze the Maximum mode and Minimum mode operations. **(OR)** b) Categorize the various I/O instructions available in 8088/8086 Microprocessors.
CLO 5	3	20	a) Build the enabling and disabling of interrupt. **(OR)** b) Model the 8249a interrupt controller.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Demonstrate the Micro architecture of the 8088/8086 Microprocessor.
CLO 2	3	22	Apply the logic Instruction on the data.
CLO 3	4	23	Compare Minimum Mode 8088 and Minimum Mode 8086 System of I/O Interface.
CLO 4	3	24	Determine the eight byte wide input port using isolated I/O.
CLO 5	4	25	Classify the Interrupt vector table with an example.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Information Technology **COURSECODE: 20U2FMC3**

COURSE TITLE : Object Oriented Programming with C++ **QN.NO : 11305**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q. No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	Escape sequence character '\0' occupies __ amount of memory. (K1) a) 0 b)1 c) 2 d) 4
CLO 1	2	2	Objects created using new operator are stored in __ memory. (K2) a) Cache b) Heap c) Stack d) None of the above
CLO 2	1	3	What does polymorphism in OOPs mean? (K1) a) Concept of allowing overriding of functions b) Concept of hiding data c) Concept of keeping things in different modules/files d) Concept of wrapping things into a single unit
CLO 2	2	4	Which is used to define a member function of a class externally? (K1) a) : b) :: c) # d) !!$
CLO 3	1	5	In which access type, data gets derived as private member in derived class? a) Private b) Public c) Protected d) Protected and Private
CLO 3	2	6	Class X, class Y and class Z are derived from class BASE. This is _____ inheritance. a) Multiple b) Multilevel c) Hierarchical d) Single
CLO 4	1	7	When fopen() is not able to open a file, it returns (K1) a) EOF b) Null c) Runtime error d) Compiler dependent
CLO 4	2	8	By default, all the files are opened in which of the following mode? (K1) a) Binary Mode b) Text Mode c) Sequential Mode d) Both A and B
CLO 5	1	9	How to handle error in the destructor? (K1) a) Throwing b) Terminate c) Both throwing & terminate d) None of the above
CLO 5	2	10	Templates are abstract recipe for producing a concrete code, and it is used for a) Producing functions b) Producing classes c) Nothing d) Both A and B

Contd…

			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Write the concepts of OOPS.
CLO 2	2	12	Demonstrate Dynamic constructors.
CLO 3	1	13	Discuss the advantages of using a derived class.
CLO 4	2	14	What are the uses of command line arguments?
CLO 5	2	15	List the difference between error and exception.
			PART – C (5 x 5=25) **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Describe the data types in C++. **(OR)** b) List out the Operators in C++.
CLO 2	3	17	a) Illustrate overloaded constructors with example. **(OR)** b) Illustrate parameterized constructors and multiple constructors in a class.
CLO 3	3	18	a) Utilize the concept of Hierarchical Inheritance. Explain with example. **(OR)** b) Utilize the concept of multiple Inheritance. Explain with example.
CLO 4	4	19	a) Construct a program with command line arguments and explain. **(OR)** b) Build a program for reading and writing class objects in a file
CLO 5	3	20	a) Write down a detailed C++ program to demonstrate the use of try, catch, throw. **(OR)** b) Express the advantages of using exception handling mechanism in a program?
			PART – D (3 x 10 = 30) **Answer any THREE questions.**
CLO 1	2	21	Explain various control structures available in C++.
CLO 2	3	22	Build a C++ program to implement overloaded constructors.
CLO 3	4	23	Construct the C++ program to demonstrate multilevel Inheritance.
CLO 4	3	24	Explain how to apply exceptions in operator overloading with example.
CLO 5	4	25	Analyze the keywords used in C++ for exception handling? Describe their usage with suitable example.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Information Tech. **COURSE CODE : 20U2FMC4**

COURSE TITLE : Digital Principles and Applications **QN.NO : 11306**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q. No	PART – A (10 x 1 = 10) **Answer all Multiple choice questions by choosing the correct option.**
CLO 1	1	1	How many entries will be in the truth table of a 4-input NAND gate? a) 6 b) 8 c) 32 d) 16
CLO 1	2	2	The quantity of double word is _____ a) 16 bits b) 32 bits c) 4 bits d) 8 bits
CLO 2	1	3	The expression Y= (A+B) (B+C) (C+A) shows the _____ operation. a) AND b) POS c) SOP d) NAND
CLO 2	2	4	There are _____ Minterms for 3 variables (a, b, c). a) 0 b) 2 c) 8 d) 1
CLO 3	1	5	The basic building blocks of the arithmetic unit in digital computers are _____ a) Subtractors b) Adders c) Multiplexer d) Comparator
CLO 3	2	6	2's complement of 11001011 is _____ a) 01010111 b) 11010100 c) 00110101 d) 11100010
CLO 4	1	7	In S-R flip-flop, if Q = 0 the output is said to be _____ a) Set b) Reset c) Previous state d) Current state
CLO 4	2	8	The SR latch consists of a) 1 input b) 2 inputs c) 3 inputs d) 4 inputs
CLO 5	1	9	The full form of SIPO is _____ a) Serial-in Parallel-out b) Parallel-in Serial-out c) Serial-in Serial-out d) Serial-In Peripheral-Out
CLO 5	2	10	A 4-bit ripple counter consists of flip-flops, which each have a propagation delay from clock to Q output of 15 ns. For the counter to recycle from 1111 to 0000, it takes a total of _____ a) 15 ns b) 30 ns c) 45 ns d) 60 ns
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Show the result of 75 = ( )$_2$?
CLO 2	2	12	What do you mean by Max term?
CLO 3	1	13	Write about Multiplexers.
CLO 4	2	14	Classify the types of Flip-Flop.
CLO 5	2	15	What are the uses of a counter?

Contd….

			PART – C (5 x 5=25) **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Find the binary number for $(1248.56)_{10.}$ **(OR)** b) Find the octal number for $(0.6234)_{10}$.
CLO 2	3	17	a) Organize the Boolean function F(p, q, r, s)=s(p'+q)+q's in a sum of minterms and a product of maxterms. **(OR)** b) Identify the steps to convert between SOP and POS with example.
CLO 3	3	18	a) Describe 16 – to- 1 Multiplexer. **(OR)** b) Explain about 1 – OF – 16 decoder.
CLO 4	4	19	a) Discover a D flip-flop by using RS Flip flop. **(OR)** b) Correlate a sequence detector with RS flip- flop.
CLO 5	3	20	a) Describe the basic construction and operation of an Asynchronous counter. **(OR)** b) Describe the Synchronous Counter and its Advantages.
			PART – D (3 x 10 = 30) **Answer any THREE questions.**
CLO 1	2	21	a) Find the Excess-3 code from the given binary number $\mathbf{(11110)_2}$ b) Find the binary number for the given Gray code **01011**
CLO 2	3	22	Simply the Boolean Function Using Three Variable K-Map $F(X, Y, Z) = \sum (3, 4, 6, 7)$
CLO 3	4	23	Construct 16- to – 1 multiplexer circuit with truth table and pin diagram.
CLO 4	3	24	Explain the operations of J-K Master Slave Flip Flop with neat diagram.
CLO 5	4	25	Collect the information about Serial in parallel out Shift Register.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Information Tech. **COURSE CODE : 20U2FAC2**
COURSE TITLE : : Resource Management Techniques **QN.NO : 11307**
TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) **Answer all Multiple choice questions by choosing the correct option.**
CLO 1	1	1	Linear programming problem must have an a) Objective (goal) b) Constraints (conditions) c) Decision variables d) all of the above
CLO 1	2	2	The graph of $x \leq 2$ and $y \geq 2$ will be situated in the a) First and second quadrant b) Second and third quadrant c) First and third quadrant d) Third and fourth quadrant
CLO 2	1	3	The C_j row in a simplex table for maximization represents a) net profit b) gross profit c) profit per unit d) net loss
CLO 2	2	4	The dual of the primal maximization LPP having m constraints and n non-negative variables should, a) be a minimization LPP b) has *n* constraints and m non-negative variables c) both (a) and (b) d) none of the above
CLO 3	1	5	An assignment problem is considered as a particular case of transportation problem, because, a) all the rim conditions are 1 b) all x_{ij} are either 1 or 0 c) the number of rows equals columns d) all of the above
CLO 3	2	6	The dummy source or destination in a T.P. is introduced to a) prevent solution to become degenerate b) to satisfy rim conditions c) ensure that total cost does not exceed a limit d) solve the balanced transportation problem
CLO 4	1	7	When maximin and minimax values of the game are same, then a) there is a saddle point. b) solution does not exit c) strategies are mixed. d) none of the above.
CLO 4	2	8	If the pay-off matrix of a game is transposed, a) value of game does not change b) saddle point of the game, if exists, changes c) optimum strategies of both players do not change d) none of the above
CLO 5	1	9	Network problems have advantage in terms of project a) scheduling b) planning c) controlling d) all of the above
CLO 5	2	10	Which of the following is not correct? a) Total float is the aggregate of the free, interfering and independent floats b) For each critical activity-total, free and independent floats are equal to zero c) An activity with some free float cannot be a critical activity d) Interfering float is the excess of the total float over the free float
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Define slack and surplus variables in LPP.
CLO 2	2	12	Outline the concept of artificial variable and why it should be introduced in the solution?
CLO 3	1	13	What is meant by unbalanced transportation problem?
CLO 4	2	14	Elaborate pure strategy and mixed strategy.

Contd…

<table>
<tr><td>CLO 5</td><td>2</td><td>15</td><td>Express EFT, LFT</td></tr>
<tr><td></td><td></td><td></td><td>PART – C (5 x 5=25)
Answer all questions by choosing either (a) or (b).</td></tr>
<tr><td>CLO 1</td><td>2</td><td>16</td><td>a) List the steps involved in the mathematical formulation of the problem.
(OR)
b) Enumerate the steps in the solution of graphical method.</td></tr>
<tr><td>CLO 2</td><td>3</td><td>17</td><td>a) Construct the dual of the following LPP and solve it.
Maximize $Z = 4x_1 + 2x_2$ subject to the constraints :
$x_1 + x_2 \geq 3$
$x_1 - x_2 \geq 2$ and $x_1, x_2 \geq 0$
(OR)
b) Use duality to solve the following LPP:
Minimize $Z = 2x_1 + 2x_2$ subject to
$2x_1 + 4x_2 \geq 1$
$-x_1 - 2x_2 \leq -1$
$2x_1 + x_2 \geq 1$ and $x_1, x_2 \geq 0$</td></tr>
<tr><td>CLO 3</td><td>3</td><td>18</td><td>a) Solve the following transportation problem using the North-west corner rule.
<table>
<tr><td rowspan="2">Source</td><td colspan="4">Destination</td><td rowspan="2">Available</td></tr>
<tr><td>1</td><td>2</td><td>3</td><td>4</td></tr>
<tr><td>1</td><td>20</td><td>22</td><td>17</td><td>4</td><td>120</td></tr>
<tr><td>2</td><td>24</td><td>37</td><td>9</td><td>7</td><td>70</td></tr>
<tr><td>3</td><td>32</td><td>37</td><td>20</td><td>15</td><td>50</td></tr>
<tr><td>Requirement</td><td>60</td><td>40</td><td>30</td><td>110</td><td></td></tr>
</table>
(OR)
b) Find the initial Basic feasible solution for the following transportation problem by least cost method
<table>
<tr><td></td><td></td><td colspan="4">Destination</td><td></td></tr>
<tr><td></td><td>D_1</td><td>D_2</td><td>D_3</td><td>D_4</td><td>Supply</td></tr>
<tr><td>O_1</td><td>1</td><td>2</td><td>1</td><td>4</td><td>30</td></tr>
<tr><td>O_2</td><td>3</td><td>3</td><td>2</td><td>1</td><td>50</td></tr>
<tr><td>O_3</td><td>4</td><td>2</td><td>5</td><td>9</td><td>20</td></tr>
<tr><td>Demand</td><td>20</td><td>40</td><td>30</td><td>10</td><td></td></tr>
</table></td></tr>
<tr><td>CLO 4</td><td>4</td><td>19</td><td>a) Classify the following two-person zero-sum games is strictly determinable and fair. Give optimum strategies for each player in the case of strictly determinable games:
Player B
Player A $\begin{bmatrix} 5 & 0 \\ 0 & 2 \end{bmatrix}$
(OR)
b) Indicate the range of value of p and q that will make the payoff element a_{22} a saddle point for the game whose payoff matrix (a_{ij}) is given by :
Player B
Player A $\begin{bmatrix} 2 & 4 & 7 \\ 10 & 7 & q \\ 4 & p & 8 \end{bmatrix}$</td></tr>
</table>

Contd…

<table>
<tr><td>CLO 5</td><td>3</td><td>20</td><td>a) Tasks A, B, C, ..., H, I constitute a project. The notation X<Y means that the task X must be finished before Y can begin. With this notation :
A < D, A < E, B < F, D < F, C < G, C < H, F < I, G < I.
Draw a graph to represent the sequence of tasks and find the minimum time of completion of the project, when the time (in days) of completion of each task is as follows:

Task: A B C D E F G H I
Time: 8 10 8 10 16 17 18 14 9

(OR)
b) Differentiate PERT and CPM.</td></tr>
<tr><td></td><td></td><td></td><td>PART – D (3 x 10 = 30)
Answer any THREE questions.</td></tr>
<tr><td>CLO 1</td><td>2</td><td>21</td><td>Solve the following LPP graphically :
Maximize $Z = 100x_1 + 40x_2$ subject to the constraints :
$5x_1 + 2x_2 \leq 1000$
$3x_1 + 2x_2 \leq 900$
$x_1 + 2x_2 \leq 500$ and $x_1, x_2 \geq 0$</td></tr>
<tr><td>CLO 2</td><td>3</td><td>22</td><td>Show that all the basic solution to the following system of linear equations has a non-degenerate :
$x_1 + 2x_2 + x_3 = 4$
$2x_1 + x_2 + 5x_3 = 5$</td></tr>
<tr><td>CLO 3</td><td>4</td><td>23</td><td>Devise MODI - method to solve the following transportation problem.
<table>
<tr><td rowspan="2">Origin</td><td colspan="6">Destination</td></tr>
<tr><td></td><td>I</td><td>II</td><td>III</td><td>IV</td><td>Supply</td></tr>
<tr><td></td><td>A</td><td>10</td><td>2</td><td>20</td><td>10</td><td>15</td></tr>
<tr><td></td><td>B</td><td>12</td><td>7</td><td>9</td><td>20</td><td>25</td></tr>
<tr><td></td><td>C</td><td>4</td><td>14</td><td>16</td><td>18</td><td>10</td></tr>
<tr><td></td><td>Demand</td><td>5</td><td>15</td><td>15</td><td>15</td><td></td></tr>
</table></td></tr>
<tr><td>CLO 4</td><td>3</td><td>24</td><td>Consider the following 2×2 game :
$\begin{bmatrix} 4 & 7 \\ 6 & 5 \end{bmatrix}$
(i) Does it have a saddle point?
(ii) Is it correct to state that the value of game, G will be 5<G<6 ?
(iii) Determine the frequency of optimum strategies by matrix oddment method and find the value of game.</td></tr>
<tr><td>CLO 5</td><td>4</td><td>25</td><td>Develop a network for the following jobs and its duration.
<table>
<tr><td>Jobs</td><td>1-2</td><td>1-3</td><td>2-4</td><td>3-4</td><td>3-5</td><td>4-6</td><td>4-7</td><td>5-6</td><td>5-7</td><td>6-7</td></tr>
<tr><td>Duration</td><td>2</td><td>3</td><td>2</td><td>3</td><td>2</td><td>3</td><td>2</td><td>7</td><td>5</td><td>6</td></tr>
</table>
Find (i) Critical Path (ii) Total float, Free float and Independent float for each activity.</td></tr>
</table>

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No of Pages: 2

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Microbiology **COURSE CODE : 20U1RMC1**

COURSE TITLE : General Microbiology **QN.NO : 11401**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	Who is known as the father of Microbiology? a) Sir Joseph Lister b) Sir Robert Hooke c) Sir Edward Jenner d) Sir Anton Van Leewenhoek
CLO 1	2	2	Who was the first to observe "animalcules" under the microscope? a) Anton Van Leeuwenhoek b) Ötzi the Iceman c) Marcus Terentius Varro d) Robert Koch
CLO 2	1	3	In prokaryotic cells, ribosomes are a) 70 S b) 80 S c) 60S + 40S d) 50S + 40S
CLO 2	2	4	Microorganisms that can be found thriving in icy-cold climates would be considered_____ a) barophiles b) thermophiles c) mesophiles d) psychrophiles
CLO 3	1	5	The bacterial genus where sterols are present in the cell membrane is *a) Vibrio b) Mycoplasma c) Escherichia d) Chlamydea*
CLO 3	2	6	Which is most likely to be exposed on surface of a gram-negative bacterium? a) Pore protein (porin) b) Protein involved in energy generation c) Lipoteichoic acid d) Phospholipids
CLO 4	1	7	Which is a rich source of protein a) Nostoc b) Anabaena c) Spirulina d) Oscillatoria
CLO 4	2	8	Which of the following is not the synthetic drug to cure malaria? a) Quinine b) Paludrin c) Paraquinine d) Plasmochin
CLO 5	1	9	The largest antibiotic-producing genus is a) Pencillin b) Streptomyces c) Cephalosporium d) Bacillus
CLO 5	2	10	Antimalarial drug is a) Antiparasitic b) Antibiotic c) Antifungal d)Antiviral
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Write about the contributions of Sir. Joseph Lister.
CLO 2	2	12	Is Mycoplasma a bacteria or virus? Justify your answer.
CLO 3	2	13	Describe the significance of *Pseudomonas putida***?**
CLO 4	2	14	What is the function of chlamydomonas ?
CLO 5	2	15	Write the principle behind Kirby Bauer test

Contd…

			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Summarize germ theory of diseases. **(OR)** b) Discuss the contributions of Edward Jenner and Anton Von Leeuwenhoek.
CLO 2	2	17	a) Describe ultra structure of prokaryotes with diagram. **(OR)** b) Discuss the characteristic of Mycoplasma.
CLO 3	4	18	a) Explain with diagram various phases of bacterial growth. **(OR)** b) Compare and contrast pili and fimbriae.
CLO 4	2	19	a)Write down economic importance of fungi. **(OR)** b) What is the difference between Lytic and Lysogenic cycle.
CLO 5	4	20	a) Compare and contrast antiseptics and disinfectants. **(OR)** b) Discuss Minimum Inhibitory Concentration test.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Explain the milestones in the development of Microbiology during golden era of microbiology.
CLO 2	2	22	Explain general characters and significance of Archeabacteria and Eubacteria.
CLO 3	3	23	Elaborate the stages of bacterial growth curve and continuous cultivation of bacteria.
CLO 4	2	24	Explain the structure and life cycle of plasmodium.
CLO 5	3	25	Discuss Antibiotic sensitivity tests.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Microbiology **COURSE CODE : 20U2RMC3**
COURSE TITLE : Microbial Taxonomy **QN.NO : 11405**
TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	The correct order of taxonomic groups from higher to lower rank is? a) Kingdom—Order—Class—Family b) Order—Class—Division—Family—Genus—Species c) Kingdom—Order—Division—Family—Class—Genus—Species d) Kingdom—Division—Class—Order—Family—Genus—Species
CLO 1	2	2	In clinical laboratory, identification of an organisms are made base on the following except?? a) Cellular morphology b)Gram stain morphology c) circular morphology d) Mobility
CLO 2	1	3	Which of the following organisms have thick peptidoglycan in their cell wall? a) Gram-negative bacteria b) Gram-positive bacteria c) Yeast d) Molds
CLO 2	2	4	Which of the following bacteria are the most prevalent in the human gut? a) Cyanobacteria b) *Staphylococci* c) *Borrelia* d) Bacteroides
CLO 3	1	5	Mode of reproduction is fungi is? a) Sexual b) Asexual c) Both a) and b) d) None of the above
CLO 3	2	6	Which class of fungi among the following have motile cells with two laterally inserted flagella,one tinsel and the other whiplash? a) Chytridiomycetes b) Zygomycetes c) Deuteromycetes d) Oomycetes
CLO 4	1	7	Heterocysts are found in a) *Nostoc* b) *Cystopus* c) *Ulothrix* d) *Aspergillus*
CLO 4	2	8	The algae Chlamydomonas demonstrates a complex life cycle that switches between haploid and diploid forms. This life cycle is called a) the sexual-asexual exchange b) the transposition cycle c) an alternation of generations d) algal transformation
CLO 5	1	9	Which of the following is the largest virus? a) Megavirus chilensis b) Arbo virus c) Herpes virus d) Mumps virus
CLO 5	2	10	Viral genome inserted to the bacterial DNA is termed as_____. a) Lysogeny b) Prophage c) Lytic cycle d) Virulent phage

Contd…

			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Discuss the three kingdom concept for living organisms
CLO 2	2	12	List the general characters of *Staphylococcus aureus*
CLO 3	1	13	Discuss the economic importance of fungi
CLO 4	2	14	Describe the methods of vegetative reproduction in algae
CLO 5	2	15	What are the life cycles of phages?
			PART – C (5 x 5=25) **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Discuss the criteria used for classification of microorganisms. **(OR)** b) Describe Woese's three kingdom classification.
CLO 2	3	17	a) Describe reproduction of *Staphylococcus aureus* . **(OR)** b) Discuss ultra structure of *Escherchia coli.*
CLO 3	3	18	a) Illustrate the life cycles of zygomycetes. **(OR)** b) Elaborate the characters of basidiomycota with examples.
CLO 4	4	19	a) Give the distinguishing characters of Euglenophyta. **(OR)** b) Describe the various types of zoospores in *Ulothrix*
CLO 5	3	20	a) Discuss the lytic cycle of phage. **(OR)** b) Discuss the lysogenic cycle of phage
			PART – D (3 x 10 = 30) **Answer any THREE questions.**
CLO 1	2	21	How the criteria for microbial classification are used in taxonomy?
CLO 2	3	22	Explain general characteristics, morphology, ultra structure and reproduction of *Escherchia coli*
CLO 3	4	23	Classify fungi based on Alexopoulos and Mims
CLO 4	3	24	Explain the general characteristics, morphology, ultra structure and reproduction of *Spirogyra*
CLO 5	4	25	Classify animal viruses with examples

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc., Microbiology **COURSE CODE : 20U2RMC4**

COURSE TITLE : Cell and Molecular Biology **QN.NO : 11406**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) **Answer all Multiple choice questions by choosing the correct option.**
CLO 1	1	1	The endoplasmic reticulum functions to a) transport materials b) destroy old parts c) make ribosomes d) package proteins.
CLO 1	2	2	How many bases are there in per turn of the B form of DNA? a) 8 bp b) 9 bp c) 10 bp d) 11 bp.
CLO 2	1	3	During cell growth, DNA synthesis takes place _____. a) S-phase b) G_1-phase c) M-phase d) G_{2-} phase.
CLO 2	2	4	The spindle apparatus is formed during the _____ phase of mitosis. a) Telophase b) Metaphase c) Prophase d) Anaphase.
CLO 3	1	5	The fragments of DNA are joined together by which of the following enzymes? a) Endonuclease b) DNA polymerase c) Primase d) Ligase
CLO 3	2	6	Nirogeneous bases between two strands of DNA are linked by a) covalent bond b) hydrogen bond c) ionic bond d) non covalent bond.
CLO 4	1	7	Transcription is the transfer of genetic information from a) DNA to RNA b) DNA to mRNA c) mRNA to tRNA d) tRNA to mRNA
CLO 4	2	8	A DNA strand with the sequence AACGTAACG is transcribed. What is the sequence of the mRNA molecule synthesized? a) AACGTAACG b) UUGCAUUGC c) AACGUAACG d) TTGCATTGC
CLO 5	1	9	In both prokaryotic and eukaryotic cells, the synthesis of protein chains is initiated with a) Arginine b) Methionine c) Serine d) Valine
CLO 5	2	10	Addition of one or more phosphate groups to the protein is _____ a) methylation b) lipidation c) phosphorylation d) translation.
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	What function is provided to the cell by Golgi apparatus?
CLO 2	2	12	Explain Apoptosis
CLO 3	1	13	List different types of replication
CLO 4	2	14	Write the importance of TATA box
CLO 5	2	15	Explain about charging tRNA

Contd…

			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Classify the types of RNA. **(OR)** b) Explain the structure of Mitochondria.
CLO 2	3	17	a) Explain about the **S** phase in cell cycle. **(OR)** b) Explain the telophase with diagram.
CLO 3	3	18	a) Discuss the types and functions of topoisomerase. **(OR)** b) Describe the replication of plasmid with diagram.
CLO 4	4	19	a) Describe the structure and function of prokaryotic RNA polymerase. **(OR)** b) Explain the modes of termination in transcription.
CLO 5	3	20	a) Describe the initation process of translation in prokaryotes. **(OR)** b) Explain the structure and functions of tRNA.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Compare DNA and RNA.
CLO 2	3	22	Demonstrate stages in mitosis
CLO 3	4	23	Write down the types and functions of DNA polymerase
CLO 4	3	24	Differentiate the process of transcription in prokaryotes and eukaryotes
CLO 5	4	25	Outline the process of initiation , elongation and termination of translation in eukaryotes

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No of Pages	2

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc. Biotechnology **COURSE CODE: 20U2LMC3**

COURSE TITLE : General Physiology **QN.NO : 11504**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) **Answer all Multiple choice questions by choosing the correct option.**
CLO 1	1	1	Tight junctions that hold the cells of a tissue together may not be present in _____ tissue a) Blood b) Bone c) Neuron d) Muscle
CLO 1	2	2	Which among the following cell(s) is/are NOT totipotent? (A) Bone marrow stem cells (B) Zygote (C) meristematic cells (D) sperm a) only D b) only B c) A and D d) B and C
CLO 2	1	3	Diffusion rate is affected by a) Concentration gradient b) Membrane permeability through which it occur c) Pressure and temperature d) All of these
CLO 2	2	4	Secretion of gastro- intestinal juices and movements after ingestion are mostly controlled by a) Brain b) Sympathetic c) Hormones d) Parasympathetic nerves
CLO 3	1	5	Which one of the following about respiration is correct? a) An anabolic process b) An energy releasing process c) Along with photosynthesis, maintains O_2 and CO_2 balance of the biosphere d) All
CLO 3	2	6	During exercise, oxygen dissociation curve shifts to the right because of: a) High temperature b) Increase in hydrogen ion concentration c) Release of CO_2 in huge quantities by exercising muscles d) All
CLO 4	1	7	Hypertonic urine formation is a characteristic of kidneys of a) Fishes and amphibians b) Amphibians and reptiles c) Reptiles and birds d) Birds and mammals
CLO 4	2	8	Mammals are characterised by a) Metanephric kidney with loop of Henle b) Mesonephric kidney without Henle loop c) Metanephric kidney without Henle loop d) Proanephric without Henle loop
CLO 5	1	9	Damage to the neurons of posterior pituitary gland will NOT affect a) Oxytocin synthesis b) ADH synthesis c) Production of milk from the mammary gland d) Secretion of milk through the nipple

Contd…

<table>
<tr><td>CLO 5</td><td>2</td><td>10</td><td>Match column-I with column-II and select the correct match using answer codes.
<table><tr><th>Column-I</th><th>Column-II</th></tr><tr><td>A. Glycine</td><td>1. Induces sleep</td></tr><tr><td>B. Serotonin</td><td>2. Reduces pain perception</td></tr><tr><td>C. Acetylcholine</td><td>3. Prevents uncontrolled muscle contraction</td></tr><tr><td>D. Endorphins</td><td>4. Stimulates muscle contraction</td></tr></table>Answer codes:
A B C D
a) 4 3 2 1
b) 3 1 4 2
c) 2 1 4 3
d) 3 4 1 2</td></tr>
<tr><td></td><td></td><td></td><td>PART – B (5 x 2=10)
Answer all questions.</td></tr>
<tr><td>CLO 1</td><td>1</td><td>11</td><td>What are chondrocytes?</td></tr>
<tr><td>CLO 2</td><td>2</td><td>12</td><td>Describe the mass or bulk flow.</td></tr>
<tr><td>CLO 3</td><td>1</td><td>13</td><td>Differentiate arteries & veins.</td></tr>
<tr><td>CLO 4</td><td>2</td><td>14</td><td>Report the factors influencing transpiration process.</td></tr>
<tr><td>CLO 5</td><td>2</td><td>15</td><td>Add a note on oxytocin.</td></tr>
<tr><td></td><td></td><td></td><td>PART – C (5 x 5=25)
Answer all questions by choosing either (a) or (b)</td></tr>
<tr><td>CLO 1</td><td>2</td><td>16</td><td>a) Write briefly on : i) fibrous connective tissue ii) smooth muscle
(OR)
b) Write short notes on the organisation phloem tissue.</td></tr>
<tr><td>CLO 2</td><td>3</td><td>17</td><td>a) Compare and contrast exosmosis and endosmosis.
(OR)
b) Explain the digestion of proteins in the alimentary canal.</td></tr>
<tr><td>CLO 3</td><td>3</td><td>18</td><td>a) Prepare a chart for blood clotting process and explain briefly.
(OR)
b) Draw the standard ECG and explain the different segments in it.</td></tr>
<tr><td>CLO 4</td><td>4</td><td>19</td><td>a) Outline the structural adoptions shown by plants to reduce transpiration.
(OR)
b) Explain the structure of kidney with a diagram.</td></tr>
<tr><td>CLO 5</td><td>3</td><td>20</td><td>a) Give a brief account on the three functional classes of neurons involved in neural signalling.
(OR)
b) Describe briefly on the rods and cones with neat diagram.</td></tr>
<tr><td></td><td></td><td></td><td>PART – D (3 x 10 = 30)
Answer any THREE questions.</td></tr>
<tr><td>CLO 1</td><td>2</td><td>21</td><td>Write in detail about the vascular tissues of the plant.</td></tr>
<tr><td>CLO 2</td><td>3</td><td>22</td><td>Make use of the following theory to explain the active transport of minerals: [i] Lecithin carrier theory [ii] Electrochemical gradient hypothesis.</td></tr>
<tr><td>CLO 3</td><td>3</td><td>23</td><td>Describe the phases of cardiac cycle.</td></tr>
<tr><td>CLO 4</td><td>3</td><td>24</td><td>Write about physical properties of urine.</td></tr>
<tr><td>CLO 5</td><td>4</td><td>25</td><td>Give a detailed account on the structural organisation of anterior pituitary gland and elaborate the hormones secreted by gland with its functions.</td></tr>
</table>

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No of Pages	2

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Sc. Biotechnology **COURSE CODE : 20U2LMC4**
COURSE TITLE : Bioinstrumentation **QN.NO : 11505**
TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) **Answer all Multiple choice questions by choosing the correct option.**
CLO 1	1	1	Magnification range of light microscope is a) 1000x – 5000x b) 1000x – 2000x c) 500x – 1000x d) None of these
CLO 1	2	2	Which of the following are true for electron microscopy? a) specimen should be thin and dry b) image is obtained on a phosphorescent screen c) electron beam must pass through evacuated chamber d) specimen should be thin and dry, image is obtained on a phosphorescent screen and electron beam must pass through evacuated chamber
CLO 2	1	3	In 500 × g, what does g represent in accordance to centrifugation? a) Gravitational force b) Centrifugal force is 500 times greater than earthly gravitational force c) Centrifugal force is 500 times less than earthly gravitational force d) Centrifugal force is 500 times same as that of earthly gravitational force
CLO 2	2	4	Which of the following statements about the basic principle of sedimentation is false? a) The denser a biological structure is, the faster it sediments in a centrifugal field b) The more massive a biological particle is, the slower it moves in a centrifugal field c) The denser the buffer system is, the slower the particle will move in a centrifugal field d) The greater the centrifugal force is, the faster the particle sediments
CLO 3	1	5	Beer Lambert's law gives the relation between which of the following? a) Reflected radiation and concentration b) Scattered radiation and concentration c) Energy absorption and concentration d) Energy absorption and reflected radiation
CLO 3	2	6	Which one of the following arrangements for the sequence of the main components of a UV/visible spectrophotometer is Correct? a) Light source → Monochromator → Sample cell → Detector → Readout b) Light source → Monochromator → Detector → Sample cell →Readout c) Light source → Monochromator→ Detector → Sample cell → Readout d) Light source →Readout→ Detector → Sample cell → Monochromator
CLO 4	1	7	Which of the following is used as a carrier gas in gas chromatography a) Carbon dioxide b) Oxygen c) Helium d) Methane

Contd…

CLO 4	2	8	What is Eluent? a) It a liquid solution b) It a liquid solution that is a result from Elution c) It is a solvent that used for separation of absorbed material from stationary phase d) None of the above
CLO 5	1	9	The speed of migration of ions in electric field depends upon a) Shape and size of molecule b) Magnitude of charge and shape of molecule c) Magnitude of charge shape and mass of molecule d) Magnitude of charge and mass of molecule
CLO 5	2	10	Which of the following statement is true regarding migration of bio molecules? a) the rate of migration is directly proportional to the current b) the rate of migration is inversely proportional to current c) the rate of migration is directly proportional to the resistance of the medium d) Low voltage is used for the separation of high molecular weight compounds.
			PART – B **(5 x 2=10)** **Answer all questions.**
CLO 1	1	11	List out any two advantages of phase contrast microscope.
CLO 2	2	12	Define RCF.
CLO 3	1	13	Discuss about the advantage of UV spectrophotometer over colorimeter.
CLO 4	2	14	Describe about Stationary phase.
CLO 5	2	15	Define the unit Becquerel.
			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) State the properties of microscope. **(OR)** b) Outline the working of Fluorescence microscope.
CLO 2	3	17	a) Summarize the principle of pH meter. **(OR)** b) Compare isopycnic and rate zonal centrifugation.
CLO 3	3	18	a) Applications of UV-Vis Spectrophotometer. **(OR)** b) Illustrate the various regions of Electromagnetic spectrum.
CLO 4	4	19	a) Discuss in brief ion exchange chromatography.. **(OR)** b) Discuss briefly about TLC.
CLO 5	3	20	a) Show that Agarose gel electrophoresis is used to separate DNA based on molecular size. **(OR)** b) Explain about Autoradiography.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	2	21	Explain SEM write its principle, working and applications.
CLO 2	3	22	Classify various types of rotors used for centrifugation process.
CLO 3	4	23	Explain about the principle and working of IR spectroscopy.
CLO 4	3	24	Explain about HPLC. Highlighting its components, working and applications.
CLO 5	4	25	Identify the advantage of SDS-PAGE , by explaining its principle, instrumentation and applications.

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No of Pages	5

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., /BPA /B&I /CM **COURSECODE: 20U2KMC3**

COURSE TITLE : Financial Accounting-II **QN.NO : 11705**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K Level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO1	K1	1	The abnormal loss on consignment is credited to _____ a) P&L A/C b) Consignee A/C c) Consignment A/C d) Consignor A/C
CLO1	K2	2	In the books of consignor, the balance in the goods sent on consignment account is shown _____. a) On the asset side of balance sheet. b) On the liability side of balance sheet. c) On the credit side of trading A/C d) On the credit side of consignment A/C
CLO2	K1	3	Profit or Loss on Joint venture is shared by the co -ventures _____ a) Equally b) In the capital ratio c) As per the agreement d) Three- fourths
CLO2	K2	4	When goods are purchased for the joint venture, the account to be debited is ____ a) Purchases a/c b) Joint venture a/c c) Venture's capital a/c d) Goods a/c
CLO3	K1	5	Self-balancing entry is not needed for provision for bad debts because _____ a) It is a provision b) It does not affect two ledgers c) It does not affect debtors d) None of the above
CLO3	K2	6	Royalties are connected with the following type of business _____ a) Manufacturing industry b) Mining industry c) Construction industry d) Service industry
CLO4	K1	7	Single entry is usually adopted by a) Small firms b) Joint stock company c) Registered cooperative societies d) Partnership firm
CLO4	K2	8	In single entry system _____ accounts are opened a) Personal accounts b) Real accounts c) Nominal accounts d) Real and nominal accounts
CLO5	K1	9	Sale of fixed assets a) Capital receipt b) Revenue receipt c) Capital income d) Revenue income
CLO5	K2	10	Capital expenditure is of _____ a) Non-recurring nature b) Recurring nature c) Liability d) Deferred revenue expenditure

Contd…

			PART -B **(5 x 2=10)** **Answer all questions.**
CLO1	**K1**	**11**	Distinguish consignment from sale.
CLO2	**K1**	**12**	What is co-ventures a/c?
CLO3	**K2**	**13**	List out various transactions which can increase and decrease the balance in debtors account.
CLO4	**K2**	**14**	Express the term single entry system?
CLO5	**K2**	**15**	Explain Receipts and Payments account.
			PART -C **(5 x 5 = 25)** **Answer all questions by choosing either (a) or (b).**
CLO1	**K1**	**16**	a) S sends goods on 1/1/2020 to Y on consignment basis to be sold at 10% commission on sales. Y accepted a bill of Rs. 1,00,000 drawn by S for 4 months on the same date. S discounted the bill with his banker @ 15% p.a on 4/2/2020 S incurred Rs. 30,000 by way of freight and other expenses whereas expenses of Y were Rs. 20,000 out of which 60% were non-recurring. Y sent the final balance of Rs. 2,85,000 to S on 31/3/2020 along with an account sale. The gross profit margin is 25% and 10% of goods remained unsold with Y. you are required to prepare the necessary ledger accounts in the books of both the parties. **(OR)** b) Ajay consigned to baby 100 cases of tea costing Rs.100 per case. He paid Rs.1,000 as freight and cartage. Baby could take delivery of only 90 cases since 10 cases were lost in transit. He paid Rs.2,000 as unloading and carriage charges. At the end of the year, he reported that he has sold away 80 cases at Rs. 150 per case. You are required to calculate: (i) the value of abnormal loss and (ii) the value of closing stock. If the abnormal loss of 10 cases happens at the godown of the consignee in place of transit from Ajay to baby. What will be the (iii) value of abnormal loss and (iv) value of closing stock.
CLO2	**K3**	**17**	a) Senthil and Saravanan entered into a joint-venture, the former contributing Rs. 80,000 and the later Rs. 50,000. They opened a joint bank account and agreed to share profits $1/3^{rd}$ and $2/3^{rd}$ respectively. They purchased goods for cash Rs. 80,000 and Saravanan supplied goods to the value of Rs.40,000. The entire goods were sold for Rs. 1,70,000 paying Rs. 4,100 towards the expenses. Senthil was entitled to a commission of 3% on sales. Show joint venture account and joint bank account. **(OR)** b) S and P entered into a joint venture and agreed to divide the profits as to S 60% and P 40%. S and P contributed Rs. 1,80,000 and Rs.1,20,000 respectively for carrying on transaction relating to the venture. They opened a joint bank account with the above contributions. They purchased three old state buses for Rs.2,40,000. S and P personally paid Rs.45,000 and Rs.30,000 respectively for repairs and renewals. They purchased a few tyres and tubes costing Rs.54,000. Two buses were sold for Rs.2,70,000 and the third one was taken by P at cost price. Prepare joint venture a/c, joint bank a/c, and close the accounts of the venture.

Contd…

<table>
<tr>
<td>CLO3</td>
<td>K3</td>
<td>18</td>
<td>a) A business firm which keeps its books on self balancing system gives you the following details. Prepare necessary adjustment account in general ledger as on 31-1-94.
<table>
<tr><td>Balance of sundry creditors 1.194</td><td>26,070</td></tr>
<tr><td>Transactions during the months were:</td><td></td></tr>
<tr><td>Credit purchases</td><td>7,000</td></tr>
<tr><td>Payment to creditors</td><td>5,430</td></tr>
<tr><td>Discount allowed by them</td><td>180</td></tr>
<tr><td>Accepted bill payable</td><td>3,960</td></tr>
<tr><td>Returns to creditors</td><td>400</td></tr>
<tr><td>Allowances from creditors</td><td>10</td></tr>
<tr><td>Bills payable dishonored</td><td>410</td></tr>
</table>
(OR)
b) The Bengali mines Co, Ltd, took from Mr.Dass a lease of a mine for a period of 25 years from 1-1-86, on a royalty of Rs. 5 per tonne of mineral raised with a dead rent of Rs.20,000 and power to recoup shortworkings during the first five years of the lease. The annual outputs were as follows:
<table>
<tr><td>1986</td><td>2,000 Tonnes</td></tr>
<tr><td>1987</td><td>3,000 Tonnes</td></tr>
<tr><td>1988</td><td>4,000 Tonnes</td></tr>
<tr><td>1989</td><td>4,500 Tonnes</td></tr>
<tr><td>1990</td><td>5,000 Tonnes</td></tr>
</table>
Give journal entries in the books of the Bengal Mines company and in the books of Dass.</td>
</tr>
<tr>
<td>CLO4</td>
<td>K4</td>
<td>19</td>
<td>a) Discover a statement showing X profit for the year ended 31.3.1995 after writing off 10% depreciation on furniture and making a provision for bad debts of 10% on Sunday debtors. X keeps his books on the single entry system and the following information is available.
<table>
<tr><th>Particulars</th><th>1.4.1994 (Rs)</th><th>31.3.1994 (Rs)</th></tr>
<tr><td>Furniture</td><td>200</td><td>200</td></tr>
<tr><td>Stock</td><td>2,800</td><td>3,050</td></tr>
<tr><td>Sundry debtors</td><td>2,100</td><td>3,400</td></tr>
<tr><td>Cash</td><td>150</td><td>200</td></tr>
<tr><td>Sundry creditors</td><td>1,750</td><td>1,900</td></tr>
<tr><td>Bills payable</td><td>-</td><td>300</td></tr>
<tr><td>Loan obtained</td><td>-</td><td>500</td></tr>
<tr><td>Investments</td><td>-</td><td>1,000</td></tr>
</table>
He had drawn out of the business Rs.500 during the year.
(OR)
b) Compare the Single entry and Double entry system.</td>
</tr>
<tr>
<td>CLO5</td>
<td>K2</td>
<td>20</td>
<td>a) From the following details related to subscription of Coimbatore sports club, calculate the subscriptions for the year ending 31stDecember, 1990 Subscription received as per receipts and payments accounts for the year ending 31st -12-1990 Rs. 10,000, Subscription outstanding as on 31-12-1989 Rs. 2000, Subscription outstanding as on 31-12-1990 Rs. 4000, Subscription received in advance as on 31-12-1989 Rs. 3000 Subscription received in advance as on 31-12-1990 Rs. 2000.</td>
</tr>
</table>

(OR)

a) Form the following particulars prepare a receipts and payments a/c

Cash in hand	Rs. 100
Cash at bank	Rs. 500
Subscription received	Rs. 3300
Donation received	Rs. 260
Investment purchased	Rs. 1000
Rent paid	Rs. 400
General expenses	Rs. 210
Postage and stationery	Rs. 70
Sundry expenses	Rs. 30
Cash balance at close	Rs. 20

PART-D **(3 x 10 = 30)**

Answer any THREE questions.

CLO1 **K2** **21**

ShriMetha of Bombay consigns 1,000 cases of goods costing Rs.100 each to the sundram of Madras. Shrimetha pays the following expenses in connection with the consignment; freight Rs.3,000, Carriage Rs.1,000, Loading charges Rs.1,000, Sundram sells 700 cases at Rs.140 per case and incurs the followings expenses; cleaning charges Rs.850, warehousing and storage Rs.1,700; packaging and selling expenses Rs.600; it is found that 50 cases have been lost in transit and 100 cases are still in transit. Sundram is entitled to a commission of 10% on gross sales. Draw up the consignment account and sundrams account in the books of shri metha.

CLO2 **K3** **22**

Amu and Chand enter into a joint venture to share the results as to 2:1. The joint venture transaction are as under:

Particulars	**Ramu Rs.**	**Chand Rs.**
Goods supplied	60,000	30,000
Expenses paid	8,000	2,000
Sales proceeds received	80,000	56,000

Show the journal entries and ledger accounts in the books of both the parties.

CLO3 **K4** **23**

Mr.Senthil holds a patent for the manufacture of electronic blankets.
He allows the Everest manufactures Ltd the use of the patent for a royalty of Rs.10 per blanket produced subject to a minimum rent of Rs.10,000 in the first year Rs.12,000 in the second year and Rs.15,000 thereafter. Any short workings is recoverable out of the royalties of the 3 years subsequent to the year in which the short working arises. The output is as under:

I year	300 blankets
II year	400 blankets
III year	1,900 blankets
IV year	2,000 blankets
V year	2,800 blankets

Show the short workings A/C in the books of the company for the various years.

Contd…

<table>
<tr>
<td>CLO4</td>
<td>K3</td>
<td>24</td>
<td>The position of a businessman keeps his books on the signal entry was as under on 31.12.90 and 31.12.91.
<table>
<tr><th>Particulars</th><th>1990 (Rs)</th><th>1991 (Rs)</th></tr>
<tr><td>Cash in hand</td><td>400</td><td>480</td></tr>
<tr><td>Cash at bank</td><td>6,000</td><td>2,500</td></tr>
<tr><td>Stock</td><td>6,500</td><td>5,000</td></tr>
<tr><td>Debtors</td><td>4,000</td><td>5,200</td></tr>
<tr><td>Furniture</td><td>300</td><td>350</td></tr>
<tr><td>Sundry creditors</td><td>4,100</td><td>3,100</td></tr>
</table>
He withdraws Rs.7,500 from business on 2.1.91 out of which he spent Rs.5,200 for purchase of motor truck for the business.
Adjustments:
a) Depreciation on closing balance of furniture and truck at 10%.
b) Write off Rs.220 as bad debts
c) 5% provision for bad and doubtful debts is needed.
Find out the profit or loss for the year.</td>
</tr>
<tr>
<td>CLO5</td>
<td>K3</td>
<td>25</td>
<td>The following is the receipts and payments accounts of the Bombay club for the year ending 31.Dec.1999
<table>
<tr><th>Receipts</th><th>Rs</th><th>Payments</th><th>Rs</th></tr>
<tr><td>To bal b/d</td><td>600</td><td>By Rent</td><td>10,400</td></tr>
<tr><td>Entrance fees</td><td>1,100</td><td>Stationery exp</td><td>6,136</td></tr>
<tr><td>Tosubscription:
1998 Rs. 400
1999 Rs. 33,800
2000 Rs. 600</td><td>34,800</td><td>Wages</td><td>10,660</td></tr>
<tr><td>Locker Rent</td><td>1,000</td><td>Billiards table</td><td>7,800</td></tr>
<tr><td>To: special subscriptions for governor’s party</td><td>6,900</td><td>Repairs & renewals</td><td>1,612</td></tr>
<tr><td></td><td></td><td>Interest</td><td>3,000</td></tr>
<tr><td></td><td></td><td>Bal c/d</td><td>4,792</td></tr>
<tr><td></td><td>44,400</td><td></td><td>44,400</td></tr>
</table>
Lockers rent Rs.120 refers to 1998 and Rs.180 is still owing; rent Rs.2600 pertaining to 1998 and Rs.2,600 is still owing; stationery exp etc. Rs.624 related to 1998; Still owing Rs.728; subscription unpaid for 1999 rs.1,736; special subscriptions for governor’s party outstanding Rs.1,100
The club owned sports materials of the value Rs. 32,000 on 1.1.1999. this was valued at Rs.27,000 on 31.12.1999. the club took a loan of Rs. 40,000 in 1998. Prepare the income and expenditure A/C for 1999 and balance sheet as at 31st, December, 1999</td>
</tr>
</table>

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No of Pages	3

SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME:B.Com (PA, B&I,CM) **COURSECODE:20U2KMC4**

COURSE TITLE : Business Mathematics & Statistics **QN.NO : 11706**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) **Answer all Multiple choice questions by choosing the correct option.**
CLO 1	1	1	The ratio equivalent to 3:7 is _____ a) 3:9 b) 6:10 c) 9:21 d) 18:49
CLO 1	2	2	If $a > 0$, then the value of $log_a a$ is _____ a) 0 b) 1 c) −1 d) a
CLO 2	1	3	A matrix with a single column is called a _____ matrix a) Row b) column c) null d) scalar
CLO 2	2	4	nC_1 is equal to _____ a) n b) 2n c) 1 d) none of these
CLO 3	1	5	The word statistics is derived from the Latin word _____ a) Statistic b) Status c) Statistik d) Statistique
CLO 3	2	6	The data obtained by conducting a survey is called _____ data. a) Primary b) Secondary c) Continuous d) Qualitative
CLO 4	1	7	What is the median of the sample 5, 5, 11, 9, 8, 5, 8? a) 5 b) 6 c) 8 d) 9
CLO 4	2	8	Step deviation method or coding method is used for computation of the _____ mean. a) Arithmetic b) Geometric c) Weighted d) Harmonic
CLO 5	1	9	The aggregate price index that uses base quantities as base is _____ index. a) Paache's b) Fisher's c) Laspere's d) Bowley's
CLO 5	2	10	Seasonal variations repeat during a period of _____ a) one yea b) Five years c) seven years d) Four years
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	Write all prime numbers between 8 and 20.
CLO 2	2	12	If A = $\begin{pmatrix} 3 & -4 \\ 1 & -1 \end{pmatrix}$, show that A^2-2A+1 = 0.
CLO 3	2	13	Write a short note on overlapping.
CLO 4	2	14	Find the co-efficient of range from the following 55, 60, 42, 33, 78, 32, 49, 70
CLO 5	2	15	Write a note on secular trend.

Contd…

<table>
<tr><td></td><td></td><td></td><td>PART – C (5 x 5=25)
Answer all questions by choosing either (a) or (b)</td></tr>
<tr><td>CLO 1</td><td>1</td><td>16</td><td>(a) At what time will Rs. 7,500 amount to Rs. 8,670.81 at 6% p.a. compound interest?
(OR)
(b) If $log_4 x + log_2 x = 6$ then find x</td></tr>
<tr><td>CLO 2</td><td>3</td><td>17</td><td>(a)Solve the equation using Cramer's rule: 2x+3y=7 ; 3x+5y=9.
(OR)
(b) Insert 4 geometric means between 1 and 243.</td></tr>
<tr><td>CLO 3</td><td>2</td><td>18</td><td>(a)Dis cuss the characteristics of Statistics.
(OR)
(b) Represent by a percentage bar diagram the following data on investment for the first and second five-year plans :
Investment in the public sector
<table>
<tr><th>Item</th><th>The first five-year plan</th><th>The second five-year plan</th></tr>
<tr><td>Agriculture</td><td>357</td><td>768</td></tr>
<tr><td>Irrigation</td><td>492</td><td>990</td></tr>
<tr><td>Industry</td><td>261</td><td>909</td></tr>
<tr><td>Transport</td><td>654</td><td>1485</td></tr>
<tr><td>Social services</td><td>306</td><td>945</td></tr>
<tr><td>Miscellaneous</td><td>90</td><td>300</td></tr>
</table></td></tr>
<tr><td>CLO 4</td><td>3</td><td>19</td><td>(a) Calculate the arithmetic mean from the following data:
<table>
<tr><td>Class Interval</td><td>5-10</td><td>10-15</td><td>15-20</td><td>20-25</td><td>25-30</td><td>30-35</td><td>35-40</td><td>40-45</td></tr>
<tr><td>Frequency</td><td>6</td><td>5</td><td>15</td><td>10</td><td>5</td><td>4</td><td>3</td><td>2</td></tr>
</table>
(OR)
(b) Compute the standard deviation of household size from the following frequency distribution of 500 household covered in a sample survey:
<table>
<tr><td>Size</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr>
<tr><td>No. of household</td><td>92</td><td>49</td><td>52</td><td>82</td><td>102</td><td>60</td><td>35</td><td>24</td><td>4</td></tr>
</table></td></tr>
<tr><td>CLO 5</td><td>4</td><td>20</td><td>(a) Calculate Price Index by
1. Laspeyre's Method 2. Paasche's Method 3. Fisher's Method
<table>
<tr><th></th><th></th><th>2013</th><th>2015</th><th></th></tr>
<tr><th>Commodity</th><th>Price</th><th>Quantity</th><th>Price</th><th>Quantity</th></tr>
<tr><td>A</td><td>15</td><td>60</td><td>16</td><td>82</td></tr>
<tr><td>B</td><td>16</td><td>75</td><td>20</td><td>90</td></tr>
<tr><td>C</td><td>23</td><td>80</td><td>24</td><td>98</td></tr>
<tr><td>D</td><td>9</td><td>40</td><td>12</td><td>50</td></tr>
<tr><td>E</td><td>14</td><td>58</td><td>18</td><td>74</td></tr>
</table>
(OR)
Contd…</td></tr>
</table>

(b) Calculate the trend value by 3 yearly moving average

Year	Output of Tea (tones)
2008	1632
2009	1557
2010	1652
2011	2100
2012	2620
2013	3120
2014	3236
2015	3562

PART – D **(3 x 10 = 30)**

Answer any THREE questions.

CLO 1 | 2 | 21 | Using the logarithmic tables, find the value of $(79.31)^{2/3} + (0.4139)^{1/4}$

CLO 2 | 3 | 22 | Find the inverse of the matrix $A = \begin{pmatrix} 1 & 1 & 2 \\ 2 & -1 & 1 \\ 2 & 2 & 1 \end{pmatrix}$

CLO 3 | 2 | 23 | Discuss the various methods of collecting primary data.

CLO 4 | 3 | 24 | Find Mean, Median and Mode from the following table

Age	Number of students
15-19	4
20-24	20
25-29	38
30-34	24
35-39	10
40-44	9

CLO 5 | 4 | 25 | Use the method of least squares to fit a straight line trend to the following data:

Year	Sales (Rs. in '000)
2005	25
2006	29
2007	28
2008	36
2009	37
2010	42
2011	42
2012	48
2013	45
2014	49
2015	52

Obtain the trend values and estimate the sales in 2025.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com., / BPA/ B&I/BCM **COURSE CODE : 20U2KMC5**

COURSE TITLE : Principles of Insurance **QN.NO : 11707**

TIME : 3 Hours **MAX.MARKS :75**

S. No.	CLO	K-Level	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
1	**CLO 1**	K1	_____ is the cause of loss. a) Risk b) Peril c) Physical hazard d) Moral hazard
2	**CLO 1**	K2	The consideration received by the insurance company for compensating the loss is called _____. a) Enrolment fee b) premium c) installment d) bonus
3	**CLO 2**	K1	The license issued by IRDAI to individual agents is valid for _____. a) Life time b) one year c) 2 years d) 3 years
4	**CLO2**	K2	Agents have to obtain licenses from _____. a) The company b) the Government c) IRDAI d) GIC
5	**CLO 3**	K1	A _____ is a person who buys goods or services offered by the business. a) Producer b) Manufacturer c) Agent d) Customer
6	**CLO 3**	K2	A _____ is a promise, assurance or guarantee made by the policy holder. a) Declaration b) Warranty c) Assignment d) Nomination
7	**CLO 4**	K1	Insurance is a contract between the insurance company and the _____. a) insurer b) agent c) broker d) policy holder
8	**CLO 4**	K2	The insurable interest must exist both at the time of taking policy and at the time of claim in case of _____ insurance. a) life b) motor c) property d) marine
9	**CLO 5**	K1	Marine insurance comprises of marine cargo insurance and marine _____ insurance. a) goods b) freight c) hull d) loss of profit
10	**CLO 5**	K2	The Ratio that reflects the over-all profitability of an Insurance company is _____ a) Expense ratio b) Operating ratio c) Loss ratio d) Combined ratio

Contd…

Part – B **Answer all questions (5 x 2 = 10)**			
11	**CLO 1**	K1	Define Insurance.
12	**CLO 2**	K1	Who is called as Agents?
13	**CLO 3**	K2	Explain Happy Customer?
14	**CLO 4**	K2	Discuss Pure endowment assurance plan?
15	**CLO 5**	K2	Describe the fire insurance.
			PART – C **(5 x 5=25)** **Answer all questions by choosing either (a) or (b)**
16	**CLO 1**	K1	a) Estimate the various types of hazards. **(OR)** b) Find the importance of insurance industry.
17	**CLO 2**	K3	a) Identify the list of valid know your customer documents. **(OR)** b) Identify the functions of Web aggregators.
18	**CLO 3**	K3	a) Identify the categories of insured. **(OR)** b) Determine the factors satisfies the customers.
19	**CLO 4**	K4	a) Analyze the term assurance and pure endowment plans. **(OR)** b) Discover the features of a traditional life assurance plan.
20	**CLO 5**	K2	a) Explain the liability insurance policy. **(OR)** b) Outline the fire insurance policy.
			PART – D **(3 x 10 = 30)** **Answer any THREE questions.**
21	**CLO 1**	K2	Discuss the various types of risks.
22	**CLO 2**	K3	Analyze the role and functions of brokers and agents.
23	**CLO 3**	K3	Identify the importance of ethical behavior
24	**CLO 4**	K4	Analyze the features of annuities life insurance plan.
25	**CLO 5**	K3	Analyze the different kind insurance products offered under the health category

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.Com.,/BPA/BBI,BCM **COURSE CODE : 20U2KAC2**

COURSE TITLE : International Economics **QN.NO : 11708**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	PART – A (10 x 1 = 10) Answer all Multiple choice questions by choosing the correct option.
CLO 1	1	1	Trade between the nations is called a) Home trade b) Internal trade c) Inter-regional trade d) International trade
CLO 1	2	2	Which of the following trade policies limit specified quantity of goods to be imported at one tariff rate a) Quota b) Import tariff c) Specific tariff d) Tariff
CLO 2	1	3	Mercantilism as an economics doctrine is against a) Store of precious metal like gold and silver b) Free Trade c) Favorable trade balance d) Restricting imports
CLO 2	2	4	The difference between the value of exports and the value of imports of the country its a) Balance of payments b) Balance of Trade c) Favourable balance of Trade d) Unfavourable balance of Trade
CLO 3	1	5	A fall in the external value of currency a) Appreciation b) Depreciation c) Devaluation d) Sterilization
CLO 3	2	6	A disequilibrium in BOP can also be corrected by a) Appreciation b) Revaluation c) Depreciation d) Devaluation
CLO 4	1	7	Who draws a bill of exchange? a) Creditor b) Debtor c) Holder d) Payee
CLO 4	2	8	Bill of Exchange includes a) An order to pay b) A request to pay c) a promise to day d) All the above
CLO 5	1	9	Headquarters of SAARC is located at a) Kathmandu b) Manila c) Dhaka d) Jarkarta
CLO 5	2	10	How many members are in the WTO at present a) 164 b) 160 c) 204 d) 195
			PART – B (5 x 2=10) **Answer all questions.**
CLO 1	1	11	What is free trade?
CLO 2	2	12	Define balance of payment.
CLO 3	1	13	Indicate the components of balance of payments.
CLO 4	2	14	Write a note on letter of credit.
CLO 5	2	15	What is meant by exchange rate?

Contd…

			PART – C (5 x 5=25) **Answer all questions by choosing either (a) or (b)**
CLO 1	2	16	a) Identify the difference between domestic and international trade. **(OR)** b) State the salient feature of international trade.
CLO 2	3	17	a) Explain the concepts: i) Net barter terms of trade ii) Gross barter terms of trade iii) Income terms of trade. **(OR)** b) Write the advantages of free trade.
CLO 3	3	18	a) Compute the difference between balance of payments and balance of trade. **(OR)** b) Estimate the various non-monetary measures to correct the disequilibrium in the balance of payments.
CLO 4	4	19	a) Classify the kinds of bills of exchange. **(OR)** b) Examine the types of letter of credit.
CLO 5	3	20	a) Estimate the main functions of WTO. **(OR)** b) Estimate the functions of IBRD.
			PART – D (3 x 10 = 30) **Answer any THREE questions.**
CLO 1	2	21	Discuss similarities and dissimilarities between the Internal and International Trade.
CLO 2	3	22	Estimate the points of for and against of the protection trade policy.
CLO 3	4	23	Find the causes for disequilibrium in balance of payments.
CLO 4	3	24	Categorize the various types of bills of lading.
CLO 5	4	25	Explain the objectives and functions of SAARC.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., / B.Com., **COURSE CODE : 20U1VEN1**
COURSE TITLE : Value Education and Professional Ethics **QN.NO : 11901**

TIME : 3 Hours **MAX.MARKS :75**

CLO	K – level	Q.No	
			PART – A **(5 x 2=10)** **Answer all questions.**
CLO 1	1	1	State the meaning of Truth.
CLO 1	1	2	What is Honesty?
CLO 2	1	3	Define Karma Yoga according to Bahavad Gita.
CLO 2	1	4	Mention the four noble truths.
CLO 3	1	5	Define personal Ethics.
			PART – B **(5 x 7 = 35)** **Answer all questions by choosing either (a) or (b)**
CLO 1	2	6	a) What do you understand by three main margas of Indian life. **(OR)** b) Classify values based on moral education.
CLO 2	2	7	a) Briefly explain moral values and their importance in your life. **(OR)** b) Write a short note on self motivation and self confidence.
CLO 3	2	8	a) Specify the importance of good manners in our life. **(OR)** b) List out the main themes of Christinity.
CLO 4	2	9	a) Mention the five Pillars of Islam. **(OR)** b) Enumerate five virtues in Sikhism.
CLO 5	2	10	a) Enumerate the characteristics of Ancient Indian Education system. **(OR)** b) Point out the features of business ethics.
			PART – C **(3 x 10 = 30)** **Answer any THREE questions.**
CLO 1	1	11	Describe the concepts of values.
CLO 2	1	12	Enumerate the values listed by NCERT.
CLO 3	1	13	Highlight the food habits of your family.
CLO 4	1	14	Expound the need for religious Harmony and suggest to promote it.
CLO 5	1	15	Briefly write the problems in building value system.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., / B.Com., **COURSE CODE : 20U2EVS1**

COURSE TITLE : Environmental Science and Gender Studies **QN.NO : 11902**

TIME : 3 Hours **MAX.MARKS : 75**

PART – A **(5 x 6 = 30)**

Answer all questions by choosing either (a) or (b).

1. a) Give an account an abiotic components of ecosystem.

   (OR)

   b) Write the types of Food chain.
2. a) Give an account on allelopathic interaction.

   (OR)

   b) Discuss the levels of biodiversity.
3. a) Specify the hotspots of India.

   (OR)

   b) Jusitify the "India is a megadiversity centre".
4. a) What are the pollutants that cause the air pollution?

   (OR)

   b) Enumerate the control measures of noise pollution.
5. a) Explain the term gender identities.

   (OR)

   b) Explain the Physiological development of gender.

PART – B **(3 x15 = 45)**

Answer any THREE questions

6. Explain the components of ecosystem.
7. Elucidate the energy flow in ecosystem.
8. Discuss the importance of biodiversity.
9. Highlight the conservation of biodiversity.
10. Briefly write the genetic, hormonal and environmental factors influencing gender identify.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., / B.Com., **COURSE CODE : 20U2NCC1**

COURSE TITLE : Introduction to NCC **QN.NO : 11903**

TIME : 3 Hours **MAX.MARKS :60**

CLO	K – level	Q.No	PART – A (5 x 4=20) Answer all questions by choosing either (a) or (b)
CLO-1	1	1	a) Write the motto of NCC and cardinal principles. **(OR)** b) Write the aims of NCC
CLO-2	1	2	a) Write the name of President and Prime minister of any 4 neighbouring countries. **(OR)** b) Indicate the land borders of India
CLO-2	1	3	a) Give the rank and badges of Junior commissioned officers (JCO) of Indian army. **(OR)** b) Give the rank and badges of Junior commissioned officers(JCO) of Indian Navy.
CLO-3	1	4	a) What is leadership? Mention the traits of leadership. **(OR)** b) What is sanitation? Highlight its importance.
CLO-3	1	5	a) What is road safety? Write any four traffic signs. **(OR)** b) Give the importance of tree plantation.
			PART –B (5 x 8=40) **Answer any FIVE questions.**
CLO-1	2	6	Write the organisation and structure of NCC
CLO-2	2	7	Briefly write the geographical nature of India.
CLO-2	2	8	Give the list of cabinet ministers of India 2021.
CLO-2	2	9	Write about Indian army and mention the command headquarters.
CLO-1	2	10	Write the eligibility criteria and other qualifications to enter NCC special entry for men.
CLO-1	2	11	What is civil defence? Write its importance.
CLO-3	2	12	What is pollution? Mention its classification. Write the control measures of soil pollution.
CLO-3	2	13	Write the origin and control measures of Malaria.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., / B.Com., **COURSE CODE : 20U2NSS1**

COURSE TITLE : Introduction to National Service Scheme **QN.NO : 11904**

TIME : 3 Hours **MAX.MARKS :60**

CLO	K – level	Q.No	PART – A (5 x 4=20) Answer all questions by choosing either (a) or (b)
CLO1	K1	1.	(a) What are the aims & objectives of NATIONALSERVICE SCHEME? நாட்டுநலப்பணிதிட்டத்தின் குறிக்கோள்கள் மற்றும் நோக்கங்கள் யாவை? **(OR)** (b) What does the giant wheel depict in NSS symbol? நாட்டுநலப்பணித்திட்ட சின்னத்தில் உள்ள பெரியவளையம் எதைக் குறிக்கிறது?
CLO2	K1	2.	(a) what are the four principal elements of NSS? நாட்டுநலப்பணி திட்டத்தின் நான்கு கொள்கை கூறுகள் யாவை? **(OR)** (b) What is meant by community service? சமூக சேவை என்பது என்ன?
CLO2	K1	3.	(a) what is the role of NSS during natural calamities or disaster? இயற்கைபேரிடர் அல்லதுபேரழிவுஏற்படும்போது நாட்டுநலப்பணிதிட்டத்தின்பணிகளைகுறிப்பிடுக? **(OR)** (b) What sort of activities is undertaken in NSS? நாட்டுநலப்பணி திட்டத்தின் கீழ்என்னென்ன பணிகள் நடைபெறுகின்றன?
CLO3	K1	4.	(a) Explain the NSS badge. நாட்டுநலப்பணிதிட்டத்தின் சின்னத்தைப் பற்றி விவரிக்கவும். **(OR)** (b) Write a short note on traffic regulations போக்குவரத்து நெரிசல் பின்பற்ற வேண்டிய விதிமுறைகளைப் பற்றி சிறுகுறிப்பு வரைக.
CLO3	K1	5.	(a) Which central ministry govern & implement NSS scheme? எந்த மத்திய அமைச்சகம் நாட்டுநலப்பணி திட்டத்தினை செயல்படுத்துகிறது? **(OR)** (b) Describe about the communicable diseases? தொற்றுநோய்கள் பற்றி குறிப்பு வரைக.

Contd..

CLO	K – level	Q.No	PART – B (5 x 8=40) Answer any FIVE Questions
CLO1	K2	6.	Explain about disaster management (flood)? பேரழிவு மேலாண்மை பற்றி விவரிக்கவும் (வெள்ளம்)
CLO1	K2	7.	Explain the structure of NSS at different levels? நாட்டுநலப்பணிதிட்டத்தின் வெவ்வேறு அமைப்பு நிலைகளை விவரிக்கவும்.
CLO1	K2	8.	Explain the importance of first aid? முதலுதவியின் முக்கியத்துவத்தை விவரிக்கவும்.
CLO2	K2	9.	How will you give general awareness about COVID-19? கோவிட்- - 19 பற்றிய விழிப்புணர்வை மற்றொரு நபருக்கு எவ்வாறு அளிப்பாய்?
CLO2	K2	10.	What are the causes of blindness? குருட்டுத்தன்மை எதனால் ஏற்படுகிறது?
CLO2	K2	11.	Draw the logo of NSS and explain in detail? நாட்டுநலப்பணி திட்டத்தின் சின்னத்தை வரைந்து அதனை விளக்குக.
CLO3	K2	12.	Explain about the regular activity & special activity in your college? உனது கல்லூரியில் நடைபெறும் வழக்கமான செயல்பாடுகளையும் மற்றும் சிறப்பு செயல்பாடுகளையும் விவரிக்கவும்.
CLO3	K2	13.	Explain the slogan of ‘Swachch Bharat’ / clean India program? தூய்மை இந்தியா இயக்கத்தின்“சுவச்பாரத்” என்ற கோஷத்தின் பொருளை விவரிக்கவும்.

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., / B.Com., **COURSE CODE : 20U2PED1**

COURSE TITLE : History of Physical Education **QN.NO : 11905**

TIME : 3 Hours **MAX.MARKS :60**

CLO	K – level	Q.No	PART – A (5 x 4=20) Answer all questions by choosing either (a) or (b)
CLO-1	1	1	a) Define Physical Education **(OR)** b) Briefly explain the Importance of Physical Education.
CLO-2	1	2	a) Describe the First Ancient Olympics. **(OR)** b) Physical Education in Ancient Rome – Elucidate.
CLO-2	1	3	a) Briefly explain the Modern Olympics. **(OR)** b) Explain briefly about the Olympic Rings.
CLO-3	1	4	a) Write down any 5 benefits of doing Yoga. **(OR)** b) Describe Padmasana.
CLO-3	1	5	a) Mention the basic skills of Ball Badminton. **(OR)** b) Describe briefly "Libro" in Volleyball.
			PART –B (5 x 8=40) **Answer ALL questions.**
CLO-1	2	6	Explain how and when was the Olympic Flag, Olympic Torch and Olympic Motto came into existence?
CLO-2	2	7	Describe the Meaning and Objectives of Physical Education.
CLO-3	2	8	Explain the Importance of doing yoga and meditation.
CLO-4	2	9	Mention any 10 basic skills of Football.
CLO-5	2	10	How would you give First Aid to exhausted Marathon Runner?

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Reg. No:											UG

THE MADURA COLLEGE (Autonomous), MADURAI – 625 011

(AFFILIATED TO MADURAI KAMARAJ UNIVERSITY)
RE-ACCREDITED (3rd Cycle) WITH "A" GRADE BY NAAC

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SEMESTER EXAMINATIONS – APRIL 2021

PROGRAMME: B.A., / B.Sc., / B.Com., **COURSE CODE : 20U2YRC1**

COURSE TITLE : Youth Red Cross Introduction to **QN.NO : 11906**

TIME : 3 Hours **MAX.MARKS :60**

CLO	K – level	Q.No	PART – A (5 x 4=20) Answer all questions by choosing either (a) or (b)
CLO1	K1	1	Write the meaning of YRC and explain the major aim of YRC. YRC என்பதன் பொருள் என்றால் என்ன ? YRC இன் முதன்மை நோக்கத்தை விளக்குக. **(OR)** Write short note on "The International Red Cross and Red Crescent Movement". "சர்வதேசச் செஞ்சிலுவைச் சங்கம்" மற்றும் "சிவப்புப்பிறை இயக்கம்" - சிறுகுறிப்புவரைக.
CLO2	K1	2	Explain the Disaster Response of YRC. பேரழிவுக் காலங்களில் YRC இன் செயல்பாடுகளை விளக்குக. **(OR)** Explain a. Hospital Services b. Vocational Training Centre (V.T.C.) விளக்கம் தருக. அ. மருத்துவமனை சேவைகள் ஆ. தொழில் பயிற்சி மையம் (வி.டி.சி.)
CLO2	K1	3	Short note on Maternity and Child Welfare Family Welfare சிறுகுறிப்பு வரைக. a. மகப்பேறு மற்றும் குழந்தைகள் நலன் b. குடும்பநலன் **(OR)** Explain the mission of Indian Red Cross Society. இந்தியச் செஞ்சிலுவைச் சங்கத்தின் பணிகளை விளக்குக.
CLO3	K1	4	What are all the various functions of the sub-committee? துணைக்குழுவின் பல்வேறு செயல்பாடுகளை விவரிக்க. **(OR)** Explain the Formation procedure at State Branches. மாநிலக் கிளைகளின் நடைமுறைகளை விளக்கி வரைக.

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CLO3	K1	5	Write a note on function of State-level Youth Red Cross sub-committee. மாநில அளவிலான இளைஞர் செஞ்சிலுவைச் சங்கத் துணைக்குழுவின் செயல்பாடுகள் குறித்துக் குறிப்பு வரைக. **(OR)** Explain a. Group formation in schools and colleges b. Programme officer விளக்கம் தருக. a. பள்ளிகள் மற்றும் கல்லூரிகளில் குழு உருவாக்கம் b. திட்ட அலுவலர்.
CLO	**K – level**	**Q.No**	**PART – B** **(5 x 8=40)** **Answer any FIVE Questions**
CLO1	K2	6	Briefly explain the "The International Red Cross and Red Crescent Movement". "சர்வதேச செஞ்சிலுவைச்சங்கம் மற்றும் சிவப்புப் பிறை இயக்கம் " – விவரித்து எழுதுக.
CLO1	K2	7	What are all the activities involved after the establishment of the Geneva Convention ? ஜெனீவாமா நாடு நிறுவப்பட்ட பின்னர், YRCஇன் நடவடிக்கைகள் அனைத்தையும் விளக்கி வரைக.
CLO1	K2	8	Enumerate International Federation of Red Cross and Red Crescent Societies. சர்வதேச செஞ்சிலுவைச்சங்கம் மற்றும் செம்பிறைச் சங்கங்களின் கூட்டமைப்பைக் கணக்கிடுக.
CLO2	K2	9	Enumerate the fundamental principles of Red Cross Movement. செஞ்சிலுவைச்சங்கஇயக்கத்தின்அடிப்படைக்கொள்கைகளைவிவரிக்க.
CLO2	K2	10	Explain Junior/Youth Red Cross activities. ஜூனியர் / இளைஞர் செஞ்சிலுவைச் சங்க நடவடிக்கைகளை விளக்குக.
CLO2	K2	11	What are all the other activities involved in Principles and Humanitarian Values of YRC? ஒய்.ஆர்.சியின்கோட்பாடுகள்மற்றும்மனிதாபிமானமதிப்புகள்தொடர்பானநடவடிக்கைகளைவிவரித்துஎழுதுக.
CLO1	K2	12	Explain the function of National-level youth sub-committee. தேசிய அளவிலான இளைஞர் துணைக்குழுவின் செயல்பாட்டை விளக்குக.
CLO1	K2	13	Briefly explain the activities of District junior and youth Red Cross sub-committees. மாவட்ட ஜூனியர் மற்றும் இளைஞர் செஞ்சிலுவைச் சங்கத்துணைக்குழுக்களின் செயல்பாடுகளை விளக்குக.

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