

DEPARTMENT OF BOTANY				CLASS: II B.Sc. Botany				
Sem	Course Type	Course Code	Course Title	Credits	Contact Hours/week	CIA	Ext	Total
III	SBE- 1	20U3BSM1	Horticulture	2	2	25	75	100

Nature of Course			
Knowledge and skill	✓		Employability oriented
Skill oriented	✓		Entrepreneurship oriented

Course Objectives: This course will enable the students

1. To extensively use the space for gardening and improve green cover.
2. To develop skills on usage of horticultural tools.
3. To gain knowledge on horticultural practices and value added products.

UNIT	CONTENT	CLO	K LEVEL	HOURS
I	Divisions and types: Importance and scope of horticulture. A brief account on divisions of horticulture – pomology, olericulture, floriculture and ornamental horticulture. Types of gardens – formal, informal, landscape and terrace.	1	Up to K4	6
II	Plant propagation methods: Cutting (Drumstick), Budding (Mango), Grafting (Sapota), Layering: Air (Pomegranate) and ground (<i>Nerium</i>)	2	Up to K4	6
III	After care of plants: Weeding, top dressing - methods of pruning and topiary. Lawn making: types of lawn grasses and maintenance. Plants suitable for hedges.	3	Up to K4	6
IV	Floriculture and value additions: Floriculture- cultivation of commercial flowers – rose and jasmine. Flower arrangement – Ikebana. Value addition: Tomato – Jam and ketchup preparations.	4	Up to K4	6
V	Ornamental gardens: Green house, Landscape, terrarium, water garden, rockery plants, Bonsai techniques, hydroponics, arboratum, bambosetum and archidorium.	5	Up to K4	6

Books for Study

1. Manibhushan Rao, K, Text book of Horticulture, 1991, Mac Millan India Ltd., New Delhi.
2. Kumar, N., Introduction to Horticulture, 2010, Oxford & IBH Publishing Company Pvt. Ltd., New Delhi.
3. Randhava, G.S, 1973 – Ornamental horticultural in India Today and Tomorrow Printers and Publishers, New Delhi.

Books for References

1. Yawalkar, K.S. 1961 – Vegetables crops of India – Agri, Horticultural Publishing House, Nagpur.
2. Hand Book of Horticulture, Dr. Chadha – ICAR Publications. 2001.
3. Fundamentals of Horticulture – Edmunt Senn Andrews 1994 Tata McGraw Hill Publishing Co., Ltd., Delhi.

Web Resources

1. <https://www.horticulturepractices.com>
2. <https://www.hortimaintenance.com>
3. <https://www.hortitools.com>
- 4.

Rationale for Nature of the Course

This course focuses on handling different tools used in horticulture and develops various propagation methods for producing new varieties.

Activities having direct bearing on Skill development / Employability / Entrepreneurship

The skills taught in the course will help them in choosing their own career focusing on self employment and they will become an entrepreneur.

Pedagogy

Chalk and Talk, PPT, Group Discussion, Seminar, Interaction, Problem Solving, Quiz, Virtual Labs & Learning Management System (CANVAS).

Course Designer: Prof. V. Meenakshi Sundaram, Assistant Professor

Course Learning Outcome: On successful completion of the course the students will be able to

CLOs	CLO Statement	Knowledge Level
CLO -1	Identify and classify the major divisions of horticulture and demonstrate the various types of gardens	Up to K4
CLO -2	Demonstrate and apply the plant propagation methods to multiply stocks of vegetable, fruit and ornamental crops	Up to K4
CLO -3	Identify the appropriate garden maintenance procedure (after care of plants) and apply the same suitably in different seasons	Up to K4
CLO -4	Recall and demonstrate the techniques in floriculture and value addition to the yield	Up to K4
CLO -5	Discuss, illustrate and design ornamental gardens for modern society	Up to K4

Mapping Programme Specific Outcomes with Course Learning Outcome

	PSO-1	PSO-2	PSO-3	PSO-4	PSO-5	PSO-6	PSO-7	PSO-8	PSO-9
CLO-1	3	-	1	2	-	3	3	3	3
CLO-2	3	-	1	2	-	3	3	3	3
CLO-3	3	-	1	2	-	3	3	3	3
CLO-4	3	-	1	2	-	3	3	3	3
CLO-5	3	-	1	2	-	3	3	3	3

Mapping Programme Outcomes with Course Learning Outcome

	PO-1	PO-2	PO-3	PO-4	PO-5
CLO-1	3	2	2	2	3
CLO-2	3	2	2	2	3
CLO-3	3	2	2	2	3
CLO-4	3	2	2	2	3
CLO-5	3	2	2	3	3

3-Advance application, 2- Intermediate level, 1- Basic level

Lesson Plan

Unit	Description	Hours	Mode
I	a) Importance and scope of horticulture	1	Black Board
	b) Major divisions of horticulture – brief account	1	PPT
	c) Types of gardens – formal and informal	2	Quiz
	d) Types of gardens – landscape and terrace	1	PPT
	e) Divisions and types	1	LMS
II	a) Cutting (Drumstick)	1	PPT
	b) Budding (Mango)	1	Black Board
	c) Grafting (Sapota)	1	Black Board
	d) Layering: Air (Pomegranate)	1	PPT
	e) ground (Nerium)	2	Power Point
III	a) Weeding	1	Black Board
	b) top dressing - methods of pruning and topiary	2	PPT
	c) Lawn making: types of lawn grasses and maintenance	2	PPT
	d) Plants suitable for hedges	1	Black Board & Group discussion
IV	a) Floriculture: cultivation of commercial flowers – rose	1	PPT
	b) jasmine	1	PPT
	c) Flower arrangement – Ikebana	1	Assignment
	d) Value addition: Tomato – Jam and ketchup	3	Black Board
V	a) Green house	1	PPT
	b) Landscape and terrarium water garden and rockery plants	1	Virtual lab
	c) Bonsai techniques	1	Virtual lab
	d) Hydroponics	1	Group discussion and
	e) Arboratum, bambosetum & archidorium	2	LMS
Total		30	

Blue Print – Model for External Examination

Articulation Mapping – K Levels with Courses Learning Outcomes (CLOs)

Sl. No	CLOs	K- Level	Section – A		Section – B		Section C (Either/ Choice)	Section D (Open Choice)
			MCQs		Short Answer			
			No. of Questions	K – Level	No. of Questions	K – Level		
1	CLO 1	Up to K 4	2	K1 & K2	1	K1	2(K1&K1)	1 (K2)
2	CLO 2	Up to K 4	2	K1 & K2	1	K1	2(K2&K2)	1 (K3)
3	CLO 3	Up to K 4	2	K1 & K2	1	K2	2(K3&K3)	1 (K3)
4	CLO 4	Up to K 4	2	K1 & K2	1	K2	2(K4&K4)	1 (K4)
5	CLO 5	Up to K 4	2	K1 & K2	1	K2	2(K3&K3)	1 (K3)
No. of Question to be asked			10		5		10	5
No. of Question to be answered			10		5		5	3
Mark for each question			1		2		5	10
Total Marks for each section			10		10		25	30

K1 - Remembering and recalling facts with specific answers

K2- Basic understanding of fact and stating main ideas with general answers

K3- Application oriented – Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

Distribution of Section- wise marks with K Levels

K Levels	Section A (No Choice)	Section B (No Choice)	Section C (Either/or)	Section D (Open Choice)	Total Marks	% of Marks without choice	Consolidated
K1	5	4	10	-	19	15.83	42%
K2	5	6	10	10	31	25.83	
K3	-	-	20	30	50	41.67	42%
K4	-	-	10	10	20	16.67	16%
Total Marks	10	10	50	50	120	100.00	100%

Blue Print – Model for Internal Examination
Articulation Mapping – K Levels with Courses Learning Outcomes (CLOs)

Sl. No	CLOs	K-Level	Section – A		Section – B		Section C (Either/ Choice)	Section D (Open Choice)	Total
			MCQs		Short Answer				
			No. of Questions	K – Level	No. of Questions	K - Level			
1	CLO x	Up to K4	2	K1&K2	2	K1& K2	2(K2&K2)	1 (K2/K3)	
2	CLO y	Up to K4	2	K1&K2	1	K2	2(K3&K3)	2 (K3& K4)	
No. of Question to be asked			4		3		4	3	14
No. of Question to be answered			4		2		2	2	10
Mark for each question			1		2		5	10	
Total Marks for each section			4		6		10	20	40

K1 - Remembering and recalling facts with specific answers

K2- Basic understanding of fact and stating main ideas with general answers

K3- Application oriented – Solving Problems

K4- Examining, analyzing, presentation and make inferences with evidences

Distribution of Section- wise Marks with K Levels

K Levels	Section A (No Choice)	Section B (No Choice)	Section C (Either/or)	Section D (Open Choice)	Total Marks	% of Marks without choice	Consolidated
K1	2	2		-	4	6.67	50
K2	2	4	10	10	26	43.33	
K3	-	-	10	10	20	33.33	33
K4	-	-		10	10	16.67	17
Total Marks	4	6	20	30	60	100.00	100%