

DEPARTMENT OF BOTANY				CLASS: I M.Sc. Botany				
Sem	Course Type	Course Code	Course Title	Credits	Contact Hours/week	CIA	Ext	Total
I	Major Elective 1	21P1BME1	Organic Farming	4	5	25	75	100

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

Objective:

1. To gain knowledge on various aspects of organic farming.
2. To understand the relevance of organic farming, its advantages and short comings against conventional high input agriculture.
3. To create awareness on the importance of organic farming in the present scenario and its impact on environment and human health.

Unit	Content	CLO	K level	Hours
I	Importance of organic farming: Introduction- Definition – Scope – principles and concepts – history of organic farming – Indian and global scenario – Agro-biodiversity: importance and measures to preserve traditional biodiversity – pre requisites for Organic farming. Green revolution – definition – impacts, Natural resources and their management.	1	Up to K4	15
II	Organic sources of nutrients – on farm and off farm sources – organic waste recycling methods- compost – compost making – <i>In situ</i> and <i>ex situ</i> manuring – soil and crop management – inter cropping, crop rotation, green manures, cover crops, mulching – bio fertilizers.	2	Up to K4	15
III	Indigenous practices of organic farming- role of livestock – cow in organic farming – Panchagavya – Dasagavya – Amirthakaraisal – preparation – properties – general effects on crops.	3	Up to K4	15
IV	Organic certification:- NPOP guidelines – Certification agencies in India – crop production standards – Quality considerations – labeling and accreditation process – marketing and export opportunities – APEDA.	4	Up to K4	15
V	Bio-intensive nutrient management: application of Effective micro organism (EM) technology – phosphate rich organic manure (PROM). Weed management in organic farming – organic crop protection methods. Organic rice production – economic evaluation – benefits – organic enterprises.	5	Up to K4	15

Books for the study

1. Organic Farming Theory & Practice – Scientific publishers ,Palaniappan SP. and K.Annadurai. 2010.
2. Organic Farming Manual- Storey Publishing , Ann Larkin Hansen- 2010
3. Organic Farming –Voyageur Press, 2014.

Books for Reference

1. Arunkumar Sharma 2008. A Hand book of organic Farming. Agrobios Publishers.
2. Dahama, A.K.2009. Organic Farming for Sustainable Agriculture, Agrobios publishers.
3. Palaniappan SP. and K.Annadurai. 2008. Organic Farming: Theory and Practice. Scientific Publishers.
4. Veeresh, G.K. 2010. Organic Farming, Cambridge University Press, India.

Web Resources

- <https://www.conserve-energy-future.com/organic-farming-benefits>.
<https://en.wikipedia.org/wiki/Compost>
<https://rodaleinstitute.org/why-organic/organic-farming-practices/composting>
<https://www.britannica.com/topic/organic-farming>
<https://www.biologydiscussion.com/essay/bio-fertilizers-types-and-importance-of-bio-fertilizers/1901>

Rationale for Nature of the Course:

Meeting the demand and necessity of balanced nutrients, due to population explosion, by adopting eco-friendly approaches.

Activities having direct bearing on Skill development / Employability / Entrepreneurship

Understanding the facts and prospects of agrobiodiversity, organic farming, organic certification, biointensive nutrient management

Pedagogy:

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

Course Learning Outcomes:

CLOs	CLO Statement	Knowledge Level
Students will be able to know, understand, apply, and analyse		
CLO -1	The importance, scope, principles, concepts and Indian and global scenario of organic farming; green revolution, agroforestry and natural resources management	Up to K4
CLO -2	The organic sources of nutrients, organic waste recycling, manuring methods and crop management	Up to K4
CLO -3	The Indigenous practices of organic farming and its effects on crops	Up to K4
CLO -4	The Quality considerations, marketing and export opportunities of organic farming	Up to K4
CLO -5	The bio intensive nutrient management, weed management, rice production in organic farming	Up to K4

Mapping Programme Specific Outcomes with Course Outcome:

	PSO-1	PSO-2	PSO-3	PSO-4	PSO-5
CLO-1	3	2	2	1	1
CLO-2	3	2	1	3	1
CLO-3	2	2	1	3	3
CLO-4	1	1	1	2	3
CLO-5	2	2	1	2	3

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

Lesson Plan

Unit	Description	Hrs	Mode
I	a) Introduction and Scope of organic farming	2	Chalk and talk PPT, LMS Quiz, Video lectures and Group discussion
	b) history of organic farming	2	
	c) Indian and global scenario	2	
	d) Agro-biodiversity	2	
	e) preserve traditional biodiversity	3	
	f) Green revolution	2	
	g) Natural resources and their management.	2	
II	a) Organic sources of nutrients	2	Chalk and talk PPT, LMS Quiz, Video lectures and Group discussion
	b) organic waste recycling methods	2	
	c) compost making	2	
	d) <i>In situ</i> and <i>ex situ</i> manuring	2	
	e) Soil and crop management	1	
	f) inter cropping, crop rotation	2	
	g) green manures	2	
	h) mulching – bio fertilizers.	2	
III	a) Indigenous practices of organic farming-	3	Chalk and talk PPT, LMS Quiz, Video lectures and Group discussion
	b) role of livestock	2	
	c) cow in organic farming	1	
	d) preparation and properties of Panchagavya	3	
	e) Dasagavya	3	
	f) Amirthakaraisal	3	

IV	a) Organic certification:– NPOP guidelines	3	Chalk and talk PPT, LMS Quiz, Video lectures and Group discussion
	b) Certification agencies in India	2	
	c) Crop production standards	2	
	d) Quality considerations	3	
	e) labeling and accreditation process	2	
	f) marketing and export opportunities – APEDA.	3	
V	a) application of Effective micro organism (EM) technology	3	Chalk and talk PPT, LMS Quiz, Video lectures and Group discussion
	b) Phosphate rich organic manure (PROM).	3	
	c) Weed management inorganic farming	3	
	d) Organic crop protection methods.	3	
	e) Organic rice production	3	

Course Designer: Dr. P. Jansi Rani, Assistant Professor

PG Botany BluePrint

Test	10 marks	As per table below
Assignment	5 marks	K4
Seminar	5 marks	K4
Quiz	5 marks	K4

Learning Outcome Based Education (LOBE) & Assessment Formative – Blue Print

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

Units	CLOs	K- Level	Section A		Section B (Either/or Choice)	Section C (Open Choice)
			Short Answers			
			No. of Questions	K- Level		
1	CLO x	Up to K3	2	K2,K3	2 (K3&K3)	2 (K2,K3)
2	CLO y	Up to K4	3	K2, K2, K3	2 (K4&K4)	1 (K3/K4)
No. of Questions to be asked			5		4	3
No. of Questions to be answered			5		2	2
Marks for each question			2		5	10
Total Marks for each section			10		10	20

Learning Outcome Based Education (LOBE) & Assessment
Summative Examination – Blue Print
Articulation Mapping-K Levels with Courses Learning Outcomes (CLOs)

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

Distribution of Section- wise marks with K Levels in the summative examinations

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	4	10	-	16	13.33	35%
K2	2	4	10	10	26	21.66	
K3	4	2	10	20	36	30.00	30%
K4	2	-	20	20	42	35.00	35%
Total Marks	10	10	50	50	120	100.00	100%