UNIVERSITY OF CALICUT

Programme	B. Sc. BOTANY				
Course Title	**Plant Propagation**				
Type of Course	**MDC**				
Semester	**I**				
Academic Level	100-199				
Course Details	Credit	Lecture per week	Tutorial per week	Practical per week	Total Hours
	3	3			45
Pre-requisites	Nil				
Course Summary	This course covers techniques for plant propagation and the utilization of plant resources. Students will learn about various methods of plant propagation, including seed propagation, cutting propagation, and tissue culture.				

Course Outcomes (CO): After completing the Course, the student should be able to:-

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools
CO1	Explain various plant propagation structures and their utilization	U	F	Quiz/Test
CO2	Summarise various methods of plant propagation	U	C	Quiz/Written Test
CO3	Demonstrate skills related to vegetative plant propagation techniques such as cuttings, layering, grafting and budding.	U	P	Practical Test
CO4	Apply specific propagation technique for a given plant species.	Ap	P	Field work

* - Remember (R), Understand (U), Apply (Ap), Analyse (An), Evaluate (E), Create (C) # - Factual Knowledge(F) Conceptual Knowledge (C) Procedural Knowledge (P) Metacognitive Knowledge (M)

Detailed Syllabus:

Module	Unit	Content	Hrs (36 + 9)
I		**Plant Propagation**	**9**
	1	Propagation: Definition, need and potentialities for plant multiplication	2
	2	Asexual and sexual methods of propagation - advantages and disadvantages.	2
	3	Propagation facilities: Mist chamber, humidifiers, greenhouses, glasshouses, cold frames, hot beds, poly-houses	3
	4	Nursery - tools and implements (Brief account)	2
II		**Steps of Growing Plants**	**9**
	5	Soil: Composition, Types	1
	6	Chemical fertilizers: types, application, merits and demerits,	2

		Biofertilizers	
	7	Organic manure: types, application, merits and demerits	2
	8	Need of water: Irrigation – Surface, spray, drip irrigation, sprinklers	2
	9	Plant protection: Biological, Physical and mechanical, Chemical, biopesticide	2
III	**Propagation methods**		**9**
	10	Seed propagation – Seed dormancy, seed treatment, conditions for successful propagation, raising of seed beds	2
	11	Care of seedling, transplanting techniques	1
	12	Vegetative propagation: Cutting (stem, roots), Grafting (approach, cleft)	2
	13	Budding (T-budding, patch), Layering (simple, air)	2
	14	Micro propagation- General account	2
IV	**Botany in everyday life**		**9**
	15	Vegetable gardening	2
	16	Mushroom cultivation	2
	17	Bonsai and Terrarium preparation	3
	18	Orchid and Anthurium cultivation	2
V	**Open ended (Suggestive list)**		**9**
	1. Demonstration of vegetative propagation 2. Visit to nursery/garden 3. Hands on training- Bonsai and Terrarium preparation		

Suggested Readings

- Nishi Sinha: Gardening in India, Abhinav Publications, New Delhi.
- Andiance and Brison. 1971. Propagation Horticultural Plants.
- Chanda, K.L. and Choudhury, B. Ornamental Horticulture in India.
- Premchand, Agriculture and Forest Pest and their Management, Oxford Publication.
- George Acquaah, Horticulture: Principles and Practices. Pearson Education, Delhi.
- Kolay, A.K. Basic Concepts of Soil Science. New Age International Publishers, Delhi.
- Rodgran, M.K. Plant Tissue Culture, Oxford & IBH Publishing Ltd., New Delhi.
- Hudson, T. Hartmann, Dale K. Kester, Fred T. Davies, Robert L. Geneve, Plant Propagation, Principles and Practices.

Assessment Rubrics:

- Quiz / Exam/Discussion
- Assignment/ presentation/Project
- Project/Practical
- Final Exam

Mapping of COs to Assessment Rubrics:

	Quiz/ discussion	Presentation/ Assignment/Project	Theory/Practical Internal exam	End Semester Examinations
CO 1	✓	✓	✓	✓
CO 2	✓	✓	✓	✓
CO 3			✓	✓
CO 4		✓		✓