

UNIVERSITY OF MADRAS
M.Sc. DEGREE PROGRAMME IN BOTANY
SYLLABUS WITH EFFECT FROM 2023-2024

Title of the Course		NURSERY AND GARDENING					
Paper Number		SKILL ENHANCEMENT					
Category	NME-1 Skill Enhancement	Year	I	Credits	2	Course Code	423S2A
		Semester	II				
Instructional Hours per week		Lecture	Tutorial	Lab Practice	Total		
		2	-	-	2		
Pre-requisite		Students should know nursery and gardening practices.					
Learning Objectives:							
C1		To recognize the importance of nursery and gardening					
C2		To gain an understanding of nursery management.					
C3		To develop skills necessary to manage a wholesale nursery.					
C4		To acquire knowledge regarding theory and practice of rising plants.					
C5		To develop an interest to become an entrepreneur.					
UNIT		CONTENTS					
I		NURSERY: Definition, objectives and scope and building up of infrastructure for nursery, planning and seasonal activities.					
II		SEED: Structure and types - Seed dormancy; causes and methods of breaking dormancy - Seed storage: Seed banks, factors affecting seed viability, Seed production technology - seed testing and certification.					
III		VEGETATIVE PROPAGATION: Air-layering, cutting, selection of cutting, collecting season, treatment of cutting, rooting medium and planting of cuttings - Hardening of plants - green house - mist chamber, shed root and shade house.					
IV		GARDENING: Different types of gardening - landscape and home gardening - parks and its components - plant materials and design - computer applications in landscaping.					
V		GARDENING OPERATIONS: Soil laying, manuring, watering, management of pests and diseases and harvesting. Sowing/raising of seeds and seedlings: Transplanting of seedlings - Study of cultivation of different vegetables: cabbage and lady's finger.					

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Course outcomes: CO	On completion of this course, the students will be able to:	Programme outcomes
CO1	Recognize the basic process required for growing and maintaining plants in nurseries.	K1
CO2	Explain the different methods of plant propagation and various gardening styles.	K2
CO3	Apply techniques for effective hardening of plants and computer applications for creative gardening.	K3
CO4	Compare and contrast cultivation of different vegetables and growth of plants in nursery and gardening.	K4
CO5	Develop new strategies to enhance growth and quality of nursery plants.	K5
Extended Professional Component (is a part of internal component only, Not to be included in the External Examination question paper)	Questions related to the above topics, from various competitive examinations UPSC / TRB / NET / UGC – CSIR / GATE / TNPSC / others to be solved (To be discussed during the Tutorial hour)	
Skills acquired from this course	Knowledge, Problem Solving, Analytical ability, Professional Competency, Professional Communication and Transferrable Skill	
Recommended Text:		
1. Bose T.K and Mukherjee, D. 1972. Gardening in India, Oxford & IBH Publishing Co., New Delhi. 2. Sandhu, M.K. 1989. Plant Propagation, Wile Eastern Ltd., Bengaluru. 3. Kumar, N. 1997. Introduction to Horticulture, Rajalakshmi Publications, Nagercoil. 4. Edmond Musser and Andres. 1957. Fundamentals of Horticulture, McGraw Hill Book Co., New Delhi. 5. Agrawal, P.K. 1993. Hand Book of Seed Technology, Dept. of Agriculture and Cooperation, National Seed Corporation Ltd., New Delhi.		
Reference Books:		
1. N.L. Patel, S.L. Chawla, T.R. Ahlawat: Commercial Horticulture , 2016, ASPEE College of Horticulture, Navsari Agricultural University, Navsari 396 450, Gujarat, 2. Prasad S & Kumar U. 2005. Greenhouse Management for Horticultural Crops. 2nd Ed. Agrobios. 3. George Acquaaah, 2002, Horticulture-principles and practices. Prentice-Half of India pvt. Ltd., New Delhi. 4. Abraham, A and Vatsala, P. 1981. Introduction to Orchids. Trop. Bot. Garden, Trivandrum. 5. Hartman, H.T and Kester, D.E. 1989. Plant propagation. Printice Hall Ltd., New Delhi.		

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Web resources:

1. <https://www.kopykitab.com/Nursery-And-Gardening-SEC-by-Prof-C-D-Patil-Dr-G-M-Rane-Dr-S-A-Patil>
2. <https://www.wonderslate.com/nursery-and-gardening-management/ebook-details?siteName=books&bookId=38078&preview=true>
3. https://books.google.co.in/books/about/Nursery_Hindi_Book_Bonsai_Plants_Nursery.htm?id=-nfDDwAAQBAJ&redir_esc=y
4. <https://www.amazon.in/Gardening-Books/b?ie=UTF8&node=1318122031>
5. <https://www.worldcat.org/title/handbook-of-horticulture/oclc/688653648>

Mapping with Programme Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	1	3	2	1	2	2	3	2
CO2	3	3	2	2	3	3	2	3	2	3
CO3	2	2	3	3	1	2	1	3	3	1
CO4	3	3	3	3	3	2	3	3	3	1
CO5	3	3	2	3	2	3	1	2	3	2

S-Strong (3)

M-Medium (2)

L-Low(1)