

UNIVERSITY OF MADRAS
B.Sc. DEGREE PROGRAMME IN PLANT BIOLOGY
AND PLANT BIOTECHNOLOGY
SYLLABUS WITH EFFECT FROM 2023-2024

Title of the Course	BOTANICAL GARDEN AND LANDSCAPING						
Paper Number	Skill Enhancement-3						
Category	Year	I	Credits	2	Course Code	139S2D	
	Semester	II					
Instructional Hours per week	Lecture		Tutorial	Lab Practice	Total		
	2		-	-	2		
Pre-requisite	Students should know about the fundamental concepts of gardening and landscaping.						
Learning Objectives							
C1	To know about the fundamental concepts of gardening and landscaping.						
C2	To provide an overview of various gardening styles and its scope in recreation and bio-aesthetic planning.						
C3	To illustrate the significance of garden adornments and propagation structures.						
C4	To inculcate entrepreneurial skills in students for creative landscaping design using CAD software.						
C5	To create the design outdoor and indoor gardens and inculcate entrepreneurial skills for landscaping.						
Course outcomes: On completion of this course, the students will be able to:					Programme Outcomes		
CO							
1. Recognize fundamental concepts of gardening and landscaping.					K1		
2. Explain about significance of garden adornments and propagation structures.					K2		
3. Apply techniques of landscaping for aesthetic purposes and gardening for recreation.					K3 & K6		
4. Distinguish between formal, informal and free style gardens and their applications.					K4		
5. Develop and design outdoor and indoor gardens and inculcate entrepreneurial skills for landscaping.					K5 & K6		

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UNIT	CONTENTS
I	Principles of gardening, garden components, adornments, lawn making, methods of designing rockery, water garden, etc. Special types of gardens, their walk-paths, bridges, constructed features. Greenhouse. Special types of gardens, trees, their design, values in landscaping, propagation, planting shrubs and herbaceous perennials. Importance, design values, propagation, plating, climbers and creepers, palms, ferns, grasses and cacti succulents.
II	Flower arrangement: importance, production, Experiments and cultural operations, constraints, post-harvest practices. Bioaesthetic planning, definition, need, country planning, urban planning and planting avenues, schools, villages, beautifying railway stations, dam sites, hydroelectric stations, colonies, river banks, planting material for play grounds.
III	Vertical gardens, roof gardens. Bonsai, art of making bonsai. Parks and public gardens. Landscape designs, Styles of garden, formal, informal and free style gardens, types of gardens, Urban landscaping, Landscaping for specific situations, institutions, industries, residents, hospitals, roadsides, traffic islands, damsites, IT parks, corporate.
IV	Establishment and maintenance, special types of gardens, Bio-aesthetic planning, eco-tourism, theme parks, indoor gardening, therapeutic gardening, non-plant components, water scaping, xeriscaping, hardscaping.
V	Computer Aided Designing (CAD) for outdoor and indoorscaping Exposure to CAD (Computer Aided Designing).
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 Texts	<ol style="list-style-type: none"> 1. Acquaah, J. 2009. Horticulture – principles and practices, 4th edition, PHI learning Pvt. Ltd. 2. Rao Manibhushan K. 1991. Textbook of horticulture. MaC Millan India Ltd. 3. Gangulee H. C. and Kar A. K. 2004. College Botany Vol II, New Central Book Agency 4. Sharma V. K. 1999. Encyclopaedia of Practical Horticulture, Vol I – IV, Deep And Deep Publ. Pvt. Ltd. 5. Singh, J. 2018. Fundamentals of Horticulture. Kalyani Publishers.
Reference Books	<ol style="list-style-type: none"> 1. Berry, F. and Kress, J. 1991. Heliconia: An Identification Guide . Smithsonian Books.

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	<p>2. Butts, E. and Stensson, K. 2012. Sheridan Nurseries: One hundred years of People, Plans, and Plants. Dundurn Group Ltd.</p> <p>3. Russell, T. 2012. Nature Guide: Trees: The world in your hands (Nature Guides).</p> <p>4. Acquah, J. 2009. Horticulture – principles and practices, 4th edition, PHI learning Pvt. Ltd.</p> <p>5. Edment Senn Andrews. 1994. Fundamentals of Horticulture. Tata. McGraw Hill Publishing Co., Ltd., Delhi.</p>
Web resources	<p>1. https://www.amazon.in/Gardening-Landscape-Design-and-Botanical-Garden/s?rh=n%3A1318122031%2Cp_27%3Aand+Botanical+Garden</p> <p>2. https://www.overdrive.com/subjects/gardening</p> <p>3. https://www.scribd.com/book/530538456/Opportunities-in-Landscape-Architecture-Botanical-Gardens-and-Arboreta-Careers</p> <p>4. https://www.scribd.com/book/305542619/Botanic-Gardens</p> <p>5. https://www.overdrive.com/subjects/gardening</p>

Mapping with Programme Outcomes:

COs	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	1	3	2	1	1	2	3	1
CO 2	3	3	2	2	1	3	2	3	3	2
CO 3	2	2	3	2	1	2	1	3	2	3
CO 4	3	3	2	3	1	2	3	3	3	2
CO 5	3	3	2	3	2	3	1	3	3	2

S-Strong (3)

M-Medium (2)

L-Low(1)