



UNIVERSITY OF CALICUT

Programme	B. Sc. BOTANY				
Course Title	Aesthetic Botany				
Type of Course	Major				
Semester	I				
Academic Level	100 - 199				
Course Details	Credit	Lecture per week	Tutorial per week	Practical per week	Total Hours
	4	3	-	2	75
Pre-requisites	Higher secondary level biology course				
Course Summary	This course offers basic idea in gardening, horticulture, photography, illustration, and craft making using botanicals.				

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

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	Demonstrate basic principles of gardening to successfully grow and maintain plants	U	C	Practical Assignment/ Quiz
CO2	Demonstrate fundamental knowledge in plant propagation and care	U	C	Observation of Practical Skills/ Quiz
CO3	Identify the importance of floriculture and its market	U	C	Seminar Presentation
CO4	Translate the passion for plants into captivating botanical imagery	Ap	P	Home Assignments
CO5	Implement techniques to plan, plant, and nurture both indoor and outdoor gardens	Ap	P	Home Assignments
CO6	Design art pieces using plant parts	C	P	Observation of Practical Skills

* - 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 (45 +30)
I	Introduction to Aesthetic Botany		15
	1	Aesthetic characteristics of plants - Shape and outline, Structure and branching pattern, Symmetry of flowers, Geometric arrangements of leaves, Size and scale, Surface texture, Pattern and veining, Colour- flower hues, foliage variations, seasonal shifts.	2
	2	Landscaping - Goals, Types, Planning and layout, Style of gardens (Formal, Informal); Types of gardens (English, Mughal and Japanese)	2
	3	Gardening - definition; Principles of garden design, site selection, Features of a garden (Trees, shrubs and shrubberies, climbers and creepers, Lawn, Garden wall, Fences and gates, Paths and walkways, Borders, Hedge, Edging, Rockery, Flower beds, Pergola, Gazebo, Garden furniture, Solar-electric lights, Sculptures, Water garden)	3
	4	Propagating structures - green house, poly house, mist chamber, net frame	1
	5	Indoor gardening - selection of indoor plants, care and maintenance of indoor plants; Vertical gardens Some Famous gardens of India	3
	6	Bonsai - principle, types, methods & tools	2
	7	Aquascaping & Terrarium - Methods	2
II	Horticultural techniques		15
	8	Soil - components of soil, types of soil Fertilizers - chemical, organic, biofertilizer, composting systems Pots and Potting - Earthen, fibre, polythene bags Potting mixture, potting, repotting, top dressing. Irrigation - Surface, sprinkle, drip	4
	9	Garden tools and implements	1
	10	Seed propagation - Seed quality, seed treatment, essential conditions for successful propagation, raising of seed beds, transplanting techniques	2
	11	Vegetative propagation: a) Cutting (stem, roots, leaves) b) Grafting (approach, side, tongue)	3

		c) Budding (T-budding, patch) d) Layering (simple, trench, air)	
	12	Protection of horticultural plants - Precautions to avoid pests and diseases, biopesticides	1
	13	Hydroponics - Principle and method	1
	14	Floriculture - Industrial importance of ornamental plants Floriculture in India Cut flower market - Scope and prospects	2
	15	Flower shows and exhibitions - Importance	1
III	Botanical documentation		8
	16	Digital documentation - Basics	2
	17	Photography - Basics of Botanical Photography, Composition, Lighting and capturing, Editing and Presentation	2
	18	Micro and Macro photography	2
	19	Botanical illustrations - Botanical illustration techniques, Sketching, Water colour, Pen and Ink. Colour theory and Mixing; Significance	2
IV	Botanical Art and Craft		7
	20	Floral arrangements - Ikebana: Types of arrangements. Contemporary floral design styles.	3
	21	Resin embedding of flowers - techniques, methods and applications.	2
	22	Botanical printing - process and techniques	2
V	Practical (Mandatory list)		30
	<ol style="list-style-type: none"> 1. Vegetative propagation-cutting, budding, grafting, layering 2. Familiarizing gardening tools and implements 3. Fresh and dry flower arrangements 4. Preparation of potting mixture and Polybag filling 5. Visit to public/institutional/ botanical gardens/nurseries/horticulture station (A brief report may be recorded) 		
	Practical (Open ended/Suggestive list)		
	<ol style="list-style-type: none"> 1. Preparation of bottle gardens 2. Terrarium making 3. Botanical Photographs 4. Bonsai preparation 5. Visit to flower shows and exhibitions 		

Suggested Readings

- Andiance and Brison. 1971. Propagation Horticultural Plants.
- Chanda, K.L. and Choudhury, B. Ornamental Horticulture in India.
- George Acquaah. 2005. Horticulture: Principles and Practices. Pearson Education, Delhi.
- Hudson, T. Hartmann, Dale K. Kester, Fred T. Davies, Robert L. Geneve, Plant Propagation, Principles and Practices.
- Kolay, A.K. Basic Concepts of Soil Science. New Age International Publishers, Delhi.
- Nishi Sinha: Gardening in India, Abhinav Publications, New Delhi.
- Prasad, S., and U. Kumar. Green house Management for Horticultural Crops, Agrobios, Jodhpur.
- Sudhir P. 2018. Landscape gardening. Scientific Publishers India.
- Gavino M. 2018. Floriculture and landscaping. Scitus Academics LLC.
- Percy L. 2004. Gardening in India. Oxford & IBH publishers.
- Laeeq F. 2008. Gardens. National book trust India Publishers.
- Ekta Chaudhary 2022. Garden Up. Penguin Random House India publishers.
- Prathap Rao M. 2020. Landscape Design. Standard Publishers and Distributors Pvt.
- Percy L. 2008. Gardening in India. 2nd Edition, Oxford & IBH publishers.

Online Sources

- <https://www.georgeweil.com/blog/botanical-printing-an-overview/>
- <https://www.lostincolours.com/eco-printing-for-beginners/>
- <https://www.instructables.com/Techniques-to-Embed-Flowers-in-Resin/>
- https://www.researchgate.net/publication/341831968_Epoxy_resin_encapsulation_technique

Mapping of COs with PSOs and POs:

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	3	-	-	-	-	-	3	-	1	-	1	-	-
CO2	3	-	-	-	-	-	3	-	1	-	1	-	-
CO3	3	-	-	-	-	1	3	-	1	-	-	-	-
CO4	3	-	-	-	-		3	-	3	2	-	-	-
CO5	3	-	1	-	-	-	3	-	3	-	2	-	-
CO6	3	-	-	-	-	-	3	-	3	-	-	1	1

Correlation Levels:

Level	Correlation
-	Nil
1	Slightly/Low
2	Moderate/ Medium
3	Substantial/ High

Assessment Rubrics:

- Quiz / Assignment/ Discussion / Seminar
- Midterm Exam
- Project/Practical
- Final Exam

Mapping of COs to Assessment Rubrics :

	Internal Exam	Assignment	Project Evaluation	End Semester Examinations
CO 1	✓			✓
CO 2	✓			✓
CO 3	✓			✓
CO 4		✓		
CO 5		✓		✓
CO 6		✓	✓	