

FIFTH SEMESTER B. Sc. BOTANY DEGREE PROGRAMME
OPEN COURSE: APPLIED BOTANY
Code: BOT5D02

COURSE OUTCOMES (COs)

By the end of the course, students are expected to:

1. Understand the plant propagation methods
2. Understand the properties of soil, irrigation and manuring
3. Construct vegetable garden and mushroom cultivation
4. Produce vermicompost and biofertilizer
5. Cultivate orchid, anthurium and bonsai
6. Understand binomial, family and useful part of major economic plants

DISTRIBUTION OF TEACHING HOURS (18 hrs/Semester = 1hr/week)

Sl. No.	Subject	Total
1	Module -I Plant Propagation	12
2	Module - II Steps of growing plants	12
3	Module - III. Botany in Everyday life	24
4	Module - IV. Economic Botany	6
	Total	54

QUESTION PAPER PATTERN

Type of questions	Applied Botany						Total marks
	Module I	Module II	Module III	Module IV	Module V	Module VI	
2 marks (Total 12)	3	2	2	2	2	1	Ceiling 20
5 marks (Total 7)	1	2	1	1	1	1	Ceiling 30
10 marks (Total 2)	1		1				1 x 10 = 10
TOTAL							60

PLANT PROPAGATION			Hrs
MODULE - I (12 hrs)	Chapter 1	Seed propagation: Seed dormancy, seed treatment, conditions for propagation, rising of seed beds, care of seedling, transplanting techniques.	2
	Chapter 2	Vegetative propagation: (a) Cutting (stem, roots) (b) Grafting (approach, cleft) (c) Budding (T-budding, patch) (d) Layering (simple, air)	8
	Chapter 3	3. Micro propagation: General account	2
STEPS OF GROWING PLANTS			Hrs
MODULE - II (12 hrs)	Chapter 1	Soil: Composition, Types, Texture, Soil pH, Correcting pH, Humus.	2
	Chapter 2	Pots & Potting - Earthen, Fibre, Polythene bags, Potting mixture, Potting, Depotting, Repotting.	2
	Chapter 3	Chemical fertilizers: types, application, merits and demerits.	2

	Chapter 4	Organic manure; types, application, merits and demerits.	2
	Chapter 5	Need of water: Irrigation - Surface, spray, drip irrigation, sprinklers.	2
	Chapter 6	Plant protection: Biological, Physical and mechanical, Chemical, biopesticide.	2
BOTANY IN EVERYDAY LIFE			Hrs
MODULE - III (8 hrs)	Chapter 1	Vegetable gardening	8
	Chapter 2	Mushroom cultivation	
MODULE - IV (8 hrs)	Chapter 1	Vermi composting- technique	8
	Chapter 2	Biofertilizer Technology	
MODULE - V (8 hrs)	Chapter 1	Orchid and Anthurium cultivation	8
	Chapter 2	Creating Bonsai	
ECONOMIC BOTANY			Hrs
MODULE - VI (6 hrs)	Chapter 1	General account on various plants of economic importance	1
	Chapter 2	Study the Binomial, Family, Morphology of the useful part of the following plants: a) Cereals and Millets - Rice, Wheat. b) Pulses - Green gram, Bengal gram, Black gram. c) Beverages - Coffee, Tea, Cocoa. d) Fibre - Coir, Cotton. e) Timber - Teak, Rose wood, Jack. f) Spices - Pepper, Ginger, Cardamom. g) Medicinal - Adhatoda, Phyllanthus, Rauvolfia. h) Oil - Coconut, Gingelly. i) Ornamental plants of economic importance - Rose, Jasmine. j) Fruit - Mango, Banana.	5
REFERENCES	<ol style="list-style-type: none"> 1. Nishi Sinha (1993). Gardening in India, Abhinav Publications, New Delhi. 2. Adriance, G. W. & Fred R. Brison (1971). Propagation Horticultural Plants. Krieger Pub Co. 3. Rekha Sarin. (1995). The Art of Flower Arrangement, UBS Publishers, New Delhi. 4. Katyal, S.C., (1977). Vegetable growing in India, Oxford, New York. 5. Naik, K.C. (1949). South Indian Fruits and their Culture. P. Varadachary, Madras. 6. Chanda, K.L. and Choudhury, B. (2014). Ornamental Horticulture in India. Indian Council of Agricultural Research, New Delhi. 7. Premchand, (1995). Agriculture and Forest Pest and their Management, Oxford and IBH Publishing Co. Pvt. Ltd. New Delhi. 8. George Acquaah (2008). Horticulture: Principles and Practices. Pearson Education, Delhi. 9. Prasad, S., and U. Kumar (2012). Green house Management for Horticultural Crops, Agrobios, Jodhpur. 10. Kumar, U. (2012). Methods in Plant Tissue Culture. Agrobios (India), Jodhpur. 11. Kolay, A.K. (2011). Basic Concepts of Soil Science. New Age International Publishers, Delhi. 12. Bal, J.S. (2015). Fruit growing. Kalyani Publishers, Delhi. 13. Razdan, M.K. (2019). Plant Tissue Culture, Oxford & IBH Publishing Ltd., New Delhi. 		