

Semester Lecture Plan (Theory)

Name of the college: Government College of Arts, Science and Commerce, Sanquelim							
Name of Faculty: Dr. Tanvi Nitin Prabhu			Subject: Botany				
Paper code: BOT 100			Program/Course: B.Sc (Botany)		Division: A		
Academic Year: 2025-26			Semester: I		Total Lectures: 30		
Course Objectives: 1. To increase the understanding about the diversity, identification, classification, evolutionary history, relationship of plants with man and other sciences. 2. To understand fundamentals of different branches in Botany. 3. To study the plants with regards to their morphological features, physical, chemical and biological functioning of plants and various plant processes. 4. To learn basic instruments and techniques used in the Botanical studies.							
Expected Course Outcome: On completion of the course, students will be able to: 1. Outline the classification of life and identify the characteristics features of plant kingdom. 2. Summarize the evolutionary history of plants. 3. Outline the different branches in botany and their relation to other sciences. 4. Analyse the morphological features of plants. 5. Examine the stages of plant growth, plant cells, processes and its responses.							
Student Learning Outcome: On completion of the course, students will be able to: 1. Explain the scope and importance of botany in relation to other branches of life sciences. 2. Identify common plant specimens based on morphological features. 3. Demonstrate basic laboratory skills of using instruments in botanical studies. 4. Apply knowledge of plant physiology to understand vital plant processes such as photosynthesis, respiration, transpiration etc.							
Month	Lectures		No. of lectures allotted	Topic, Subtopic to be covered	Exercise/ Assignment	ICT Tools	Reference books
	From:	To:					
June 2025	24.06.2025	30.06.2025	02	Module 1: Introduction to plant kingdom	To understand uses of plants	Powerpoint presentation	Gangulee, SC, Das, KS, Dutta, CD. and
				Relations of plant to man			

					to mankind		Kar, AK (1968). College Botany Vol. I, II and I II. C entral Education Enterprises. 5. Gifford, EM and Foster, AS (1988). Morphology and Evolution of
July 2025	01.07.2025	05.07.2025	02	Relation of Botany to other sciences	To understand interdisciplinar y aspect of botany	Powerpoint presentation	Gangulee, SC, Das, KS, Dutta, CD. and Kar, AK (1968). College Botany Vol. I, II and I II. C entral Education Enterprises. 5. Gifford, EM and Foster, AS (1988). Morphology and Evolution of
				Brief description of various branches in Botany (Systematic botany Classification, Taxonomy and nomenclature.			
July 2025	07.07.2025	12.07.2025	02	Plant morphology: external and internal.	To understand branches of botany	Powerpoint presentation	Gangulee, SC, Das, KS, Dutta, CD. and Kar, AK (1968). College Botany Vol. I, II and I II. C entral Education Enterprises. 5. Gifford, EM and Foster, AS (1988). Morphology and Evolution of
				Embryology, Physiology, Ecology, Phytogeography.			
July 2025	14.07.2025	19.07.2025	02	Economic Botany, Cytology and Cytogenetics.	To understand branches of	Powerpoint presentation	Gangulee, SC, Das, KS, Dutta, CD. and
				Ethnobotany, Biotechnology, Molecular Biology,			

				Biochemistry.	botany		Kar, AK (1968). College Botany Vol. I, II and I II. C entral Education Enterprises. 5. Gifford, EM and Foster, AS (1988). Morphology and Evolution of
July 2025	21.07.2025	26.07.2025	02	Evolutionary history of plants: Evolution of plants on geological time scale	To understand evolutionary history of plants	Powerpoint presentation	Steward, WM (2010). Paleobotan y and the Evolution of Plants. Cambridge University Press, Cambridge.
				Paleobotany			
July 2025	28.07.2025	31.07.2025	02	Fossil formation process.	How fossils are formed	Powerpoint presentation	Steward, WM (2010). Paleobotan y and the Evolution of Plants. Cambridge University Press, Cambridge.
				Fossil formation process, types of fossils Impression, Compression, Petrification and coal balls.			
August 2025	04.08.2025	09.08.2025	02	Broad classification of plant kingdom: Introduction to seven kingdom classification of life.	Peculiar characteristic of plants and their classification.	Powerpoint presentation	Steward, WM (2010). Paleobotan y and the Evolution of Plants. Cambridge University Press, Cambridge.
				ISA 01 (Assignment)			
				Characteristic features of the plant kingdom. Classification of Plant kingdom up to divisions (G.M. Smith's classification)			
August 2025	11.08.2025	16.08.2025	02	ISA 01 (Assignments)	What are plant movements.	Powerpoint presentation	Jain, VK (Fundamentals of Plant Physiology. 19th edition. S. Chand Company Ltd. New Delhi.
				Module 3: Plant growth and Plant movements Introduction to Plant movements			
August 2025	18.08.2025	23.08.2025	02	Plant movements: tropic responses (phototropism, geotropism, chemotropism, hydrotropism and thigmotropism).	To understand tropic responses in	Powerpoint presentation	Jain, VK (Fundamentals of Plant Physiology. 19th

					plants.		edition. S. Chand Company Ltd. New Delhi.
September 2025	01.09.2025	06.09.2025	02	Nyctinasty and seismonasty (leaf movements)	To study nastic movements.	Powerpoint presentation	Jain, VK (Fundamentals of Plant Physiology. 19th edition. S. Chand Company Ltd. New Delhi.
				ISA 02 (Test).			
September 2025	08.09.2025	13.09.2025	02	Vital plant processes, Photosynthesis and Respiration	What are vital processes in plants.	Chalk and board	Jain, VK (Fundamentals of Plant Physiology. 19th edition. S. Chand Company Ltd. New Delhi.
				Transpiration			
September 2025	15.09.2025	20.09.2025	02	Osmosis	To understand process of osmosis and Imbibition.	Chalk and board	Jain, VK (Fundamentals of Plant Physiology. 19th edition. S. Chand Company Ltd. New Delhi.
				Diffusion and Imbibition			
September 2025	22.09.2025	27.09.2025	02	Principle, working and applications of: microscopy (Dissection and light microscope)	To understand principles and working of instruments used in Botany	Chalk and board	Sharma VK (1991). Techniques in microscopy and cell biology. Tata McGraw Hill, New Delhi.
				spectrophotometer			
September 2025- October 2025	29.09.2025	04.10.2025	02	Centrifuge, orbital shaker		Chalk and board	Gurumani, N (Research methodology for biological sciences. MJP Publishers, Chennai.
				Micrometry, distillation unit			

October 2025	06.10.2025	11.10.2025	02	ISA 03		Chalk and board	Gurumani, N (Research methodology for biological sciences. MJP Publishers, Chennai.
				laminar air flow unit, Autoclave			
October 2025	13.10.2025	18.10.2025	02	pH meter		Chalk and board	Gurumani, N (Research methodology for biological sciences. MJP Publishers, Chennai.
				Revision			

Assessment Rubrics

Component	Max Marks
ISA 1	7.5
ISA 2	7.5
ISA 3	7.5
Practical	25
Project	NA
Semester End Exam	60