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: II**	**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:					

December 2025	01.12.2025	06.12.2025	02	**Module 1: Introduction to plant kingdom,** Relations of plant to man. Relation of Botany to other sciences	To understand uses of plants to mankind	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
December 2025	08.12.2025	13.12.2025	02	Brief description of various branches in Botany (Systematic botany Classification, Taxonomy and nomenclature. Plant morphology: external and internal.	To understand interdisciplinary 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
December 2025	15.12.2025	20.12.2025	00	**Tarang 2025, Liberation day, Elections**	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.
December 2025	22.12.2025	27.12.2025	01	Embryology, Physiology	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
December 2025 – January 2026	29.12.2025	03.01.2026	01	Cytology, Cytogenetics	To understand evolutionary history of plants	Powerpoint presentation	Steward, WM (2010). Paleobotan y and the Evolution of Plants. Cambridge University Press, Cambridge.
January 2026	05.01.2026	10.01.2026	02	Ecology, Phytogeography Economic botany and Ethnobotany	How fossils are formed	Powerpoint presentation	Steward, WM (2010). Paleobotan y and the Evolution of Plants. Cambridge University Press, Cambridge.
January 2026	12.01.2026	17.01.2026	02	Biotechnology, Molecular biology and Biochemistry **ISA 01 (Assignment)**	Peculiar characteristic of plants and their classification.	Powerpoint presentation	Steward, WM (2010). Paleobotan y and the Evolution of Plants. Cambridge University Press, Cambridge.
January 2026	19.01.2026	24.01.2026	02	Evolution of plants on geological time scale Fossil formation process, types of fossils Impression, Compression, Petrification and coal balls.	What are plant movements.	Powerpoint presentation	Jain, VK (Fundamentals of Plant Physiology. 19th edition. S. Chand Company Ltd. New Delhi.
January 2026	26.01.2026	31.01.2026	02	Introduction to seven kingdom classification of life, Characteristic features of the plant and G.M Smiths classification	To understand tropic responses in	Powerpoint presentation	Jain, VK (Fundamentals of Plant Physiology. 19th

				Plant movements	plants.		edition. S. Chand Company Ltd. New Delhi.
February 2026	02.02.2026	07.02.2026	02	Tropic movements Nastic movements	To study nastic movements.	Powerpoint presentation	Jain, VK (Fundamentals of Plant Physiology. 19th edition. S. Chand Company Ltd. New Delhi.
February 2026	09.02.2026	14.02.2026	02	**ISA 02 Written test**	What are vital processes in plants.	Chalk and board	Jain, VK (Fundamentals of Plant Physiology. 19th edition. S. Chand Company Ltd. New Delhi.
February 2026	16.02.2026	21.02.2026	02	Photosynthesis Osmosis Respiration	To understand process of osmosis and Imbibition.	Chalk and board	Jain, VK (Fundamentals of Plant Physiology. 19th edition. S. Chand Company Ltd. New Delhi.
February 2026	23.02.2026	28.02.2026	02	Transpiration Osmosis, Diffusion and Imbibition	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.
March 2026	02.03.2026	07.02.2026	02	Principle, working and applications of: microscopy (Dissection and light microscope) Spectrophotometer		Chalk and board	Gurumani, N (Research methodology for biological sciences. MJP Publishers, Chennai.

March 2026	09.03.2026	14.03.2026	02	Autoclave Laminar air flow unit		Chalk and board	Gurumani, N (Research methodology for biological sciences. MJP Publishers, Chennai.
March 2026	16.03.2026	21.03.2026	01	Centrifuge		Chalk and board	Gurumani, N (Research methodology for biological sciences. MJP Publishers, Chennai.
March 2026	23.03.2026	28.03.2026	02	Micrometry, distillation unit Orbital shaker			
March 2026 – April 2026	30.03.2026	04.04.2026	01	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