

Semester Lecture Plan (Theory)		
Name of the college: Government College of Arts, Science & Commerce, Sanquelim		
Name of Faculty: Dr Jyosna Gawas		Subject: Botany
Paper code: BOT-202	Program/Course: S. Y. B.Sc.	Division: A
Academic year: 2024-2025	Semester: IV	Total Lectures: 30
Course Objectives: This course aims to: 1. Provide knowledge of tissue systems, primary structure, secondary growth and wood anatomy. 2. Impart theoretical and practical understanding of the process of sexual reproduction leading to seed production in flowering plants.		
Course Learning Outcome: On completion of this course, students will be able to: 1. Recall the characteristic features of meristems, tissue systems and sexual reproductive structures in plants. 2. Understand the differences between primary and secondary structures in flowering plants and explain development of reproductive structures, significance of pollination and seed dispersal. 3. Illustrate various structures in anatomy and reproductive biology and apply the knowledge of embryology in seed production. 4. Analyse the characteristics of wood and applications of plant anatomy in different fields.		

Month	Lectures		No. of lectures allotted	Topic, subtopic to be covered	Exercise/ Assignment	ICT tools	Reference books
	From	To					
December 2024	09/12/2024	14/12/2024	2	Module 1: Tissue systems and primary structure Meristematic tissues: Characteristics and functions;	Create a flowchart to classify and differentiate dermal, ground, and vascular tissue systems	PPT	Plant anatomy and embryology by S N Pandey & A Chadha Plant anatomy by B. P. Pandey Plant anatomy and microtechniques by A. Ragland & N. Arumugum
	16/12/2024	17/12/2024	1	Classification of meristem based on position			
January 2025	02/01/2025	04/01/2025	2	Root and shoot apical meristems (Histogen theory and Tunica-Corpus theory).			
	06/01/2025	11/01/2025	2	Concept of tissue system: Dermal tissue, ground tissue			
	11/01/2025	18/01/2025	2	Vascular tissue; types of vascular bundles;			
	20/01/2025	25/01/2025	2	Epidermal appendages, stomatal type; secretory structures. ISA - I			
	27/01/2025	01/02/2025	2	Primary structure: Anatomy of root, stem in monocots and dicots;			
February 2025	03/02/2025	08/02/2025	2	Primary structure of leaf in monocots and dicots;			
	10/02/2025	15/02/2025	2	Nodal anatomy; root-stem transition.			
	17/02/2025	22/02/2025	2	Module 2: Secondary growth and wood anatomy Secondary growth: activity of vascular cambium; Normal secondary growth in dicot stem	Observe periderm, rhytidome and lenticels in		
	24/02/2025	01/03/2025	1	Normal secondary growth in dicot root; ISA - II			

March 2025	03/03/2025	08/03/2025	2	Anomalous secondary growth in stems of <i>Boerhaavia</i> and <i>Dracaena</i> ;	woody plants and document their distribution		
	10/03/2025	15/03/2025	2	Structure and functions of periderm, rhytidome and lenticels;			
	17/03/2025	22/03/2025	2	Secondary xylem; secondary phloem.	Analyze the annual rings of a tree cross-section and estimate its age.		
	24/03/2025	29/03/2025	2	Wood anatomy: Ring porous and diffuse porous wood; tyloses; heartwood and sapwood; tension wood;			
April 2025	31/03/2023	05/04/2023	1	Dendrochronology and other applications of plant anatomy.			
	07/04/2023	11/04/2023	2	Revision			

* Assessment Rubrics

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

