

Practical Plan

Name of the college: Government College of Arts, Science and Commerce, Sanquelim-Goa				
Name of Faculty: Dr Jyosna Gawas		Subject: Botany		
Paper code: BOT 202		Program: S. Y. B.Sc.		Division: Batch I
Academic year: 2024 - 2025		Semester: IV		Total Practicals/Labs: 30
Credits: 02				
Course Objectives: This course deals with physical, chemical and biological functioning of plants. It is designed to understand the structure of plant tissues, organs and reproductive structures.				
Expected Course Outcome: The student will be able to <ul style="list-style-type: none">Identify and describe the different types of plant cells and tissues.Describe the primary structure of stems and roots of different plant speciesExplain the types of secondary growth in dicot stems, including normal and anomalous secondary growth.Describe the structure and function of epidermal appendages, stomata, anthers, ovules, and pollen grains and explain the process of pollination and dispersal mechanisms of fruits/seed				
Student Learning Outcome: Student will <ul style="list-style-type: none">Describe the structure and function of root and shoot apical meristems.Identify and explain the primary structure of stems and roots of different plant species.Analyze the types of secondary growth in dicot stems and anomalous secondary growth in different plant species.Explain the structure and function of epidermal appendages, stomata, anthers, ovules, and pollen grains.				
Month	Practicals/Labs Scheduled Date	No. of Practicals/Labs planned	List of Experiments	Reference books

December 2024	09/12/2024	1	Study of root and shoot apical meristems (permanent slides/photographs).	Plant anatomy and embryology by S N Pandey & A Chadha
	16/12/2024	1	Maceration of wood to study xylem elements.	
January 2025	06/01/2025	1	Study of primary structure of stems of <i>Helianthus annuus</i> / <i>Eupatorium odoratum</i> and <i>Oryza sativa</i> / <i>Zea mays</i> .	Plant anatomy by B. P. Pandey
	13/01/2025	1	Study of primary structure of roots of <i>Helianthus annuus</i> / <i>Eupatorium odoratum</i> and <i>Oryza sativa</i> / <i>Zea mays</i> .	
	20/01/2025	1	Study of multiple epidermis and cystoliths in leaves of <i>Ficus</i> sp. and buliform cells in leaves of <i>Zea mays</i> .	Plant anatomy and microtechniques by A. Ragland & N. Arumugum
	27/01/2025	1	Normal secondary growth in dicot stem (<i>Helianthus annuus</i> / <i>Eupatorium odoratum</i>).	
February 2025	03/02/2025	1	Anomalous secondary growth in the stems of <i>Boerhavia</i> .	
	10/02/2025	1	Anomalous secondary growth in the stems of <i>Dracaena</i> .	
	17/02/2025	1	Study of epidermal appendages and stomatal types	
	24/02/2025	1	Study of structure of young and mature anther	
March 2024	03/03/2025	1	Study of structure and types of ovules: orthotropous, anatropous, circinotropous, amphitropous/ campylotropous	
	10/03/2025	1	Temporary mount of stigma to observe germinating pollen grains	
	17/03/2025	1	Study of pollination types	
	24/03/2025	1	Study of dispersal mechanisms of fruits/seeds	
April 2024	07/04/2025	1	Semester End Practical Exam	

* Assessment Rubrics

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