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: BOC 105 | **Program/Course:** T.Y.B.Sc. | **Division:** A

Academic year: 2024-2025 | **Semester:** V | **Total Lectures:** 60

Course Objectives: The course will provide a detailed account of morphological terms used in plant systematic. The theoretical and practical components of this course will help students to identify and classify plant families along with the economically important plants of the families mentioned. Along with classical Plant taxonomy students will be acquainted with the basic knowledge of Phylogeny.

Course Outcome: On completion of the course students will be able to understand the morphological terms and use them to identify and describe plants. Students will know the economically important plants and locally available plants of the families mentioned in the syllabus. Students will know the origin of Angiosperms and how to interpret phylogeny.

Month	Lectures		No. of lectures allotted	Topic, subtopic to be covered	Exercise/ Assignment	ICT tools	Reference books
	From	To					
June	28th	29th	2	Morphology of Angiosperms - Definition, Characteristics and functions; different types and modifications of tap and fibrous roots	Read about other morphological terms that are not discussed during the lectures	Chalk and board; Powerpoint presentation	Plant Taxonomy and Biosystematics by C. A. Stace Taxonomy of Angiosperms by V. N. Naik
July	1st	6th	3	Different types and modifications of adventitious roots; Stem – branching types Stem- Types and modifications			
	8th	13th	4	Leaf – structure, types; Leaf- phyllotaxy and its significance, Leaf types; venation, vernation; Modification of stipules; Forms/shapes of leaves; Leaf incision/types, leaf bases, margins, apex			
	15th	20th	4	Leaf surface, leaf texture, Leaf associated outgrowths; leaf modifications; buds			

	22nd	27th	4	Inflorescence types; Flower- parts, functions of different parts of the flower			Taxonomy of Vascular Plants by G. H. M Lawrence Plant systematics: Theory and Practice by G Singh Taxonomy of Practical Botany-II by A. M. Bendre & A. Kumar
July/August	27th	3rd	4	Symmetries, characters, types, Aestivation types; Fruit - types: Simple, Aggregate; ISA-1			
August	5th	10th	4	Multiple; Seeds - different types; Systematic position (Bentham and Hookers classification), Diagnostic features and important ornamental/ economical/ medicinal species of family - Annonaceae			
	12th	17th	3	Diagnostic features and important ornamental/ economical/ medicinal species of the following families: Capparidaceae, Brassicaceae, Tiliaceae, Rutaceae	-		
	19th	24th	4	Diagnostic features and important ornamental/ economical/ medicinal species of the following families: Leguminosae - Caesalpiniaceae, Papilionaceae, Mimosaceae, Myrtaceae	-		
	26th	31st	4	Diagnostic features and important ornamental/ economical/ medicinal species of the following families: Cucurbitaceae, Rubiaceae, Apocynaceae, Asclepiadaceae	-		
September	2nd	7th	3	Diagnostic features and important ornamental/ economical/ medicinal species of the following families: Verbenaceae, Amaranthaceae, Moraceae, Orchidaceae	-		
	9th	14th	1	Diagnostic features and important ornamental/ economical/ medicinal species of family - Araceae	-		
	16th	21st	3	Diagnostic features and important ornamental/ economical/ medicinal species of the following families: Arecaceae, Musaceae, Commelinaceae	-		
	23rd	28th	4	A general account with special reference to Bennettitalean, Gnetalean, Caytonialean and Herbaceous origin theories; ISA-2	-		
Sept/Oct	30th	5th	4	Primitive living angiosperms; evolution of flower; co-evolution of flowers and insects.	-		
October	7th	12th	3	Terms and concepts (primitive and advanced, homology and analogy, parallelism and convergence, monophyly, Paraphyly, polyphyly and clades)	-		
	14th	19th	4	Methods of illustrating evolutionary relationship (phylogenetic tree, cladogram)	-		
	21st	22nd	2	Revision	-		

* Assessment Rubrics

Component	Max Marks
ISA 1	10
ISA 2	10
Practical	NA
Project	NA
Semester End Exam	80