

Semester Lecture Plan (Theory)

Name of the college: Government College of Arts, Science and Commerce, Sanquelim		
Name of Faculty: Sukhada A. Borker	Subject: Botany	
Paper code: BOT-303	Program/Course: T.Y. B.Sc.	Division: A
Academic Year: 2026-2027	Semester: V	Total Lectures: 15
Course Objectives: This course aims to: • Provide students with knowledge on methods and practices of field plant taxonomy and ecology, enabling them to identify and understand plant diversity under natural habitats. • Train students in field identification of plants and, collection and processing of plant specimens. • Empower them for in-field plant identification and location skills needed for biodiversity estimation, documentation, forestry, ecological studies.		
Expected Course Outcome: On completion of the course, students will be able to • Recall basics and various key concepts in field botany, methods of in field identification and collection of plant specimens. • Explain the collection and preservation procedure for plant, algae, fungi, bryophytes and pteridophytes. • Identify the plant based on its field characters. • Apply the acquired knowledge for biodiversity estimation, documentation, forestry, ecological studies.		
Student Learning Outcome: By the end of the course the students will gain • Understand the fundamental concepts, principles, and practices of field botany, including plant identification, taxonomy, ecology, and biodiversity assessment. • Identify plant species in their natural habitats using morphological characters, flora keys, field tools, and digital identification techniques. • Collect, preserve, and document plant specimens by following standard herbarium preparation and field documentation methods. • Apply field-based techniques such as GPS navigation, biodiversity assessment, phenological observations, and ecological surveys for scientific studies and conservation. • Demonstrate ethical field practices and contribute to biodiversity conservation, ecological documentation, forestry, and environmental management.		

Month	Lectures		No. of lectures allotted	Topic, Subtopic to be covered	Exercise/ Assignment	ICT Tools	Reference books
	From:	To:					
June	25/06/2026	27/006/2026	1	Module 1: Concepts in field botany: Introduction to field botany: Importance of field botany		Power point presentation / Chalk Board	Singh, G. (2021). <i>Plant Systematics: Theory and Practice</i>. 3rd Edition. CRC Press, Boca Raton, Florida, USA.
June – July - August	29/06/2026	04/07/2026	1	Field tools and their uses (hand lens, GPS devices, vasculum, plant press);		Power point presentation / Chalk Board	Singh, G. (2021). <i>Plant Systematics: Theory and Practice</i>. 3rd Edition. CRC Press, Boca Raton, Florida, USA.
	06/07/2026	11/07/2026	1	Field notes and field voucher number; safety guidelines in fieldwork; ethical considerations in plant collection.			
	13/07/2026	18/07/2026	1	Key concepts for field botany: Ecological succession and its role in shaping various terrestrial ecosystems (temperature and moisture shaping ecosystems);			
	20/07/2026	25/07/2026	1	Use of keys from flora guide books for plant identification (indented and bracketed key);			
	27/07/2026	01/08/2026	1	ISA-1 (Assignment), Handy tools for infield plant identification (based on canopy shape, leaf shapes, smell, taste, bark color/texture and patterns, online image search applications) and limitations of using them;			
August	03/08/2026	08/08/2026	1	Herbarium preparation techniques for various groups of plants; national herbariums.		Power point presentation / Chalk Board	Singh, G. (2021). <i>Plant Systematics: Theory and Practice</i>. 3rd Edition. CRC

	10/08/2026	14/08/2026	1	Field observations: Special ecological groups with two examples each: root parasites, aerial parasites, epiphytes			Press, Boca Raton, Florida, USA. Singh, HB and Subramaniam, B (2008). Field Manual on Herbarium Techniques. National Institute of Science Communication and Information Resources, CSIR, New Delhi.
	17/08/2026	22/08/2026	1	Field observations: Special ecological groups with two examples each: myco heterotrophs, mangroves, Myristica swamps			
	24/08/2026	29/08/2026	1	ISA- 2 (Written Test)			
August - September	31/08/2026	05/09/2026	1	Field observations: Special ecological groups with two examples each: sand dunes, lithophytes, lateritic plateaus		Power point presentation / Chalk Board	Singh, G. (2021). <i>Plant Systematics: Theory and Practice</i>. 3rd Edition. CRC Press, Boca Raton, Florida, USA. https://bsi.gov.in/page/en/special-and-miscellaneous-publications https://academic.oup.com/aobpla/article/12/6/plaa052/5910496
	07/09/2026	12/09/2026	1	Field observations: Special ecological groups with two examples each: aquatic plants, seaweeds and their adaptations to various environments.			
	14/09/2026	19/09/2026		Ganesh Chatruthi Break			
	21/09/2026	26/09/2026	1	Field experiments: Designing field experiments; data collection and analysis in the field; GIS and its application in field botany.			

September - October	28/09/2026	03/10/2026	1	Biodiversity assessment: Methods of assessing biodiversity in the field (Shannon index and Simpson's index);		Power point presentation / Chalk Board	Singh, G. (2021). <i>Plant Systematics: Theory and Practice</i>. 3rd Edition. CRC Press, Boca Raton, Florida, USA. https://bsi.gov.in/page/en/special-and-miscellaneous-publications https://academic.oup.com/aobpla/article/12/6/plaa052/5910496
	05/10/2026	10/10/2026	1	Biodiversity conservation strategies; ex-situ (Lead Botanical Garden) and in situ conservation.			

Assessment Rubrics

Component	Max Marks
ISA 1	05
ISA 2	05
ISA 3	-
Practical	NA
Project	NA
Semester End Exam	20