Lecture Plan

Name of the college: Government college of arts science and commerce Sanquelim-Goa

Name of Faculty: Anuja Naik	**Subject:** Botany (diversity of microbes and non-flowering plants)	
Paper code: BOT 200	**Program/Course: S.Y B.Sc.**	**Division: A**
Academic year: 2024 - 2025	**Semester:III**	**Total Lectures: 45**

Course Objectives: 1. Familiarize students with diverse groups of microbes and non-flowering plants.
2. Provide the ability to identify and classify microbes and non-flowering plant groups.
3. Impart knowledge of the morphology, life cycle, reproduction and economic importance of various microbes and non-flowering plants

Course Learning Outcome: 1. Identify and classify microbes and non-flowering plants based on their characteristic features.
2. Compare and contrast the morphological features within and between the groups for a comprehensive understanding of the basis of their classification.
3. Examine the life cycle and methods of reproduction of microbes and non-flowering plant groups.
4. Appraise the economic importance of microbes and non-flowering plants.

Month	Lectures From:	To:	No. of lectures allotted	Topic, Subtopic to be covered	Learning outcome	Exercise /Assignment	ICT Tools	Reference books
July	17/07/2024	20/07/2024	0				Power point presentation	College botany by B.P.Pandey

	21/07/2024	27/02/2021	2	Study of viruses (T-Phage, TMV) and bacteria using electron micrographs.	Students explain the structures of the viruses and bacteria.		
	28/07/24	31/07/24	2	Study of bacteria by monochrome staining and Gram staining techniques.	Students identify the gram positive and gram negative bacteria with the help of staining techniques.		
August	1/08/24	3/08/24	0				
	5/08/24	10/08/24	2	Study of bacteria by monochrome staining and Gram staining techniques.	Students identify the gram positive and gram negative bacteria with the help of staining techniques.		
	12/08/24	16/08/24	2	Study of asexual and sexual stages of Mucor and Aspergillus (temporary mounts / permanent slides).	Students identify sexual stages of Mucor and Aspergillus.		
	19/08/24	23/08/24	2	Study of Agaricus basidiocarp (button and mature stage); cross-section through gills to locate basidiospores.	Students develop the skill of taking fine sections and study the Agaricus basidiocarp sopres.		

	26/08/24	31/08/24	2	Study of different types of lichen thalli (crustose, foliose and fruticose). Study of endomycorrhizae using trypan blue staining method. b. Study of ectomycorrhizae (permanent slides or photographs).	Students identify the different types of thalli in lichens. Students identify endo and ectomycorrhizal hyphae, vesical and harting net.			
	2/09/24	7/09/24	2	Morphology of thallus and reproductive structures of Nostoc, Spirogyra, Sargassum and Polysiphonia (fresh or preserved specimens / permanent slides).	Students explains the Morphology of thallus and reproductive structures of Nostoc, Spirogyra, Sargassum and Polysiphonia			
	09/09/24	14/09/24	0					
September	16/09/24 23/09/24	21/09/24 28/09/24	0 2	Morphology of thallus and sporophyte of Riccia, Anthoceros and Funaria (fresh or preserved specimens / permanent slides).	Students explain the Morphology of thallus and sporophyte of Riccia, Anthoceros and Funaria			
	30/09/24	30/09/24	2	Morphology of thallus and sporophyte of Riccia, Anthoceros	Students explain the Morphology of thallus and sporophyte of			

				and Funaria (fresh or preserved specimens / permanent slides).	Riccia, Anthoceros and Funaria			
October								
	1/10/24	5/10/24	0					
				Morphology and reproductive structures of Psilotum, Equisetum and Pteris (fresh or preserved specimens / permanent slides).	Students understand and explains the Morphology and reproductive structures of Psilotum, Equisetum and Pteris			
	7/10/24	12/10/24	2					
				Morphology of Selaginella and L.S. of its strobilus.	Students understand and explain the Morphology of Selaginella and L.S. of its strobilus			
	14/10/24	19/10/24	2					
	21/10/24	22/10/24	2	Morphology and reproductive structures (male and female cones) of Cycas, Pinus and Gnetum (fresh / preserved specimens).	Students understand and explain the Morphology and reproductive structures of Cycas, Pinus and Gnetum			