Swami Shraddhanand College
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Lesson Plan

Name of Teacher	Dr. Narendra Sharma Dr. Isha Gunwal	**Department**	Botany
Course	**B.Sc. (H)**	**Semester**	I
Paper	Plant Diversity and Evolution	**Academic Year**	2023-2024

Learning Objectives

To make students aware about the diversity of plants and microbes present on the planet and how are they possibly related to each other in light of evolution.

Learning Outcomes

This course will be able to impart basic knowledge and understanding of:

- **The diversity of plants and microbes**
- **Their general characteristics**
- **Various groups of plants and their evolutionary relationships**
- **Basic principles and concepts of evolution that contribute to plant diversity**

Lesson Plan	
Week No.	Theme/ Curriculum
1.	Unit1: Origin of life Hours: Principles and concepts of evolution (Narendra Sharma) Unit6: Bryophytes: General characteristic features and reproduction, adaptation to land habit (Isha Gunwal)
2	Unit1: Origin of life: Principles and concepts of evolution (Narendra Sharma) Unit6: Broad classification, evolutionary trends in Bryophytes. Brief account of Marchantia, Funaria (Isha Gunwal)
3	Unit1: Tree of Life, and classification (upto six kingdoms) (Narendra Sharma) Unit6: Brief account of Marchantia, Funaria (Isha Gunwal)
4	Unit2: Bacteria: General characteristic features, cell structure and Asexual reproduction (Narendra Sharma) Unit7: Pteridophytes: General characteristic features and reproduction, broad classification (Isha Gunwal)
5	Unit2: Modes of gene transfer (conjugation, transformation and transduction) and Brief introduction to Archaebacteria. (Narendra Sharma) Unit7: Evolutionary trends in Pteridophytes, affinities with Bryophytes. (Isha Gunwal)
6	Unit3: Viruses: General characteristic features, replication. (Narendra Sharma) Unit7: Brief account of Adiantum, Selaginella. (Isha Gunwal)
7	Unit3: RNA virus (structure of TMV), DNA virus (structure of T-phage) (Narendra Sharma) Unit8: Gymnosperms: General characteristic features and reproduction (Isha Gunwal)
8	Unit3: Lytic and Lysogenic life cycle (Lambda phage). (Narendra Sharma) Unit8: Broad classification, evolutionary trends in Gymnosperm (Isha Gunwal)
9	Unit4: Algae: General characteristic features, cell structure (Narendra Sharma)

	Unit8: Affinities with Pteridophytes. Brief account of Gnetum, Ephedra. (Isha Gunwal)
10	Unit4: Range of thallus (Narendra Sharma) Unit9: Angiosperms: General characteristic features (Isha Gunwal)
11	Unit4: Methods of reproduction and evolutionary classification (only upto groups) and Brief account of Spirogyra, Sargassum. (Narendra Sharma) Unit9: Reproduction in Angiosperms (Isha Gunwal)
12	Unit5: Fungi: General characteristic features, reproduction and broad classification. Unit9: Concept of natural, artificial and phylogenetic system of classification. (Isha Gunwal)
13	Unit5: Myxomycetes and their similarities with fungi, plants and animals (Narendra Sharma) Unit9: Affinities with Gymnosperms (Isha Gunwal)
14	Unit5: Brief account of Rhizopus, Agaricus. Introduction to lichens. (Narendra Sharma) Revision: Isha Gunwal
15	Test: As per college schedule
Suggested Readings	
Books	•Pelczar,M.J.(2001).Microbiology,5thedition.NewDelhi,Delhi:TataMcGraw-HillCo. • Puri,P.(1985).Bryophytes.NewDelhi,Delhi,AtmaRam andSons. •Sethi,I.K.andWalia,S.K.(2018).TextbookofFungiandTheirAllies.(2ndEdition), Medtech Publishers, Delhi. •Tortora,G.J.,Funke,B.R.,Case.C.L.(2007).Microbiology.SanFrancisco,U.S.A:Pearson Benjamin Cummings. •Vashishta,P.C.,Sinha,A.K.,Kumar,A.(2010).Pteridophyta.NewDelhi,Delhi:S.Chand &Co Ltd.
Online Resources (If Any)	
Assignment and Class Test Schedule for Semester **Assignments: Submission by 10th November 2023**	

Class Test: On the date as notified by the College