

Govt. College for Women, Lakhan Majra
Lesson Plan (2021-22) Odd Semester

Name of the teacher: **Ms. Sonali**

Subject: **Botany: Plant physiology (BOT 5.1)**

Class: **B.Sc. (Med.) 5th Semester (Paper 1 & 2)**

Theory

Sr. No.	Month	Topic
1	October	Plant-Water Relations & Transpiration; Introduction to Ecology. Assignment: Sustainable Development Class Test
2	November	Micronutrients; Transport of Organic Substances. Photosynthesis: Significance; Photosynthetic Pigments; Action spectra and Enhancement effect; Concept of two photosystems; Z-Scheme; Photophosphorylation; Calvin Cycle; C4 & CAM cycle. Assignment: Plant Pigments; Carbon Concentrating Mechanism in plants Class Test
3	December	Photorespiration; Phytochromes; Plant hormones; Growth and development; Seed Dormancy; Plant movements; Photoperiodism; Flowering; Senescence; Fruit ripening. Abiotic & Biotic factors. Assignment: Plant hormones; Plant movements Class Test
4	January	Population Ecology & Community Ecology. Ecosystem structure & function; Biogeochemical cycles; Phytogeography; Environment Pollution; Global warming; Ozone depletion; Biomagnification. Assignment: Vegetation of Geographical Zones of India; Pollution Class Test

Practical

Sr. No.	Month	Topic
1	October	Demonstration of Imbibition, Osmosis, Transpiration.
2	November	Plant Pigments; Characteristics of Hydrophytes, Xerophytes
3	December	Demonstration of Plant movements Collection of Hydrophytes.
4	January	Collection of Xerophytes Quadrat Method for studying vegetation.

Ms. Sonali
Assistant Professor
GCW, Lakhan Majra

Govt. College for Women, Lakhan Majra
Lesson Plan (2021-22) Odd Semester

Name of the teacher: Ms. Sonali

Subject: Botany – Diversity of Microbes (BOT 1.1)

Class: B.Sc. (Med.) 1st Semester (Paper 1)

Theory

Sr. No.	Month	Topic
1	October	Algae: General characters; Economic Importance. Type study: <i>Volvox</i> . Assignment: Economic Importance of <i>Volvox</i> Class test
2	November	Algae: <i>Oedogonium</i> ; <i>Vaucheria</i> ; <i>Ectocarpus</i> ; <i>Polysiphonia</i> . Assignment: Algal bloom Class test
3	December	Fungi: General features; <i>Phytophthora</i> ; <i>Mucor</i> ; <i>Penicillium</i> ; <i>Puccinia</i> ; <i>Agaricus</i> ; <i>Colletotrichum</i> ; Economic Importance. Assignment: Plant diseases caused by Fungi Class test
4	January	Bacteria; Cyanobacteria; Virus; Lichens. Assignment: Plant diseases caused by Bacteria & Virus Class test

Practical

Sr. No.	Month	Topic
1	October	Slides of <i>Volvox</i>
2	November	Slides of <i>Oedogonium</i> ; <i>Vaucheria</i> ; <i>Ectocarpus</i> ; <i>Polysiphonia</i>
3	December	Slides & Specimen of <i>Phytophthora</i> ; <i>Mucor</i> ; <i>Penicillium</i> ; <i>Puccinia</i> ; <i>Agaricus</i> ; <i>Colletotrichum</i>
4	January	Slides of Bacteria; Cyanobacteria; Virus. Specimen of Lichens

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GCW, Lakhan Majra

Name of Teacher: **Surender Kumar**

B.Sc. Botany SEMESTER-I

PAPER CODE: BOT. 1.2

PAPER –II CELL BIOLOGY

October -2021

The Cell Envelopes: Structure and functions of Cell Wall, Plasma Membrane, various models of plasma membrane , Golgi Apparatus, Endoplasmic Reticulum, Lysosomes, Peroxisomes and Vacuoles

November,2021

Ultra-structure and function: Chloroplast, Mitochondria, semiautonomous entity, their DNA, Nucleus, envelope and Nucleolus

Chromosome: Morphology, ultra-structure - kinetochore, centromere and telomere, shape etc

December,2021

Cell Cycle: General account

Cell Division: Mitosis and Meiosis - Stages and Significance, crossing over, important events in plant and animal cell.

January 2022

Chromosomal aberrations: Structural and Numerical - deletions, duplications, translocations, inversions, aneuploidy, polyploidy

Sex chromosomes and Sex determination in Plants

Name of Teacher: Surender Kumar

B.Sc. Botany
SEMESTER-III
PAPER CODE: BOT. 3.1

Paper -I BIOLOGY AND DIVERSITY OF SEED PLANTS –I

October, 2021

General characters, origin and evolution of Gymnosperms
Geological Time Table; Evolution of Seed Habit.
Pilger and Melchior's (1954) system of classification of Gymnosperms.

Palaeobotany- Fossils and Fossilization (Process involved, types of fossils and importance of fossils);

Reconstruction of the following fossil plants:

Lyginopteris

Williamsonia

Cycadeoidea (= *Bennettites*)

November, 2021

Morphology and anatomy of root, stem, leaf/leaflet and reproductive parts including mode of reproduction, life-cycle and economic importance of following plants:

Cycas

Pinus

Morphology and anatomy of root, stem, leaf/leaflet and reproductive parts including mode of reproduction, life-cycle and economic importance of *Ephedra*

Economic importance of Gymnosperms

General characters, origin and evolution of Angiosperms

Name of Teacher: Surender Kumar

**B.Sc. Botany
SEMESTER-
III**

**PAPER CODE: BOT. 3.2
PAPER-II PLANT ANATOMY**

December,2021

Tissues - meristematic and permanent (simple, complex and secretory)

Tissue systems (Epidermal, ground and vascular)

The Shoot system - shoot apical meristem and its histological organizations.

Cambium - structure and functions.

Secondary growth in dicot stem; characteristics of growth rings; sap wood and heart wood, periderm;

Anomalous secondary growth (*Dracaena*, *Boerhaavia* and *Achyranthes*)

January.2022

Leaf: Types of leaves (simple and compound); phyllotaxy.

Epidermis-uniseriate and uliseriate, epidermal appendages and their morphological types.

Anatomy of typical Monocot and Dicot leaf and cell inclusions in leaves, leaf abscission, Stomatal apparatus and their morphological types

Root apical meristem; histological organization Secondary growth in dicot root.

Structural modifications in roots: Storage (*Beta*), Respiratory (*Rhizophora*), Epiphytic (*Vanda*).