

DEPARTMENT OF BOTANY

WEEK WISE LESSON PLAN, Odd Semester 2022-2023

Name of Teacher : Shilpa Dhiman

Class and Section: B. Sc. MEDICAL, Ist Semester

Subject: BOTANY (Paper II)

Week wise Lesson Plan for the month September 2022


Weeks	Topics
Week 2	Syllabus discussion Introduction to Cell biology
Week 3	Structure and functions of cell wall Chemical composition
Week 4	Structure and functions of plasma membrane ( including various structural models )
Week 5	Structure and Functions of Nucleus, Golgi apparatus Audio /video demonstration of Cell wall and membrane . Class Test

Week wise Lesson Plan for the month October 2022

Week	Topics
Week 2	Structure and Functions of Chloroplast Structure and functions of Endoplasmic Reticulum
Week 3	Structure and functions of Lysosomes .Peroxisomes Structure and functions of Mitochondria
Week 4	Introduction to cell division and different types, Seminar / power point presentation
Week 5	Mitosis ( different stages ) Importance of Mitosis

Week wise Lesson Plan for the month November 2022

Week	Topics
Week 1	Meiosis ( different stages ) Importance of Meiosis
Week 2	Morphology and organization of chromosomes Ultrastructure of Centromere and Telomere

  
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<b>Week 3</b>	Structural chromosomal alterations 1. Deletions (types and effects) 2. Duplications (types and effects)
<b>Week 4</b>	Class test/ Audio video demonstration Diwali vacations
<b>Week 5</b>	3. Translocations (types and effects) 4. Inversions (types and effects)

**Week wise Lesson Plan for the month December 2022**

<b>Week</b>	<b>Topics</b>
<b>Week 2</b>	Numerical alterations (variations in chromosome number) 1. Aneuploidy (types and effects) 2. Polyploidy (types and effects)
<b>Week 3</b>	Sex determination and sex chromosomes Audio/video demonstration of chromosome alterations
<b>Week 4</b>	Revision
<b>Week 5</b>	Examinations

DEPARTMENT OF BOTANY

WEEK WISE LESSON PLAN, Odd Semester 2022-2023

Name of Teacher: Shilpa Dhiman

Class and Section: B. Sc. MEDICAL, 3<sup>rd</sup> Semester

Subject: BOTANY (Paper II)

Week wise Lesson Plan for the month September 2022


Weeks	Topics
Week 1	Introduction to Syllabus Diversity in plant forms-annuals, biennials and perennials
Week 2	Tissues-meristematic and permanent (simple and complex)
Week 3	The Shoot system-shoot apical meristem and its histological organizations Monocot and Dicot stem
Week 4	sap wood and heart wood, Periderm
Week 5	Anomalous secondary growth 1. Dracaena 2. Boerhaavia 3. Achyranthes

Week wise Lesson Plan for the month October 2022

Week	Topics
Week 2	Cambium-structure and function Class test audio video demonstration
Week 3	Secondary growth in dicot stem characteristics of growth rings
Week 4	Leaf-Types of leaves (simple and compound);
Week 5	Phyllotaxy Epidermis-uniseriate and multiseriate.

Week wise Lesson Plan for the month November 2022

Week	Topics
Week 1	Epidermal appendages and their morphological types
Week 2	Anatomy of typical Monocot and Dicot leaf and cell inclusions in leaves

  
8/4/22

<b>Week 3</b>	Leaf abscission. Stomatal apparatus and their morphological types
<b>Week 4</b>	Class test/ Audio video demonstration , Diwali vacations

**Week wise Lesson Plan for the month December 2022**

<b>Week</b>	<b>Topics</b>
<b>Week 1</b>	Root system- the root apical meristem:
<b>Week 2</b>	Histological organization (monocot and dicot root
<b>Week 3</b>	Secondary growth in dicot root Structural modifications in roots- storage (Beta), Respiratory (Rhizophora), Epiphytic (Vanda)
<b>Week 4</b>	Revision
<b>Week 5</b>	Examinations

## DEPARTMENT OF BOTANY

### WEEK WISE LESSON PLAN Even Sem 2022-23

Class and Section: B. Sc. MEDICAL, 2<sup>nd</sup> Semester, Subject: BOTANY (PAPER II)

#### Week wise Lesson Plan for the month FEBRUARY, 2023

Weeks	Topics
Week 2	Introduction to Genetics DNA the genetic material
Week 3	DNA structure and Replication DNA-Protein interaction
Week 4	Nucleosome model and Genetic Code Satellite and repetitive DNA
Week 5	Class test Audio Video Demonstration

#### Week wise Lesson Plan for the month MARCH 2023

Week	Topics
1	Mendelism: Law of Segregation and independent assortment Class test and audio/video demonstration
2	Linkage analysis Allelic and non-allelic interaction
3	Mutations : spontaneous and induced Transposable genetic elements
4	Process of DNA damage and Repair Ribosomes
5	Modern Concept of Gene Structure , functions and types of RNA

#### Week wise Lesson Plan for the month APRIL 2023

Week	Topics
Week 2	Transfer of genetic information Transfer of genetic information (Transcription)
Week 3	Class test/ Seminar Transfer of genetic information ( Translation or protein synthesis)
Week 4	Regulation of gene expression in prokaryotes Operon Model ( Lac operon)

  
8/4/23

<b>Week 5</b>	Regulation of gene expression in Eukaryots Audio/video demonstration of topic, class test
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**Week wise Lesson Plan for the month MAY 2023**

<b>Week</b>	<b>Topics</b>
<b>Week 1</b>	Structure of Proteins- 1D,2-D and 3-D Plasmids
<b>Week 2</b>	Structure and function of Mitochondrial DNA
<b>Week 3</b>	Structure and function of Plasmid DNA
<b>Week 4</b>	Revision of the whole syllabus <ul style="list-style-type: none"> <li>• Through audio-visual practice</li> <li>• Specimen and slide study</li> <li>• Group discussion</li> <li>• Seminars and power point presentations</li> <li>• Oral and written tests</li> </ul>

## DEPARTMENT OF BOTANY

Class and Section: **B. Sc. MEDICAL, 4<sup>th</sup> Semester, Subject: BOTANY( Paper II)**

### Week wise Lesson Plan for the month FEBRUARY 2023

Weeks	Topics
Week 1	Introduction to Plant Embryology
Week 2	Structure of flower and its various floral parts Flower as modified shoot
Week 3	Process of microsporogenesis Pollen grain and its structure
Week 4	Pollen pistil interaction Self incompatibility .Pollination and its various types

### Week wise Lesson Plan for the month MARCH

Week	Topics
1	Pollen germination or microgametogenesis Male gametophyte
2	HOLI HOLIDAYS 5-12 MARCH
3	Structure of megasporangium and various types of ovules
4	Megasporogenesis and megagametogenesis Structure of female gametophyte
5	Double fertilization Endosperm and its importance

### Week wise Lesson Plan for the month APRIL

Week	Topics
Week 1	Class Test / Audio video demonstration
Week 2	Structure of female gametophyte
Week 3	Double fertilization Endosperm and its importance



<b>Week 4</b>	Types of endosperm Embryogenesis in dicots
<b>Week 5</b>	Embryogenesis in monocots Polyembryony, Class test

**Week wise Lesson Plan for the month MAY**

<b>Week</b>	<b>Topics</b>
<b>Week 1</b>	Structure of monocot seed Class Test Assignments
<b>Week 2</b>	Structure of dicot seed Fruit and its various types Dispersal mechanisms in fruits
<b>Week 3</b>	Dispersal mechanisms in seeds
<b>Week 4</b>	Revision of the whole syllabus <ul style="list-style-type: none"> <li>• Through audio-visual practice</li> <li>• Specimen and slide study</li> <li>• Group discussion</li> <li>• Seminars and power point presentations</li> <li>• Oral and written tests</li> </ul>