

**Lesson Plan**  
**Even Semester (Feb.-May 2023)**

**Name of Teacher :- Dr. komal**

**Class and Section :- B.Sc. 2<sup>nd</sup> semester**

**Subject Name and Code :- Paper-I :diversity of Archegoniates ,Paper-II : Genetics**

1.	<b>01 Feb to 15 Feb</b>	General characters, classification (upto classes), alternation of generations, structure and reproduction (excluding development) of Marchantia (Hepaticopsida).
2.	<b>16 Feb to 28 Feb</b>	Genetic Material: DNA the genetic material, DNA structure and replication,DNA-Protein-interaction, the Nucleosome Model, Genetic Code, Satellite and Repetitive DNA.
3.	<b>01 March to 15 March</b>	General characters, classification (upto classes), alternation of generations, structure and reproduction (excluding development) of, Anthoceros (Anthocerotopsida), Funaria (Bryopsida).
4.	<b>16 March to 31 March</b>	Genetic Inheritance: Mendelism: Laws of segregation and Independent Assortment, LinkageAnalysis, Allelic and non-allelic interactions. <b>Test-1 and Assignment-1</b>
5.	<b>01 April to 15 April</b>	General characters, classification (upto classes), alternation of generations, structure and reproduction (excluding development) of Rhynia (Psilopsida), Selaginella (Lycopsida), Equisetum (Sphenopsida) and Pteris (Pteropsida) Genetic Variations: Mutations- spontaneous and induced; transposable genetic elements; DNA damage and repair
6.	<b>16 April to 30 April</b>	Gene Expression: Modern concept of gene; RNA; Ribosomes, transcription and translation (Protein Synthesis); regulation of gene expression in prokaryotes and eukaryotes; 1-D, 2-D and 3-D structure of Proteins. <b>Test-2 and Assignment-2</b>
7.	<b>01 May to 15 May</b>	General characters, classification (upto classes), alternation of generations, structure and reproduction of Equisetum (Sphenopsida)

		and Pteris (Pteropsida) Test and Revision
<b>8.</b>	<b>16 May to 26 May</b>	Extra Nuclear Inheritance: Presence and function of Mitochondrial and Plastid DNA; Plasmids.

**Lesson Plan**  
**Even Semester (Feb.-May 2023)**

**Name of Teacher :- Dr. komal**

**Class and Section :- B.Sc. 4th semester**

**Subject Name and Code :-PAPER –I BIOLOGY AND DIVERSITY OF SEED PLANTS-II, PAPER-II  
PLANT EMBRYOLOGY**

<b>1.</b>	<b>01 Feb to 15 Feb</b>	Taxonomy and Systematics, Fundamental components of taxonomy (identification, classification, description, nomenclature and phylogeny).
<b>2.</b>	<b>16 Feb to 28 Feb</b>	Flower-a modified shoot; functions of various floral parts. Microsporangium, its wall and dehiscence mechanism. Microsporogenesis, pollen grains and its structure (pollen wall).
<b>3.</b>	<b>01 March to 15 March</b>	Role of chemotaxonomy, cytotaxonomy and taxometrics in relation to taxonomy. Botanical Nomenclature, principles and rules, principle of priority. Pollen-pistil interaction; self incompatibility. Pollination (types and agencies); pollen germination (microgametogenesis).
<b>4.</b>	<b>16 March to 31 March</b>	Male gametophyte, Type concept, taxonomic ranks. Keys to identification of plants. Flower and Types of Inflorescence. <b>Test-1, practicals,Local visit for collection of flora ,Assignment-1</b>
<b>5.</b>	<b>01 April to 15 April</b>	Salient features of the systems of classification of angiosperms proposed by Bentham & Hooker and Engler & Prantl. Assignment. Structure of Megasporangium (ovule), its curvatures; Megasporeogenesis and Megagametogenesis. . Female gametophyte (mono-, bi- and Tetrasporic).Assignment -2
<b>6.</b>	<b>16 April to 30 April</b>	Double fertilization. Endosperm types and its biological importance ,Diversity of Flowering Plants: Diagnostic features and economic importance of the following families:

		Ranunculaceae, Brassicaceae, Malvaceae.
7.	<b>01 May to 15 May</b>	Embryogenesis in Dicot and Monocot; polyembryony. Structure of Dicot and Monocot seed. Fruit types; dispersal mechanisms in fruits and seeds. Euphorbiaceae, Rutaceae, Leguminosae, Apiaceae, Asclepiadaceae, Lamiaceae, Solanaceae, Asteraceae, Liliaceae and Poaceae.  <b>Test-2 ,Assignment -2</b>
8.	<b>16 May to 26 May</b>	Herbarium and Herbarium Report, Embryogenesis in Dicot and Monocot; polyembryony. Structure of Dicot and Monocot seed. Fruit types; dispersal mechanisms in fruits and seeds.  Euphorbiaceae, Rutaceae, Leguminosae, Apiaceae, Asclepiadaceae, Lamiaceae, Solanaceae, Asteraceae, Liliaceae and Poaceae

**Lesson Plan**  
**Even Semester (Feb.-May 2023)**

**Name of Teacher :- Dr. komal**

**Class and Section :- B.Sc. 6th semester**

**Subject Name and Code :-Paper – I Biochemistry and Plant Biotechnology, Paper – II  
Economic Botany**

<b>1.</b>	<b>01 Feb to 15 Feb</b>	Basics of Enzymology: Discovery and nomenclature; characteristics of enzymes; concept of holoenzyme, Apoenzyme, coenzyme and co-factors; regulation of enzyme activity; mechanism of action.
<b>2.</b>	<b>16 Feb to 28 Feb</b>	Origin, distribution, botanical description, brief idea of cultivation and uses of the following: Food plants- Cereals (Rice, Wheat and Maize).
<b>3.</b>	<b>01 March to 15 March</b>	Growth and development: Definitions; phases of growth and development; Plant hormones- auxins, gibberellins, cytokinins, abscissic acid and ethylene, history of their discovery, mechanism of action.
<b>4.</b>	<b>16 March to 31 March</b>	Vegetables- (Potato, Tomato and Onion). Fibers- Cotton, Jute and Flax. Oils- Groundnut, Mustard and Coconut. <b>Assignment- I, Test-I</b>
<b>5.</b>	<b>01 April to 15 April</b>	Lipid metabolism, Morphology of plant part used, brief idea of cultivation and uses of the following: Spices- Coriander, Ferula, Ginger, Turmeric, Cloves.
<b>6.</b>	<b>16 April to 30 April</b>	Nitrogen metabolism, Medicinal Plants- Cinchona, Rauwolfia, Atropa, Opium, Cannabis, Neem. Pulses- (Gram, Arhar and Pea). <b>Test-2, Assignment-2</b>

7.	01 May to 15 May	Genetic engineering and Biotechnology Botanical description and processing of: Beverages- Tea and Coffee. Rubber- Hevea. Sugar- Sugarcane.
8.	16 May to 26 May	plant tissue culture ,General account and sources of timber; energy plantations and bio-fuels.

**Note:-**

The teaching of topics to the students on the dates/days mentioned in the above lesson plan may not be exactly followed and may have little variations/fluctuations because of some unforeseen circumstances. For example: various Functions/Activities organized by the College (*Musical Meet, Blood Donation, Important Days Celebrations, Co-Curricular/Extra-curricular Activities etc.*), Response of Students in the Class, Request of Students for Repetition of some specific Topics, Unpredicted Leaves, Restricted Holidays etc.

**Students can ask any query on my E-Mail ID also**

➤ E-Mail:

➤