

## Lesson Plan

### Odd Semester (Aug.-Dec. 2024)

Name of Teacher :- DR. KOMAL

Class and Section :- B.Sc. Botany

Subject Name and Code :- Diversity of Microbes, Algae, Fungi and Archegoniates

1.	22 July to 01 Aug  01 Aug to 15 Aug	<p><b>Bacteria , general account of cyanobacteria, General characters of algae, classification and economic importance</b></p> <p><b>Important features and economic importance of Volvox, Vaucharia ,Ectocarpus, polysiphonia ,General characters of viruses including structure of TMV and bacteriophage</b></p>
2.	15 Aug to 31 Aug	<p><b>Fungi: General characters, Introductory classification; economic importance; and life-history of Phytophthora, (Mastigomycotina), Penicillium (Ascomycotina), Puccinia (Basidiomycotina)</b></p> <p><b>Class test</b></p>
3.	01 Sep to 15 sep	<p><b>Colletotrichum (Deuteromycotina), General account of Lichens, types, ecological and economic importance.</b></p> <p><b>Bryophyta: Bryophytes: General characteristics, classification upto classes (Smith, 1935), alternation of generations, structure and reproduction (excluding development) of Marchantia (Hepaticopsida)</b></p> <p><b>Assignment- 1</b></p>
4.	16 Sep. to 30 Sep.	<p><b>Anthoceros (Anthocerotopsida), Funaria (Bryopsida), ecological and economic importance of bryophytes.</b></p> <p><b>Assignment-2</b></p> <p><b>Class test</b></p>
5.	01 oct. to 15 oct.	<p><b>Pteridophyta: General characters, classification upto classes (A. R. Smith, 2006), structure and reproduction (excluding development) of Rhynia (Psilopsida)</b></p> <p><b>Structure and reproduction (excluding development) of Selaginella (Lycopsida)</b></p>
6.	15 oct. to 26 oct.	<p><b>Equisetum (Sphenopsida) and Pteris (Pteropsida). heterospory and seed habit, stelar evolution; Ecological and economic importance. Distribution and economic importance; General account of paleobotany and Geological time scale.</b></p>

7.	04 Nov. to 09 nov.	Gymnosperms: General characteristics, classification up to classes (Smith 1955), morphology, anatomy and reproduction of <i>Cycas</i> , <i>Pinus</i>
8.	10 Nov. to 15 Nov.	<i>Ephedra</i> (developmental details not to be included) Class test revision

**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: [gccbotany2021@gmail.com](mailto:gccbotany2021@gmail.com)

# Lesson Plan

## Odd Semester (Aug.-Dec. 2024)

**Name of Teacher :- DR. KOMAL**

**Class and Section :- B.Sc. Botany**

**Subject Name and Code :- Plant Physiology**

1.	22 July to 01 Aug  01 Aug to 15 Aug	Plant water relations: absorption, water potential and transpiration; role of micro and macro nutrients.  Photosynthesis, Respiration
2.	15 Aug to 31 Aug	Biosynthesis, mechanism of action and uses of auxin, gibberellin, cytokinin, abscisic acid, ethylene
3.	01 Sep to 15 sep	Lipid metabolism and Nitrogen metabolism
4.	16 Sep. to 30 Sep.	Structure, function and mechanisms of action of phytochromes; stomatal movement
5.	01 oct. to 15 oct.	photoperiodism and biological clocks; mechanism of flowering Assignment
6.	15 oct. to 26 oct.	Concepts of plant growth; factors affecting germination and dormancy of seeds

7.	04 Nov. to 15 Nov.	<b>physiological and biochemical changes associated with senescence and abscission.</b> <b>Revision</b>
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# Lesson Plan

## Odd Semester (Aug.-Dec. 2024)

Name of Teacher :- DR. KOMAL

Class and Section :- B.Sc. 5<sup>th</sup> semester

Subject Name and Code :- Plant physiology and Ecology

1.	22 July to 01 Aug  01 Aug to 15 Aug	Plant-water Relations: Importance of water to plant life; physical properties of water, Imbibition, Diffusion, Osmosis and Plasmolysis; Absorption and transport of water  Transpiration-types, physiology of stomata, factors affecting transpiration, importance of transpiration.
2.	15 Aug to 31 Aug	Introduction to Ecology: Definition; scope and importance; levels of organization. Environment: Introduction; environmental factors- climatic (water, humidity, wind, light, temperature), edaphic (soil profile, physico-chemical properties),
3.	01 sep to 15 sep	Mineral Nutrition: Essential macro and micro elements and their role; mineral uptake, deficiency symptoms. Transport of Organic Substances: Mechanism of phloem transport, source-sink relationship; factors affecting translocation
4.	16 sep. to 30 sep.	Topographic and biotic factors (species interaction). Adaptations of plants to water stress and salinity (morphological and anatomical features of hydrophytes, xerophytes and halophytes).
5.	01 oct. to 15 oct.	Photosynthesis: Significance; historical aspects; photosynthetic pigments; action spectra and enhancement effects, concept of two photosystems; Z-scheme; photo-phosphorylation; Calvin cycle; C4 pathway; CAM plants, photorespiration.  Assignment-1 Test for Internal assessment
6.	15 oct. to 26 oct.	Population Ecology: Basic concept, characteristics; biotic potential, growth curves, ecotypes and ecads. Community Ecology: Concepts; characteristics (qualitative and quantitative-analytical and synthetic), methods of analysis Ecological succession. Ecosystem: Structure (components) and functions (trophic levels, food chains, food webs, ecological pyramids and energy flow).

7.	04Nov. to 09 Nov.	<b>Respiration: ATP–the biological energy currency; aerobic and anaerobic respiration, Krebs cycle, electron transport mechanism (chemi-osmotic theory), redox -potential, oxidative phosphorylation, pentose phosphate pathway. Seed dormancy, plant movements, the concept of photoperiodism, physiology of flowering; florigen concept; physiology of senescence, fruit ripening.</b>  <b>Assignment- 2</b>  <b>Test for internal Assessment</b>
8.	10 Nov. to 15 Nov.	<b>Phyto-geographyEnvironmental Pollution</b>  <b>Global Change: Greenhouse effect and greenhouse gases, impacts of global warming, carbon trading.</b>  <b>Assignment-2</b>  <b>Revision</b>

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