

LESSON PLAN

Session: 2024-25

Class: B.Sc. 1st Sem

Paper: Diversity of Microbes, Algae, Fungi and Archegoniates Paper code: B23-BOT-101

Name of the faculty: Mrs. Deepika Sharma & Ms. Nishi Dhiman

Month	Week	Topics to be covered
July	22.07.24-27.07.24	Introduction about Microbes, Algae, Fungi and Archegoniates
	29.07.24-31.07.24	Bacteria: Structure, nutrition, reproduction and economic importance.
August	01.08.24-03.08.24	Viruses: General account of Viruse including structure of TMV and Bacteriophages.
	05.08.24-10.08.24	Algae: General characters, Introductory classification; economic importance
	12.08.24-17.08.24	life cycle (excluding development) of Nostoc (Cyanophyceae). Volvox, (Chlorophyceae), Vaucheria (Xanthophyceae),
	19.08.24-24.08.24	Ectocarpus (Phaeophyceae) and Polysiphonia (Rhodophyceae).
	26.08.24-2.09.24	Fungi: General characters, Introductory classification; economic importance
September	04.09.24-09.09.24	life-history of Phytophthora (Mastigomycotina), Penicillium (Ascomycotina)
	11.09.24-16.09.24	Puccinia (Basidiomycotina), Colletotrichum (Deuteromycotina).
	18.09.24-23.09.24	General account of Lichens, types, ecological and economic importance.
	25.09.24-30.09.24	Bryophyta: Bryophytes: General characteristics,
October	02.10.23-07-10.24	Bryophyta: classification upto classes (Smith, 1935), alternation of generations.
	09.10.24-14.10.24	Structure and reproduction (excluding development) of Marchantia (Hepaticopsida), Anthoceros (Anthocerotopsida),
	16.10.24-21.10.24	Structure and reproduction (excluding development) of Funaria (Bryopsida),

		Pteridophyta: General characters, classification upto classes (A. R. Smith, 2006).
	23.10.24-26.10.24	Structure and reproduction (excluding development) of Rhynia (Psilopsida): Structure and 11 12 reproduction (excluding development) of Selaginella (Lycopsida), Equisetum (Sphenopsida) and Pteris (Pteropsida). heterospory and seed habit, stelar evolution; Ecological and economic importance.
Vacations	27.10.24-3.11.24	Diwali Vacations
November	4.11.24-22.11.24	Gymnosperms: General characteristics, classification up to classes (Smith 1955) Distribution and economic importance; General account of paleobotany and Geological time scale.
	25.11.2024-21.12.24	Examinations

LESSON PLAN

Session: 2024-25

Class: B.sc 3rd Sem

Paper: Plant Physiology

Paper Code: B23-BOT-301

Name of the faculty: Deepika Sharma & Ms. Nishi Dhiman

Month	Week	Topics to be covered
July	22.07.24-27.07.24	Imbibition, Diffusion, Osmosis and Plasmolysis
	29.07.24-31.07.24	Absorption and transport of water;
August	01.08.24-03.08.24	transpiration-types, physiology of stomata, factors affecting transpiration, importance of transpiration.
	05.08.24-10.08.24	Essential macro and micro elements and their role;
	12.08.24-17.08.24	Photosynthesis: Significance; historical aspects
	19.08.24-24.08.24	photosynthetic pigments; action spectra and enhancement effects;
	26.08.24-2.09.24	concept of two photosystems; Z-scheme; photo-phosphorylation;
September	04.09.24-09.09.24	Calvin cycle; C4 pathway;CAM Cycle
	11.09.24-16.09.24	Respiration: ATP–the biological energy currency; aerobic and anaerobic respiration
	18.09.24-23.09.24	Krebs cycle; electron transport mechanism (chemi-osmotic theory); redox -potential; oxidative phosphorylation
	25.09.24-30.09.24	Seed dormancy; plant movements; the concept of photoperiodism; physiology of flowering; florigen concept; physiology of senescence; fruit ripen
October	02.10.23-07-10.24	Biosynthesis, mechanism of phytochrome, stomatal movement
	09.10.24-14.10.24	Photoperiodism & biological clock
	16.10.24-21.10.24	Biosynthesis & Mechanism of Auxin, Gibberlins
	23.10.24-26.10.24	ABA, Ethylene, Lipid metabolism. Nitrogen Metabolism
Vacations	27.10.24-3.11.24	Diwali Vacations
November	4.11.24-22.11.24	Revision from previous yr.papers
	25.11.2024-21.12.24	Examinations

LESSON PLAN

Session: 2024-25

Class: B.Sc. 5th Sem

Paper: Plant Physiology

Paper Code: Bot-301

Name of the faculty: Deepika Sharma

Month	Week	Topics to be covered
July	22.07.24-27.07.24	Introduction of Syllabus
	29.07.24-31.07.24	Plant-water Relations:
August	1.08.24-03.08.24	Importance of water to plant life; physical properties of water
	05.08.24-10.08.24	Imbibition, Diffusion, Osmosis and Plasmolysis
	12.08.24-17.08.24	absorption and transport of water;
	19.08.24-24.08.24	transpiration-types, physiology of stomata, factors affecting transpiration, importance of transpiration.
	26.08.24-2.09.24	Mineral Nutrition:
September	04.09.24-09.09.24	Essential macro and micro elements and their role;
	11.09.24-16.09.24	mineral uptake; deficiency symptoms.
	18.09.24-23.09.24	Transport of Organic Substances: Mechanism of phloem transport
	25.09.24-30.09.24	source-sink relationship; factors affecting translocation
October	02.10.24-07-10.24	Photosynthesis: Significance; historical aspects;
	09.10.24-14.10.24	photosynthetic pigments; action spectra and enhancement effects;
	16.10.24-21.10.24	concept of two photosystems; Z-scheme; photo-phosphorylation;
	23.10.24-26.10.24	Calvin cycle; C4 pathway; CAM CYCLE
Vacations	27.10.24-3.11.24	Diwali Vacations
November	4.11.24-22.11.24	Krebs cycle; electron transport mechanism (chemi-osmotic theory); redox -potential; oxidative phosphorylation; Seed dormancy; plant movements; the concept of photoperiodism; physiology of flowering; florigen concept; physiology of senescence; fruit ripening

LESSON PLAN

Session: 2024-25

Class: B.Sc. 5th Sem

Paper: Plant Ecology

Paper Code: Bot-302

Name of the faculty: Ms. Nishi Dhiman

Month	Week	Topics to be covered
July	22.07.24-27.7.2024	Introduction about the paper Ecology
	29.07.24-31.07.24	Environmental factors-climatic (water, humidity, wind, light, temperature)
August	1.08.24-03.08.24	Environmental factors-edhaptic (soil profile, physic-chemical properties)
	05.08.24-10.08.24	Environmental factors-topographic and biotic factors (species interaction)
	12.08.24-17.08.24	Adaptation of plants to water stress (Morphological and anatomical features of hydrophytes, xerophytes.)
	19.08.24-24.08.24	Adaptation of plants to salinity (Morphological and anatomical features of halophytes)
	26.08.23-02.09.24	Population ecology: growth curves, ecotypes and ecads.
September	04.09.24-09.09.24	Community ecology: concepts, characteristics (qualitative and quantitative)
	11.09.24-16.09.24	Community ecology: methods of analysis, ecological succession
	18.09.24-23.09.24	Ecosystem: structure(components) and functions (trophic levels, food chains, food web)
	25.09.24-30.09.24	Ecosystem: ecological pyramids and energy flow
October	02.10.24-07-10.24	Biogeochemical cycles; carbon, nitrogen and hydrological cycle
	09.10.24-14.10.24	hydrological cycle, Phyto-geographical regions of India
	16.10.24-21.10.24	Phyto-geographical regions of India
	23.10.24-26.10.23	Vegetation types of India, Forest types of India
	27.10.24-3.11.24	Diwali Vacation
November	04.11.24 -22.11.24	Environmental pollution: sources, types and control of air and water pollution, Ozone layer depletion, acid rain, biomagnifications, Impacts of global warming, carbon trading