

Name of Assistant Professor: Dr. Naina
Subject: Plant ecology & Plant taxonomy

Class: B. Sc. 2nd Sem.

Lesson Plan: From Jan. 2024 to April 2024

Paper (BOT 201 & 202 L)
Plant Ecology & Plant Taxonomy

| | Topic to be Covered |
|--------------------------|---|
| 02 Jan. – 06 Jan. 2024 | Introduction to Ecology: Basic concepts, types and Scope of Ecology. Soil: Origin, formation, composition, soil profile. |
| 08 Jan. – 15 Jan. 2024 | Identification, Classification, Nomenclature. Ranks, categories and taxonomic groups. Principles and rules (ICN); ranks and names; |
| 16 Jan. – 20 Jan. 2024 | Water: States of water in the environment, precipitation types. Effect of light and temperature on plants. |
| 22 Jan. – 29 Jan. 2024 | Binominal system, typification, author citation, valid publication, rejection of names, principle of priority and its limitations. Types of classification- artificial, natural and phylogenetic |
| 30 Jan. – 31 Jan. 2024 | Morphological and anatomical adaptation of hydrophytes and xerophytes. |
| 01 Feb. – 07 Feb. 2024 | Bentham and Hooker system of classification (upto series), Angiosperm Phylogeny Group (APG)- general introduction |
| 08 Feb. – 13 Feb. 2024 | Structure; energy flow trophic levels; Food chains and food webs, Ecological pyramids ASSIGNMENT-1 |
| 14 Feb. – 20 Feb. 2024 | Herbarium: general introduction and importance. Botanical gardens of the world (Royal Botanic Garden, Kew) and India (Acharya Jagdish Chandra Bose Indian Botanical Garden, Kolkata) |
| 21 Feb. – 25 Feb. 2024 | Biogeochemical cycles; Hydrological, Carbon, Nitrogen and Phosphorous Qualitative and quantitative characters; CLASS TEST |
| 26 Feb. – 29 Feb. 2024 | Introduction to Botanical Survey of India (BSI Dehradun); Documentation: Introduction to Floras, monograph and journals, Keys: single access and multi-access |
| 01 March -08 March 2024 | Ecotone and edge effect; Succession; Process and types (Hydrosere and Xerosere). |
| 09 March - 13 March 2024 | Phytogeographical regions of India, Endemism. ASSIGNMENT-2 |
| 14 March -22 March 2024 | Salient features, vegetative, floral characters and economic importance of the following families: <i>Ranunculaceae</i> , <i>Brassicaceae</i> ; <i>Leguminosae</i> , <i>Asteraceae</i> ; <i>Solanaceae</i> ; <i>Lamiaceae</i> , |
| 22 March -31 March 2024 | Holi Break |
| 01 April -06 April 2024 | Salient features, vegetative, floral characters and economic importance of the following families: <i>Liliaceae</i> , <i>Poaceae</i> . |
| 08 April -12 April 2024 | Definition, Types, Sources, Control of Air, Water and Soil cluster analysis; phenograms, cladograms (definitions and differences). Pollution. A basic knowledge of Environment Protection Act, 1986. |
| 12 April -16 April 2024 | Taxonomic evidences from cytology, phyto chemistry and molecular data Biometrics: Characters; variations; OTUs, character weighting and coding; |
| 16 April -20 April 2024 | Revision of Syllabus |
| 20 April - 30 April 2024 | Practical Examination |
| May 2024 | Theory Examination |

The lesson plan is tentative.

Naina
02/01/2024

Lesson Plan (2023-24)

Name of Assistant Professor: Dr. Naina

Class: B. Sc. 6th Sem.

Subject: Economic botany & Plant Biotechnology

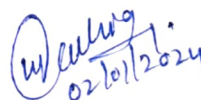
Lesson Plan: From Jan. 2024 to April 2024

| Paper (BOT 601 & 602 L) Economic botany & Plant Biotechnology | |
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| | Topic to be Covered |
| 02 Jan. – 06 Jan. 2024 | Plant tissue culture, Micropropagation; haploid production through androgenesis and gynogenesis; |
| 08 Jan. – 15 Jan. 2024 | brief account of embryo & endosperm culture with their applications |
| 16 Jan. – 20 Jan. 2024 | Restriction endonucleases, DNA restriction digestion and ligation, Plasmid and Cloning vectors, PCR and its application |
| 22 Jan. – 29 Jan. 2024 | Blotting techniques: Northern, Southern and Western Blotting, DNA Fingerprinting |
| 30 Jan. – 31 Jan. 2024 | Molecular DNA markers i.e. RAPD, RFLP, AFLP, ISSR, SNPs; DNA sequencing, Hybridoma technology and monoclonal antibodies. |
| 01 Feb. – 07 Feb. 2024 | ELISA and Immunodetection. |
| 08 Feb. – 13 Feb. 2024 | Molecular diagnosis of human disease ASSIGNMENT-1 |
| 14 Feb. – 20 Feb. 2024 | Concept of centres of origin, their importance with reference to Vavilov's work, Cereals: Wheat and Rice-Origin, morphology, uses |
| 21 Feb. – 25 Feb. 2024 | General account with special reference to Gram, pea, arhar and soybean; Spices |
| 26 Feb. – 29 Feb. 2024 | CLASS TEST |
| 01 March -08 March 2024 | General account with special reference to clove, ginger, turmeric and black pepper (Botanical name, family, part used, morphology and uses) |
| 09 March - 13 March 2024 | Tea, coffee and cocoa (morphology, processing, and uses) |
| 14 March -22 March 2024 | Oils and Fats: General description with special reference to groundnut, mustard, coconut |
| 22 March -31 March 2024 | Holi Braek |
| 01 April -06 April 2024 | Revision of Plant techniques. ASSIGNMENT-2 |
| 08 April -12 April 2024 | General description with special reference to Cotton, Jute and Coir (Botanical name, family, part used, morphology and uses) |
| 12 April -16 April 2024 | Human gene Therapy, automation in diagnostic techniques, rapid diagnostic approach including purification and standardisation of antigen and specific antibodies |
| 16 April -20 April 2024 | Revision of Syllabus |
| 20 April - 30 April 2024 | Practical Examination |
| May 2024 | Theory Examination |
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The lesson plan is tentative.



Head of Department



Signature of Teacher