Lesson Plan (2025-26)

Name of Assistant/Associate Professor: Dr. Neelam Kumari

Class: B.Sc. I- Life Science 2nd Sem.

Subject: Botany Name of paper - Diversity of Higher Cryptogams & Genetics (DSC)

Paper code: C24BOT201T

Jan 2026 to May 2026	
	Topic Covered
Week 1(06-01-26 to10-01-26)	**Unit1:Bryophyta : General characteristics, Classification up to classes (Smith)**
Week 2(12-01-26 to 17-01-26)	**Structure and Reproduction (excluding development) of *Marchantia* (Hepaticopsida) .**
Week 3 (19-01-26 to24-01-26)	***Funaria* (Bryopsida), Ecological and Economic Importance of Bryophytes**
Week 4 (26-01-26 to 31-01-26)	**Unit 2: Pteridophyta : General characters, Classification up to classes (Smith),).**
Week 5 (02-02-26 to 07-02-26)	**Structure and Reproduction (excluding development) of *Selaginella* (Lycopsida) and *Pteris* (Pteropsida)**
Week 6 (09-02-26 to14-02-26)	**Structure and Reproduction (excluding development) of *Pteris* (Pteropsida)**
Week 7(16-02-26 to21-02-26)	**Fossil Plant : *Rhynia*., Ecological and Economic Importance of Pteridophytes.**
Week 8(23-02-26 to28-02-26) 02/03/26 to08/03026 Holi Holidays	**UNIT: 3 Genetic Inheritance : Mendelism, Principles of Inheritance (Dominance, Segregation, Independent Assortment),**
Week 9 (09-03-26 to14-03-26)	**Non-Mendelian Inheritance : Co-dominance, Incomplete Dominance,**
Week 10 (16-03-26 to21-03-26)	**Epistasis.**
Week 11 (23-03-26 to 28-03-26)	**. UNIT: 4 Genetic material : DNA structure, Types of DNA, Assignment –I Test-I**
Week 12 (30-03-26 to04-04-26.)	**Griffith's and Avery's transformation experiments, Hershey-Chase experiment , RNA and its types, Genetic Code**
Week 13 (06-04-26 to11-04-26.)	**Replication,**
Week 14 (13-04-26 to18-04-26)	**Transcription,**
Week 15 (20-04-26 to25-04-26)	**Translation.**
Week 16 (27-04-26 to 04-05-26)	**Revision**

Signature of Teacher

Principal 12/02/26

Lesson Plan (2025-26)
Name of Assistant/Associate Professor: Dr. Neelam Kumari
Class: B.Sc. I- Life Science 2nd Sem.
Subject: Botany Name of paper – Organic Farming (SEC)
Paper code: C24SEC227T

Jan 2026 To May 2026	
	Topic Covered
Week 1(06-01-26 to10-01-26)	**Unit 1:** Basics of Organic Farming
Week 2(12-01-26 to 17-01-26)	Aims and Objective
Week 3 (19-01-26 to24-01-26)	Need of Organic Farming
Week 4 (26-01-26 to 31-01-26)	Concept and Components of Organic Farming,
Week 5 (02-02-26 to 07-02-26)	Concept and Components of Organic Farming,
Week 6 (09-02-26 to14-02-26)	Pure organic farming and Integrated farming system,
Week 7(16-02-26 to21-02-26)	Status of organic farming in India
Week 8(23-02-26 to28-02-26) 02/03/26 to08/03026 Holi Holidays	**UNIT - II** Preparation, Nutrient content
Week 9 (09-03-26 to14-03-26)	Methods for use of following - FYM/Rural compost,
Week 10 (16-03-26 to21-03-26)	Mulching, City compost,
Week 11 (23-03-26 to 28-03-26)	Oil cakes, Animal wastes, **Assignment –I Test-I**
Week 12 (30-03-26 to04-04-26.)	Vermi-composts, Vermi-wash
Week 13 (06-04-26 to11-04-26.)	Jeevamrit, Beejamrit
Week 14 (13-04-26 to18-04-26)	Green manures
Week 15 (20-04-26 to25-04-26)	Bio-fertilizers.
Week 16 (27-04-26 to04-05-26)	Revision

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Lesson Plan (2025-26)
Name of Assistant/Associate Professor: Dr. Neelam Kumari
Class: B.Sc. I- Life Science 4th Sem.
Subject: Botany Name of paper – Plant Anatomy & Embryology (DSC)
Paper code: C24BOT401T

Jan 2026 To May 2026	
	Topic Covered
Week 1(06-01-26 to10-01-26)	**Unit 1:** Plant Tissues : Meristematic and permanent tissue (Simple & complex),
Week 2(12-01-26 to 17-01-26)	Theories of shoot apex. Anatomical Structure of dicot and monocot stem
Week 3 (19-01-26 to24-01-26)	Anatomical Structure of dicot and monocot root and leaf, Stomata and its types
Week 4 (26-01-26 to 31-01-26)	**Unit 2 : Vascular cambium – structure and function,.**
Week 5 (02-02-26 to 07-02-26)	Secondary growth in root stem, Wood (Heartwood and sapwood).
Week 6 (09-02-26 to14-02-26)	Anamolous secondary growth in Boehravia .
Week 7(16-02-26 to21-02-26)	Anamolous secondary growth in Dracaena
Week 8(23-02-26 to28-02-26) 02/03/26 to08/03026 Holi Holidays	**Unit 3:** Structure of anther and pollen; Structure and types of ovules; Placentation-Types.
Week 9 (09-03-26 to14-03-26)	Structure and Types of embryo sacs, Placentation-Types.
Week 10 (16-03-26 to21-03-26)	Pollination mechanisms and adaptations; Double fertilization;
Week 11 (23-03-26 to 28-03-26)	**Unit 4** Endosperm: structure and functions; **Assignment –I Test-I**
Week 12 (30-03-26 to04-04-26.)	Dicot and monocot embryo;
Week 13 (06-04-26 to11-04-26.)	Embryo-endosperm relationship.
Week 14 (13-04-26 to18-04-26)	Apomixis and polyembryony
Week 15 (20-04-26 to25-04-26)	Seed Structure (Dicot & Monocot)
Week 16 (27-04-26 to04-05-26)	Revision

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Lesson Plan (2025-26)
Name of Assistant/Associate Professor: Dr. Neelam Kumari
Class: B.Sc. I- Life Science 6th Sem. Subject: Botany
Name of paper – Economic Botany (BOT 601 L) ,Biotechnology (BOT 603 L)

Jan 2026 To May 2026	
	Topic Covered
Week 1(06-01-26 to10-01-26)	**Unit 1: Origin of Cultivated Plants** Concept of centres of origin, their importance with reference to Vavilov's work, **Unit 1: Plant cell and tissue culture** Plant tissue culture, haploid production through androgenesis and gynogenesis;
Week 2(12-01-26 to 17-01-26)	**Unit 1: Cereals: Wheat -Origin, morphology, use** **Unit 1: Brief account of embryo & endosperm culture with their applications**
Week 3 (19-01-26 to24-01-26)	**Cereals: Rice-Origin, morphology, uses** **Plant tissue culture -Micropropagation;**
Week 4 (26-01-26 to 31-01-26)	**Unit 2: Legumes and Spices** General account with special reference to Gram, pea, **Unit 2: Recombinant DNA Techniques** Restriction endonucleases, DNA restriction digestion and ligation,
Week 5 (02-02-26 to 07-02-26)	General account with special reference to Arhar and soybean; **Plasmid and Cloning vectors, , PCR and its application**
Week 6 (09-02-26 to14-02-26)	Spices: General account with special reference to clove, ginger and turmeric (Botanical name, family, part used, morphology and uses) Blotting techniques: Northern, Southern and Western Blotting,
Week 7(16-02-26 to21-02-26)	Spices: General account with special reference to turmeric and black pepper (Botanical name, family, part used, morphology and uses) DNA Fingerprinting;
Week 8(23-02-26 to28-02-26) 02/03/26 to 08/03026 Holi Holidays	**Unit 3: Beverages and Oils** Tea, coffee and cocoa (morphology, processing, and uses); **Unit:3 Molecular Markers** Molecular DNA markers i.e. RAPD, RFLP, AFLP, ISSR, SNPs; **Assignment –I Test-I**
Week 9 (09-03-26 to14-03-26)	Oils and Fats: General description with special reference to groundnut, mustard Molecular DNA markers i.e. ISSR, SNPs; DNA sequencing,
Week 10 (16-03-26 to21-03-26)	Oils and Fats: General description with special reference to coconut Hybridoma technology and monoclonal antibodies.
Week 11 (23-03-26 to 28-03-26)	**Unit 4 : Fibre Yielding Plants** General description with special reference to Cotton (Botanical name, family, part used, morphology and uses) **Unit 4: Diagnostic Techniques** Molecular diagnosis of human disease, Human gene Therapy, **Assignment –II Test-II**
Week 12 (30-03-26 to04-04-26.)	General description with special reference to Jute (Botanical name, family, part used, morphology and uses) Automation in diagnostic techniques,
Week 13 (06-04-26 to11-04-26.)	General description with special reference to Coir (Botanical name, family, part used, morphology and uses)
Week 14 (13-04-26 to18-04-26)	Rapid diagnostic approach including purification and standardisation of antigen and specific antibodies,.
Week 15 (20-04-26 to25-04-26)	ELISA and Immunodetection
Week 16 (27-04-26 to04-05-26)	Revision

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