

DEPARTMENT OF BOTANY

LESSON PLAN (ODD SEM.)

SESSION: 2024-25

Name of Assistant Professor: Dr. ASHA DEVI

Class & Section: B.Sc.I (Life Science) Section A & B

Paper: 24 UN-BOT 101 (Diversity of Microbes, algae, fungi and Archegoniates)

Month	Week/ Days	Chapter/ Topic
July	Week 4	Virus: Biological status of virus, replication and reproduction
August	Week 1	Virus: T-Phase and TMV Virus structure
	Week 2	Bacteria: general characteristics, cell structure, reproduction,
	Week 3	Bacteria: economic importance Algae: General characteristics, classification, economic importance
	Week 4	Algae feature and life history: volvox, vaucheria, ectocarpus
September	Week 1	Algae feature and life history: nostoc, polysiphonia
	Week 2	Fungi: General characteristics, classification, economic importance
	Week 3	Fungi feature and life history: Rhizopus, Puccinia assignment/ class test
	Week 4	Fungi feature and life history: Colletotrichum, Lichen and Mycorrhiza
October	Week 1	Bryophytes: General characteristics, classification, economic importance/ mid-term exam
	Week 2	Marchantia: morphology, anatomy and reproduction
	Week 3	Funaria: morphology, anatomy and reproduction
	Week 4	fossil and fossilization
	Week 5	Diwali vacation
November	Week 1	Pteridophytes: General characteristics, classification, economic importance
	Week 2	Selaginella: morphology, anatomy and reproduction
	Week 3	Pteris: morphology, anatomy and reproduction
	Week 4	stellar system, apospory and apogamy, heterospory and seed habit / Revision

Asha
(Dr. Asha Devi)

M.N.S.GOV.T. COLLEGE, BHIWANI
DEPARTMENT OF Botany

SESSION: 2024-25

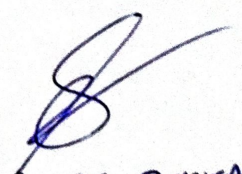
LESSON PLAN (3rd SEM.)

Name of Assistant Professor: Dr. Sunita

Class & Section: B.Sc.II (M)

Paper: II (Plant Embryology)

Month	Week	Topic
July	Week 4	Floral parts & their functions, Structure & development of anther and pollen grain;
August	Week 1	Structure and types of ovules, Types of embryo sacs,
	Week 2	organization and ultrastructure of mature embryo sac, Types of Placentation.
	Week,3	Revision and test of unit 1
	Week 4	Brief account of Palynology, Pollination mechanisms and adaptations,
September	Week 1	pollen pistil interaction, self-incompatibility,
	Week 2	Pollen storage and its significance, Pollen germination, Significance of self and cross pollination.
	Week 3	Revision and test of unit 2
	Week 4	Double fertilization,
October	Week 1	Seed structure (monocot and Dicot), Endospermic & non-endospermic seeds,
	Week 2	Types of Fruit and their dispersal mechanism,
	Week 3	Seed Dormancy: mechanism, factor affecting dormancy, methods to overcome dormancy.
	Week 4	Revision and test of unit 3
	Week.5	Diwali break
November	Week 1	Endosperm: Structure, types and functions, Dicot and monocot embryo,
	Week 2	Polyembryony, Seed germination (Epigeal and hypogeal), Apomixis.
	Week 3	Revision and test of unit 4
	Week 4	Revision


DR. SUNITA

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DEPARTMENT OF Botany

LESSON PLAN (3rd SEM.)

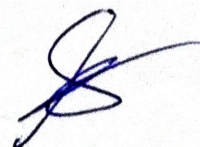
SESSION: 2024-25

Name of Assistant Professor: Dr. Sunita

Class & Section: B.Sc.II (M)

Paper: I (Plant Anatomy)

Month	Week	Topic
July	Week 4	Shoot apical meristems, Meristematic and permanent tissue (Simple)
August	Week 1	Meristematic and permanent tissue (Complex and secretory tissue)
	Week 2	Tissue system (Epidermal, ground and vascular), Modification of Root and Stem.
	Week 3	Revision and test of unit 1
	Week 4	Vascular cambium-structure and function,
September	Week 1	Primary Structure of monocot stem, Secondary growth in dicot stem,
	Week 2	Wood (heartwood and sapwood), Abnormal Secondary growth in Dracaena and Boerhaavia.
	Week 3	Revision and test of unit 2
	Week 4	Types of leaves (Simple and compound), Phyllotaxy,
October	Week 1	Epidermal appendages and their morphological Types,
	Week 2	Anatomy of monocot and dicot leaf, Stomatal apparatus and their morphological types,
	Week 3	Leaf abscission, Venation, Function of Leaf
	Week 4	Revision and test of unit 3
	Week 5	Diwali break
November	Week 1	Root apical meristem, Structure of monocot and dicot root,
	Week 2	Secondary growth in dicot root, Structural modification of roots.
	Week 3	Revision and test of unit 4
	Week 4	Revision



DR. SUNITA

M.N.S.GOV. COLLEGE, BHIWANI
DEPARTMENT OF Botany

LESSON PLAN 5th Sem

SESSION: 2024-25

Name of Teacher: MAMTA RANI

Class & Section: B.Sc. 3rd (Sec-B)

Paper: Genetics & Plant Breeding - II

Month	Week	Topic
July	Week 4	Introduction & objectives of Breeding system
August	Week 1	Modes of reproduction in crop plants.
	Week 2	achievement & undesirable consequences of breeding
	Week 3	Introduction & centre of origin of crop plants
	Week 4	Plant genetic resources & acclimatization
September	Week 1	selection method of self & cross pollinated plant
	Week 2	Hybridisation in self, cross & vegetatively plants
	Week 3	advantages & limitation of self & hybrid pollinated.
	Week 4	concept & mechanism of monogenic inheritance
October	Week 1	History, Polygenic inheritance.
	Week 2	class Test, inbreeding depression
	Week 3	Heterosis, application of qualitative & Quantitative Heterosis
	Week 4	Role of mutations & types
	Week 5	Diwali Vacation
November	Week 1	Polyploidy & Distant Hybridisation
	Week 2	Biotechnology in crop improvement
	Week 3	Revision of class Test
	Week 4	Revision

Mamta

M.N.S.GOV. COLLEGE, BHIWANI

DEPARTMENT OF Botany

SESSION: 2024-25

LESSON PLAN 5th Sem.

Name of Teacher: MAMTA RANI

Class & Section: B.Sc. 3rd (Sec-B)

Paper: Genetics & Plant Breeding-I

Month	Week	Topic
July	Week 4	Mendel Terminologies, Laws of Mendel.
August	Week 1	Cytoplasmic inheritance, leaf variegation, Male sterility
	Week 2	Multiple allelism, Pleiotropism, chromosomal theory
	Week 3	Linkage: concept, types of linkages
	Week 4	coupling, repulsion, recombination
September	Week 1	crossing over
	Week 2	linkage maps, sex chromosome in monoecious plants.
	Week 3	Factor affecting sex determination.
	Week 4	Genic balance theory, sex determination in dioecious.
October	Week 1	Assignment topics & Test, Revision of above units
	Week 2	Mutation & its types.
	Week 3	Numerical chromosomal changes
	Week 4	structural chromosome changes
	Week 5	Diwali Vacation
November	Week 1	Multiple allelism & pleiotropism
	Week 2	class Test & Problem solution.
	Week 3	Revision
	Week 4	Revision

Mamta

(ODD SEM.)

M.N.S.GOV'T. COLLEGE, BHIWANI

DEPARTMENT OF Botany

LESSON PLAN : 5th Sem.

SESSION: 2024-25

Name of Teacher: DEEPIKA RANI

Class & Section: B.Sc. III (M) Section-A

Paper: Economic Botany & Biotechnology - II (Paper II)

Month	Week	Topic
July	Week 4	Economic importance of Spices & Beverages-Intro.
August	Week 1	Clove, turmeric, coriander, black pepper, fennel.
	Week 2	Morphology & uses of spices & condiments.
	Week 3	Tea & Coffee. (Processing & Uses).
	Week 4	Class - Test of unit I.
September	Week 1	Groundnut & Mustard - Oil yielding plants.
	Week 2	Cotton & Jute - Fibre yielding Plants.
	Week 3	RDT- introduction, Enzymes used in RDT.
	Week 4	Cloning Vectors, Sources of foreign DNA.
October	Week 1	PCR - Polymerase Chain Reaction & its applications
	Week 2	DNA fingerprinting & Klenow enzyme.
	Week 3	Gene Transfer Techniques, Selectable Markers.
	Week 4	RDT- applications in Agriculture. Assignments.
	Week 5	DIWALI VACATIONS.
November	Week 1	Transgenic plants & their significance.
	Week 2	Bt. Cotton, Flavr Savr Tomato, Golden Rice.
	Week 3	Revision.
	Week 4	Revision.

Signature:

(DEEPIKA RANI)

Assistant Professor

(BOTANY)

(OED SEM.)

M.N.S.GOV'T. COLLEGE, BHIWANI

DEPARTMENT OF Botany

LESSON PLAN: 5th Sem.

SESSION: 2024-25

Name of Teacher: DEEPIKA RANI

Class & Section: B.Sc.III (m) Section-A

Paper: Economic Botany & Biotechnology - I (Paper I)

Month	Week	Topic
July	Week 4	Origin of agriculture, Centers of origin.
August	Week 1	Nauilov's work, Plant Introduction.
	Week 2	Food Plants - Rice & Wheat (Cereals)
	Week 3	Origin, cultivation & Uses of Maize, Sugarcane.
	Week 4	Economic importance of Pulses - Grams
	Week 1	Soyabean, Rubber yielding Plants.
September	Week 2	Class Test of Unit I & Medicinal Plants.
	Week 3	Medicinal Plants - Cinchona, Rauwolfia.
	Week 4	Atropa, Opium, Cannabis, & Withania.
	Week 1	Totipotency, Plant tissue culture, Media.
October	Week 2	Explant Culture - organogenesis & callus.
	Week 3	Cell suspension culture, single cell culture.
	Week 4	Meristem culture, Assignments, Anther Culture.
	Week 5	DIWALI VACATIONS
	Week 1	Protoplast Culture, Cytoplasmic hybrids, Cybrids.
November	Week 2	Uses of hybrids, Haploid Production, Embryo Culture.
	Week 3	Somatic embryogenesis & artificial seeds.
	Week 4	Revision.

Signature:

(DEEPIKA RANI)

Assistant Professor

(BOTANY)