

## Lesson Plan of Botany

### Session 2023-24

Name of Teacher - Sadhana Yadav

Class - BSc.5<sup>th</sup> semester

Paper 2<sup>nd</sup> - Ecology(Botany)

Date	Topics
24-07-2023	Introduction to Ecology: Definition; scope and importance
25-07-2023	levels of organization
26-07-2023	Environment: Introduction
1-08-2023	Environmental factors- water,
2-08-2023	Test
7-08-2023	Environmental factors :Humidity
8-08-2023	Environmental factors: wind
9-08-2023	Environmental factors: light
14-08-2023	Environmental factors :Temperature),
16-08-2023	Edaphic (soil profile, physico-chemical properties)
21-08-2023	Test
22-08-2023	Topographic
23-08-2023	Biotic factors (species interaction)
28-08-2023	Adaptations of plants to water stress
29-08-2023	(morphological and anatomical features of hydrophytes,
4-09-2023	morphological and anatomical features of halophytes).
5-09-2023	(morphological and anatomical features of xerophytes
11-09-2023	Population ecology
12-09-2023	Test
13-09-2023	Assignment
18-09-2023	Community ecology
19-09-2023	Ecological succession
20-09-2023	Ecosystem: Structure (components) and functions
25-09-2023	Ecological pyramids and energy flow)
26-09-2023	Biogeochemical cycles: Carbon, nitrogen,

27-09-2023	Biogeochemical cycles:, phosphorus and hydrological cycle.
3-10-2023	Assignment
4-10-2023	Phyto- geographical regions of India;
9-10-2023	Environmental pollution:
10-10-2023	Test
11-10-2023	Greenhouse effect and greenhouse gases
16-10-2023	Impacts of global warming;
17-10-2023	Carbon trading;
18-10-2023	Ozone layer depletion
30-10-2023	Test
31-10-2023	Ozone layer depletion
6-11-2023	Test
7-11-2023	Assignment
8-11-2023	Revision
(10-16)-11-2023	Diwali vacations
17-11-2023 onward	Revision

Sadhana Yadav

Assistant Professor

Department of Botany

**Government College for Women ,Narnaul**  
**Lesson plan for the session 2023-24**

**Name of Faculty:- Sadhana yadav**

**Class :- B.Sc. I ( Medical ) ,1<sup>st</sup> Semester**

**Subject:- Botany Paper 1&Paper 2(Diversity of Microbes)&(Cell Biology)**

Date	Topics
24-07-2023	Bacteria : Structure
25-07-2023	Bacteria :nutrition
26-07-2023	Bacteria :reproduction
27-07-2023	Bacteria : Economic importance
28-07-2023	Test
1-08-2023	Assignment
2-08-2023	The Cell Envelopes: Structure and functions of cell wall
3-08-2023	Structure and function of Plasma Membrane.
4-08-2023	Test
5-08-2023	Algae Introduction
7-08-2023	Algae: General characters
8-08-2023	Algae classification (upto classes) and economic importance
9-08-2023	Chlorophyceae
10-08-2023	Volvox
11-08-2023	Oedogonium
12-08-2023	Xanthophyceae
14-08-2023	Vaucheria
16-08-2023	Test and assignment
17-08-2023	Phaeophyceae
18-08-2023	Ectocarpus
21-08-2023	Rhodophyceae
22-08-2023	Polysiphonia
23-08-2023	Test
24-08-2023	Viruses: General account of Viruses
25-08-2023	TMV
26-08-2023	Bacteriophages
28-08-2023	Golgi Apparatus
29-08-2023	Endoplasmic Reticulum
4-09-2023	Chloroplast

5-09-2023	Mitochondria
11-09-2023	Lysosomes
12-09-2023	Peroxisomes
13-09-2023	Vacuoles
18-09-2023	Fungi: General characters
19-09-2023	Classification (upto classes)
20-09-2023	Economic importance
21-09-2023	Mastigomycotina
22-09-2023	Phytophthora vegetative structure
25-09-2023	Phytophthora reproductive structure
26-09-2023	Mucor vegetative structure
27-09-2023	Mucor reproductive structure
28-09-2023	Heterothallism in Mucor
29-09-2023	Test
30-09-2023	General account of Lichens.
3-10-2023	Assignment
4-10-2023	Cell Division: Mitosis
6-10-2023	Meiosis
7-10-2023	Chromosome: Morphology
9-10-2023	Chromosome organization
10-10-2023	Ultrastructure of Centromere and Telomere
11-10-2023	Chromosomal alterations- deletions
12-10-2023	duplications
13-10-2023	Translocations
14-10-2023	Inversions
16-10-2023	Aneuploidy
17-10-2023	Polyploidy
18-10-2023	Sex chromosomes
19-10-2023	Sex determination
20-10-2023	Test
21-10-2023	Revision

23-10-2023	General account of Cyanobacteria
24-10-2023	Nostoc
25-10-2023	Ultrastructure of nucleus
26-10-2023	Function of nucleus
27-10-2023	Test
30-10-2023	Puccinia vegetative structure
31-10-2023	Puccinia Reproductive Structure
2-11-2023	Agaricus vegetative Structure
3-11-2023	Agaricus Reproductive structure
4-11-2023	Colletotrichum vegetative structure
6-11-2023	Colletotrichum Reproductive structure
7-11-2023	Test
8-11-2023	Revision
9-11-2023	Revision
(10-16)-11-2023	Diwali Vacation
17-11-2023 onward	Revision

Sadhana Yadav

Assistant Professor

Department –Botany

# Lesson Plan of B.sc 5<sup>th</sup> Sem for the session (2023-2024)

Teacher Name – Dr. Neelam Yadav (Paper 1<sup>st</sup> )

## August, 2023

- Plant- Water Relations
- Absorption of Water
- Translocation of Water

## September, 2023

- Transpiration
- Mineral Nutrition
- Uptake of Mineral Nutrients
- Translocation of Organic Substances

## October, 2023

- Photosynthesis – 1<sup>st</sup>
- Photosynthesis 2<sup>nd</sup> (Light Phase)
- Photosynthesis 3<sup>rd</sup> (Dark Phase)
- Growth Hormones (Auxin, Gibberllin, Cytokinin ABA & Ethylene)

## November, 2023

- Physiology of Flowering
- Plant Movements
- Seed Germination & Dormancy
- Senescence and Fruit Ripening

## December, 2023

- Revision

# Lesson Plan of B.sc 3<sup>rd</sup> Sem for the session (2023-2024)

Teacher Name – Dr. Neelam Yadav (Paper 1<sup>st</sup> & 2<sup>nd</sup> )

## August, 2023

- Gymnosperms (General Characters, Classification and Economic Importance)
- Gymnosperms (Evolution & Diversity)
- Evolution of Seed Habit
- Geological Time Scale
- Fossilisation and Fossils

## September, 2023

- Fossils Gymnosperms
  - Lyginopteris
  - Williamsonia
  - Cycadeoidea
- Morphology, Anatomy, Life-Cycle & Economic Importance of following Plants :
  - Cycas
  - Pinus
  - Ephedra
- General Characters, Origin and Evolution of Angiosperms

## October, 2023

- Diversity in Plant Forms
- Tissues :- Simple, Complex & Secretory
- Stems :- Meristem & Primary Structure
- Stem :- Cambium and Secondary Structure
- Stem:- Anomalous Secondary Growth

## November, 2023

- The Leaf : Morphology
- The Leaf : Epidermis and Appendages
- The Leaf : Anatomy and Abscission
- The Root : Meristem and Primary Structure
- The Root : Secondary Structure
- The Root : Structural Modifications

## December, 2023

- Revision





# Lesson Plan of Botany

Session 2023-24

Name of Teacher - Sadhana Yadav

Class - BSc.6<sup>th</sup> semester

Paper - Economic Botany

Week	Date	Topic
1	15-01-2024	Wheat
	16-01-2024	Rice
	17-01-2024	Holiday
2	22-01-2024	Maize
	23-01-2024	Gram
	24-01-2024	Pea
3	29-01-2024	Assignment
	30-01-2024	Pigeon Pea
	31-01-2024	Potato
4	05-02-2024	Onion
	06-02-2024	Test
	07-02-2024	Tomato
5	12-02-2024	Cotton
	13-02-2024	Jute
	14-02-2024	Holiday
6	19-02-2024	Flax
	20-02-2024	Ground Nut oil
	21-02-2024	Mustard oil
7	26-02-2024	Coconut oil
	27-02-2024	Sunflower oil
	28-02-2024	Test
8	04-03-2024	Coriander
	05-03-2024	Ginger
	06-03-2024	Turmeric
9	11-03-2024	Hing & clove
	12-03-2024	Rauwolfia
	13-03-2024	Cinchona
10	18-03-2024	Opium
	19-03-2024	Belladonna

	20-03-2024	Cannabis
11	01-04-2024	Neem
	02-04-2024	Withania
	03-04-2024	Tea
12	08-04-2024	Coffee
	09-04-2024	Rubber
	10-04-2024	Assignment
13	15-04-2024	sugarcane
	16-04-2024	Timber
	17-04-2024	Holiday
14	22-04-2024	Energy Plantation
	23-04-2024	Test and Revision
	24-04-2024	Test and Revision
15	29-04-2024	Test and Revision
	30-04-2024	Test and Revision

Sadhana Yadav

Assistant Professor

Department of Botany

## Lesson Plan of Botany

Session : 2023-24

Name of Teacher : Sadhana Yadav

Class : B.Sc. 2<sup>nd</sup> semester

Paper : Diversity of Archegoniates (Botany Paper 1<sup>st</sup>)  
Genetics (Botany Paper 2<sup>nd</sup>)

week	Date	Topic
J1	15-01-2024	General characters of Bryophytes
	16-01-2024	Classification of Bryophytes
	17-01-2024	Holiday
	18-01-2024	Test
	19-01-2024	Evolution of sporophytes and Economics Importance of Bryophytes
	20-01-2024	General characters of class Hepaticopsida
2	22-01-2024	Marchantia -Vegetative Structure
	23-01-2024	Marchantia -Reproduction
	24-01-2024	Marchantia Sporophyte
	25-01-2024	Test
	26-01-2024	Holiday
	27-01-2024	General Characters of class Anthocerotopsida
3	29-01-2024	Anthoceros -Vegetative Structure
	30-01-2024	Anthoceros Reproduction
	31-01-2024	Assignment
	01-02-2024	Anthoceros -Sporophyte
	02-02-2024	Test
	03-02-2024	General Characters of Class Bryopsida
4	05-02-2024	Funaria -Vegetative structure
	06-02-2024	Funaria -Reproduction
	07-02-2024	Funaria Sporophyte
	08-02-2024	Test
	09-02-2024	General Characters of Pteridophytes
	10-02-2024	Classification of Pteridophytes
5	12-02-2024	Apogamy &Apospory
	13-02-2024	Heterospory and Economic importance
	14-02-2024	Holiday
	15-02-2024	Stelar System

	17-02-2024	Test
6	19-02-2024	General characters of Psilopsida
	20-02-2024	Rhynia
	21-02-2024	Test
	22-02-2024	General characters of Lycopsida
	23-02-2024	Selaginella -Vegetative Structure
	24-02-2024	Holiday
7	26-02-2024	Selaginella Reproduction
	27-02-2024	Selaginella -Gametophyte
	28-02-2024	Selaginella Life cycle
	29-02-2024	Assignment
	01-03-2024	Test
	02-03-2024	General Characters of sphenopsida
8	04-03-2024	Equisetum -sporophyte
	05-03-2024	Equisetum -Reproduction
	06-03-2024	Equisetum -Gametophyte
	07-03-2024	Equisetum Life Cycle
	08-03-2024	Test
	09-03-2024	General Characters of Pteropsida
	11-03-2024	Pteris -Sporophytes
9	12-03-2024	Pteris-Reproduction
	13-03-2024	Pteris-Gametophytes
	14-03-2024	Pteris life cycle
	15-03-2024	Test
	16-03-2024	Assignment
10	18-03-2024	Structure of DNA
	19-03-2024	Satellite and repetitive DNA
	20-03-2024	DNA Protein interaction
	21-03-2024	Replication of DNA
	22-03-2024	Genetic code
11	23-03-2024 to 31-03-2024	Holi vacations
12	01-04-2024	Test
	02-04-2024	Genetic inheritance :Introduction
	03-04-2024	Mendel's Laws of Inheritance
	04-04-2024	Linkage
	05-04-2024	Test
	06-04-2024	Mutations
13	08-04-2024	DNA Repair System

	09-04-2024	RNA
	10-04-2024	Ribosomes
	11-04-2024	Holiday
	12-04-2024	Test
	13-04-2024	Transcription
14	15-04-2024	Translation
	16-04-2024	Test
	17-04-2024	Holiday
	18-04-2024	Lac Operon
	19-04-2024	Tryptophan operon
	20-04-2024	Assignment
16	22-04-2024	Test
	23-04-2024	Protein
	13-04-2024	Extra nuclear genome
	24-04-2024	Test
	25-04-2024	Test & revision
	26-04-2024	Revision
	27-04-2024	Revision
	29-04-2024	Revision
	30-04-2024	Revision

Signature

Teacher

Principal

GCW Narnaul

# Lesson Plan of B.Sc. 6th Sem Session (2023-2024)

Name of Teacher – Dr. Neelam Yadav

Subject – Botany

Class – B.Sc. 6<sup>th</sup> Sem

Paper – 1

Week 1 –

Day 4 – 18/01/2024 – Enzyme Characteristics

Day 5 – 19/01/2024 – Regulation of enzymes

Day 6 – 20/01/2024 – Mechanism of action of enzymes

Week 2 –

Day 4 – 25/01/2024 – Test

Day 5 – 26/01/2024 – Republic Day

Day 6 – 27/01/2024 – Respiration -1

Week 3 –

Day 4 – 1/02/2024 – ATP -Biological Energy Currency

Day 5 – 02/02/2024 – Aerobic & Anaerobic Respiration

Day 6 – 03/02/2024 – Electron Transport System

Week 4 –

Day 4 – 8/02/2024 – Test

Day 5 – 9/02/2024 – Krebs Cycle

Day 6 – 10/02/2024 – Redox Potential

Week 5 –

Day 4 – 15/02/2024 – Oxidative Phosphorylation

Day 5 – 16/02/2024 – Test

Day 6 – 17/02/2024 – Pentose Phosphate Pathway

Week 6 –

Day 4 – 22/02/2024 – Assignment

Day 5 – 23/02/2024 – Lipid structure & function

Day 6 – 24/02/2024 – Guru Ravidas Jayanti

Week 7 –

Day 4 – 29/02/2024 – Fatty acid biosynthesis

Day 5 – 01/03/2024 – Saturated & unsaturated fatty acid

Day 6 – 02/03/2024 – Nitrogen Metabolism

Week 8 –

Day 4 – 07/03/2024 – Test

Day 5 – 08/03/2024 – MahaShivratri

Day 6 – 09/03/2024 – Biology of N<sub>2</sub>-fixation

Week 9 –

Day 4 – 14/03/2024 – Importance and regulation of Nitrate Reductase

Day 5 – 15/03/2024 – Ammonium assimilation

Day 6 – 16/03/2024 – Assignment

Week 10 –

Day 4 – 21/03/2024 – Tools and techniques of Recombinant DNA Technology

Day 5 – 22/03/2024 – Cloning Vectors

Day 6 – 23/03/2024 – Holi Break

Week 11 –

Day 4 – 28/03/2024 – Holiday

Day 5 – 29/03/2024 – Holiday

Day 6 – 30/03/2024 – Holiday

Week 12 –

Day 4 – 04/04/2024 – Test

Day 5 – 05/04/2024 – Genomic Library

Day 6 – 06/04/2024 – DNA Library

Week 13 –

Day 4 – 11/04/2024 – Id-ul-fitr

Day 5 – 12/04/2024 – Transposable elements

Day 6 – 13/04/2024 – Aspects of Plant tissue culture

Week 14 –

Day 4 – 18/04/2024 – Cellular Totipotency

Day 5 – 19/04/2024 – Test

Day 6 – 20/04/2024 – Morphogenesis & Differentiation

Week 15 –

Day 4 – 25/04/2024 – Assignment

Day 5 – 26/04/2024 – Biology & Agrobacterium

Day 6 – 27/04/2024 – Vectors for gene delivery & Marker genes

## Lesson Plan of B.Sc. 4th Sem Session (2023-2024)

Name of Teacher – Dr. Neelam Yadav

Subject – Botany

Class – B.Sc. 4<sup>th</sup> Sem

January – 2024,            Paper – 1

Week 1 –

Day 1 – 15/01/2024 –Angiosperm Taxonomy

Day 2 – 16/01/2024 –Modern Trends in Plant Taxonomy

Day 3 – 17/01/2024 –Guru Gobind Singh Ji Jyanti

Day 4 – 18/01/2024 –Role of Phytochemistry in relation to Taxonomy

Day 5 – 19/01/2024 – Role of Cytology in relation to Taxonomy

Day 6 – 20/01/2024 –Test

Week 2 –

Day 1 – 22/01/2024 –Taximetrics in relation to Taxonomy

Day 2 – 23/01/2024 –Herbarium and Botanical Garden

Day 3 – 24/01/2024 - Assignment

Day 4 – 25/01/2024 –Taxonomic Literature

Day 5 – 26/01/2024 –Republic Day



Day 6 – 27/01/2024 –Taxonomic Keys

Week 3 –

Day 1 – 29/01/2024 –Phylogeny of Angiosperms

Day 2 – 30/01/2024 –Possible ancestors of Angiosperms

Day 3 – 31/01/2024 - Test

Day 4 – 01/02/2024 –Floral Terms

Day 5 – 02/02/2024 - Aestivation

Day 6 – 03/02/2024 - Placentation

Week 4 –

Day 1 – 05/02/2024 - Inflorescence

Day 2 – 06/02/2024 – Special type of Inflorescence

Day 3 – 07/02/2024 - Classification of Angiosperms

Day 4 – 08/02/2024 - Test

Day 5 – 09/02/2024 – Description of Angiospermic Plant

Day 6 – 10/02/2024 -Description of family - Ranunculaceae

Week 5 –

Day 1 – 12/02/2024 -*Ranunculus scleratus*– flower description

Day 2 – 13/02/2024 -Assignment

Day 3 – 14/02/2024 -Basant Panchami

Day 4 – 15/02/2024 -Brassicaceae (*Brassica campestris*) – flower description

Day 5 – 16/02/2024 – Family -Malvaceae

Day 6 – 17/02/2024 - *Hibiscus -rosa-sinensis* (Flower description)

Week 6 –

Day 1 – 19/02/2024 -Family-Rutaceae

Day 2 – 20/02/2024 -Test

Day 3 – 21/02/2024 -*Citrus limon*(Flower description)

Day 4 – 22/02/2024 - Family -Fabaceae

Day 5 – 23/02/2024 - *Lathyrus odoratus* (Flower description)

Day 6 – 24/02/2024 -Guru Ravidas jyanti

Week 7 –

Day 1 – 26/02/2024 -Family-Apiaceae

Day 2 – 27/02/2024 -Flower description -*Coriander sativum*

Day 3 – 28/02/2024 -Family-Poaceae

Day 4 – 29/02/2024 - Flower description -Triticum aestivum

Day 5 – 01/03/2024 - Test

Day 6 – 02/03/2024 -Family-Asteraceae

Week 8 –

Day 1 – 04/03/2024 - Flower description -*Helianthus anus*

Day 2 – 05/03/2024 -Family -Asclepiadaceae

Day 3 – 06/03/2024 -Flower description -*Calotropis procera*

Day 4 – 07/03/2024 -Family- Solanaceae

Day 5 – 08/03/2024 -Mahashivratri

Day 6 – 09/03/2024 -Assignment

Week 9 –

Day 1 – 11/03/2024 - Flower description -*Solanum nigrum*

Day 2 – 12/03/2024 -Family -Lamiaceae

Day 3 – 13/03/2024 -Flower description -*Ocimum basilicum*

Day 4 – 14/03/2024 -Test

Day 5 – 15/03/2024 - Family -Euphorbiaceae

Day 6 – 16/03/2024 -Flower description -*Ricinus communis*

Week 10 –

Day 1 – 18/03/2024 -Family-Liliaceae

Day 2 – 19/03/2024 -Flower description -*Asphodelus tenuifolius*

Day 3 – 20/03/2024 – Test

Paper 2<sup>nd</sup>

Day 4 – 21/03/2024 - Flower as a modified shoot

Day 5 – 22/03/2024 - Microsporogenesis

Day 6 – 23/03/2024 – Holiday ( Holi Break)

Week 11 –

Day 1 – 25/03/2024 - Holiday

Day 2 – 26/03/2024 - Holiday

Day 3 – 27/03/2024 - Holiday

Day 4 – 28/03/2024 - Holiday

Day 5 – 29/03/2024 - Holiday

Day 6 – 30/03/2024 - Holiday

Week 12 –

Day 1 – 01/04/2024 – Micro genesis & Gametogenesis

Day 2 – 02/04/2024 - Pollination

Day 3 – 03/04/2024 – Megasporogenesis & Embryo Sac

Day 4 – 04/04/2024 – Fertilisation & its Barriers

Day 5 – 05/04/2024 -Endosperm Characteristics & development

Day 6 – 06/04/2024 -

Week 13 –

Day 1 – 08/04/2024 - Embryogenesis

Day 2 – 09/04/2024 – Type Study – *Crucifer Type*

Day 3 – 10/04/2024 – Development of embryo sac in Monocots

Day 4 – 11/04/2024 – Id-ul-fitr

Day 5 – 12/04/2024 - Development of embryo sac in Dicots

Day 6 – 13/04/2024 - Test

Week 14 –

Day 1 – 15/04/2024 - Fruit

Day 2 – 16/04/2024 – Classification of fruit

Day 3 – 17/04/2024 – Ram Navmi

Day 4 – 18/04/2024 – Seed structure

Day 5 – 19/04/2024 – Seed Germination

Day 6 – 20/04/2024 -Test

Week 15 –

Day 1 – 22/04/2024 – Dicot endospermic seed

Day 2 – 23/04/2024 – Monocot endospermic seed

Day 3 – 24/04/2024 - Test

Day 4 – 25/04/2024 – Dispersal in fruits

Day 5 – 26/04/2024 – Dispersal in seeds

Day 6 – 27/04/2024 – Test

Week – 16 – Revision