

# KVA DAV College for Women, Karnal

## Lesson Plan For The Even Semester (February to May, 2023)

Name of the Teacher – Dr. Nadia Chowhan

Class- B.Sc. II

Subject- Botany

Paper-I Biology and Diversity of Seed Plants-II

February, 2023 1 <sup>st</sup> Week 1 Feb	Introduction of Taxonomy and Systematics
5 Feb, 2023	<b>Guru Ravidas Jayanti, Sunday</b>
2 <sup>nd</sup> Week 6 Feb -08 Feb	Fundamental components of taxonomy (Identification, Classification, Description, Nomenclature and Phylogeny) Role of Chemotaxonomy and Cytotaxonomy Taximetrics in relation to Taxonomy
12 Feb, 2023	<b>Sunday</b>
3 <sup>rd</sup> Week 13 Feb -15 Feb	Binomial Nomenclature; Principles and Rules Principle of priority, Type Concept, Taxonomic Ranks Keys to identification of plants (Herbaria, Botanical Gardens, Indexes, Floras, manuals, Monographs, Journals, Glossaries)
18 Feb, 2023 19 Feb,2023	<b>Maha Shivaratri Sunday</b>
4 <sup>th</sup> Week 20 Feb -22 Feb	Flower and Types of Inflorescence Diversity of Flowering Plants: Diagnostic features and economic importance of the family: Malvaceae Diversity of Flowering Plants: Diagnostic features and economic importance of the family: Brassicaceae.
26 Feb, 2023	<b>Sunday</b>
5 <sup>th</sup> Week 27 Feb -28 Feb	Diversity of Flowering Plants: Diagnostic features and economic importance of the family: Lamiaceae Diversity of Flowering Plants: Diagnostic features and economic importance of the family: Asteraceae
March, 2023 1 <sup>st</sup> Week 1 March	Diversity of Flowering Plants: Diagnostic features and economic importance of the family: Ranunculaceae

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2 <sup>nd</sup> Week 5 March -12 March, 2023	<b>Holi Break</b>
3 <sup>rd</sup> Week 13 March-15 March	Diversity of Flowering Plants: Diagnostic features and economic importance of the family: Euphorbiaceae Diversity of Flowering Plants: Diagnostic features and economic importance of the family: Apiaceae
4 <sup>th</sup> Week 20 March-22 March	Diversity of Flowering Plants: Diagnostic features and economic importance of the family: Solanaceae Diversity of Flowering Plants: Diagnostic features and economic importance of the family: Poaceae
23 March, 2023 26 March, 2023	<b>Shaheedi Diwas/Martyrdom Day of Bhagat Singh, Rajguru &amp; Sukhdev</b> <b>Sunday</b>
30 March, 2023	<b>Ram Navmi</b>
5 <sup>th</sup> Week 27 March- 29 March	Salient features of the systems of classification of angiosperms proposed by Bentham & Hooker
2 April, 2023	<b>Sunday</b>
April, 2023 2 <sup>nd</sup> Week 3 April - 5 April	Salient features of the systems of classification of angiosperms proposed by Engler & Prantl Diversity of Flowering Plants: Diagnostic features and economic importance of the family: Asclepiadaceae
4 April, 2023 9 April, 2023	<b>Mahavir Jayanti</b> <b>Sunday</b>
3 <sup>rd</sup> Week 10 April -12 April	Diversity of Flowering Plants: Diagnostic features and economic importance of the family: Leguminosae (Pappilionaceae) Diversity of Flowering Plants: Diagnostic features and economic importance of the family: Leguminosae (Caesalpinaceae and Mimosaceae)

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14 April, 2023 16 April, 2023	<b>Vaisakhi/Dr. B.R. Ambedkar Jayanti</b> <b>Sunday</b>
4 <sup>th</sup> Week 17 April -19 April	<b>Sessional Exams</b>
22 April, 2023 23 April, 2023	<b>Id-Ul-Fitr/ParshuramJayanti</b> <b>Sunday</b>
5 <sup>th</sup> Week 24 April -26 April	Diversity of Flowering Plants: Diagnostic features and economic importance of the family: Rutaceae Diversity of Flowering Plants: Diagnostic features and economic importance of the family: Liliaceae Practice of Floral Diagrams
30 April, 2023	<b>Sunday</b>
May, 2023 1 <sup>st</sup> Week 1 May -3 May	Revision of Syllabus and Class Tests
7 May, 2023	<b>Sunday</b>
2 <sup>nd</sup> Week 8 May -10 May	Revision of Syllabus and Class Tests
14 May, 2023	<b>Sunday</b>
17 May, 2023 Onwards	<b>University Examinations</b>

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Name of the Teacher – Dr. Nadia Chowhan

Class- B.Sc. II

Subject- Botany

Paper-II Plant Embryology

February, 2023 1 <sup>st</sup> Week 2 Feb- 04 Feb	Flower-a modified shoot; functions of various floral parts. Types of inflorescence Flower Variations
5 Feb, 2023	<b>Guru Ravidas Jayanti, Sunday</b>
2 <sup>nd</sup> Week 09 Feb -11 Feb	Microsporangium, its wall and dehiscence mechanism Microsporogenesis Pollen grains and its structure (pollen wall)
12 Feb, 2023	<b>Sunday</b>
3 <sup>rd</sup> Week 16 Feb & 17 Feb	Male Gametophyte: Development Microgametogenesis Structure of Megasporangium (ovule)
18 Feb, 2023 19 Feb, 2023	<b>Maha Shivaratri</b> <b>Sunday</b>
4 <sup>th</sup> Week 23 Feb -25 Feb	Ovule Types Megasporogenesis and Megagametogenesis Embryo sac structure and types
26 Feb, 2023	<b>Sunday</b>
March, 2023 1 <sup>st</sup> Week 02 March-04 March	Pollen-pistil interaction and Self incompatibility Pollination (types and agencies)
2 <sup>nd</sup> Week 5 -12 March, 2023	<b>Holi Break</b>
3 <sup>rd</sup> Week 16 March-18 March	Double fertilization. Endosperm types and its biological importance Embryogenesis in Dicot
4 <sup>th</sup> Week 24 March & 25 March	Embryogenesis in Monocot Polyembryony Development of Fruits and Significance
23 March, 2023	<b>Shaheedi Diwas/Martyrdom Day of Bhagat Singh, Rajguru &amp; Sukhdev</b>
26 March, 2023	<b>Sunday</b>
30 March, 2023	<b>Ram Navmi</b>

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Class- B.Sc. II

Subject- Botany

Paper-II Plant Embryology

5 <sup>th</sup> Week 31 March and 01 April	General Structure of Fruit Types of fruits: Simple Dry Types of fruits: Simple Fleshy
2 April, 2023	<b>Sunday</b>
April, 2023 2 <sup>nd</sup> Week 6 April - 8 April	Types of fruits: Aggregate Types of fruits: Multiple Dispersal of fruits and seeds
4 April, 2023 9 April, 2023	<b>MahavirJayanti</b> <b>Sunday</b>
3 <sup>rd</sup> Week 13 & 15 April	Seed: Development and Parts Structure of Dicot and Monocot Seed
14 April, 2023 16 April, 2023	<b>Vaisakhi/Dr. B.R. Ambedkar Jayanti</b> <b>Sunday</b>
4 <sup>th</sup> Week 20 & 21 April	<b>Sessional Exams</b>
22 April, 2023 23 April, 2023	<b>Id-Ul-Fitr/ParshuramJayanti</b> <b>Sunday</b>
5 <sup>th</sup> Week 27 April -29 April	Seed Viability and Seed Dormancy Causes of seed dormancy and methods of breaking seed dormancy Seed Dormancy: Physiological Enigma, its importance
30 April, 2023	<b>Sunday</b>
May, 2023 1 <sup>st</sup> Week 4 May -6 May	Revision of Syllabus and Class Tests
7 May, 2023	<b>Sunday</b>
2 <sup>nd</sup> Week 11 May -13 May	Revision of Syllabus and Class Tests
14 May, 2023	<b>Sunday</b>
17 May, 2023 Onwards	<b>University Examinations</b>

# KVA DAV College for Women, Karnal

## Lesson Plan For The Even Semester (February to May, 2023)

Name of the Teacher – Dr. Seema Sharma

Class- B. Sc. 1 year

Subject- Botany

Paper-1: Diversity of Archegoniatates

February, 2023 1 <sup>st</sup> Week 1Feb	<b>Bryophytes:</b> General characters and Classification of Bryophytes
5Feb, 2023	<b>Guru Ravidas Jayanti, Sunday</b>
2 <sup>nd</sup> Week 6 Feb - 8Feb	<b>MARCHANTIA</b> -Occurrence and vegetative structure and Reproduction in Marchantia
12Feb, 2023	<b>Sunday</b>
3 <sup>rd</sup> Week 13 Feb - 15Feb	<b>ANTHOCEROS</b> - Occurrence and vegetative structure and Reproduction in Anthoceros
18 Feb, 2023 19 Feb, 2023	<b>Maha Shivaratri Sunday</b>
4 <sup>th</sup> Week 20 Feb -22 Feb	<b>Funaria-</b> Occurrence and vegetative structure &Reproduction in Funaria
26 Feb, 2023	<b>Sunday</b>
5 <sup>th</sup> Week 27 Feb -28 Feb	<b>Pteridophytes:</b> General characters and Classification of Pteridophytes
March, 2023 1 <sup>st</sup> Week 1March	<b>Rhynia-</b> Occurrence, vegetative structure
2 <sup>nd</sup> Week 5 -12 March, 2023	<b>Holi Break</b>
2 <sup>nd</sup> Week 13-15 March, 2023	<b>Selaginella-</b> Occurrence and vegetative structureReproduction in Selaginella, Heterospory and Seed Habit
19 March, 2023	<b>Sunday</b>
4 <sup>th</sup> Week 20 -22 March	<b>Equisetum</b> - Occurrence and vegetative structure of Equisetum
23 March, 2023 26 March, 2023	<b>Shaheedi Diwas/Martyrdom Day of BhagatSingh, Rajguru&amp;Sukhdev Sunday</b>

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## Lesson Plan For The Even Semester (February to May 2023)

Name of the Teacher – Dr. Seema Sharma

Class- B. Sc. 1 year

Subject- Botany

Paper-1: Diversity of Archegoniates

30 March, 2023	<b>Ram Navmi</b>
5 <sup>th</sup> Week 27-29March	Reproduction in Equisetum
2 April, 2023	<b>Sunday</b>
2 <sup>nd</sup> Week 3 - 5April	<b>Pteris</b> - Occurrence and vegetative structure, reproduction in Pteris
4 April, 2023 9 April, 2023	<b>Mahavir Jayanti</b> <b>Sunday</b>
3 <sup>rd</sup> Week 10 -12April	Revision of Syllabus and Class Tests
14 April, 2023 16 April, 2023	<b>Vaisakhi/Dr. B.R. Ambedkar Jayanti</b> <b>Sunday</b>
4 <sup>th</sup> Week 17 -21 April	<b>Sessional Exams</b>
22 April, 2023 23 April, 2023	<b>Id-Ul-Fitr/Parshuram Jayanti</b> <b>Sunday</b>
5 <sup>th</sup> Week 24 -26 April	<b>Economic importance</b> of Pteridophytes and Bryophytes
30 April, 2023	<b>Sunday</b>
May, 2023 1 <sup>st</sup> Week 1-3 May	Revision of Syllabus and Class Test
7 May, 2023	<b>Sunday</b>
2 <sup>nd</sup> Week 8 -10 May	Revision of Syllabus and Class Tests
14 May, 2023	<b>Sunday</b>
17 May Onwards	<b>University Exams</b>

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## Lesson Plan For The Even Semester (February to May, 2023)

Name of the Teacher – Dr. Seema Sharma

Class- B. Sc. 1 year

Subject- Botany

Paper-11: Cell Biology

February,2023 1 <sup>st</sup> Week2-4Feb	<b>Genetic Material:</b> DNA - The genetic material, Structure and Watson & Crick Model
5Feb, 2023	<b>Guru Ravidas Jayanti, Sunday</b>
2 <sup>nd</sup> Week 7Feb,9- 11Feb	Replication of DNA, and DNA-Protein interaction
12Feb, 2023	<b>Sunday</b>
3 <sup>rd</sup> Week 14 Feb,16-17Feb	Genetic Code, Satellite and Repetitive DNA
18 Feb, 2023 19 Feb, 2023	<b>Maha Shivaratri Sunday</b>
4 <sup>th</sup> Week 21 Feb 23 -25Feb	<b>Genetic Inheritance:</b> Mendelism: General Introductionand Laws of Genetic Inheritance and Linkage
26 Feb, 2023	<b>Sunday</b>
5 <sup>th</sup> Week 28 Feb	Class Test
March, 2023 1 <sup>st</sup> Week 2-4March	Gene Interaction : Allelic and Non-allelic interactions
2 <sup>nd</sup> Week 5 -12 March, 2023	<b>Holi Break</b>
2 <sup>nd</sup> Week 14March 16-18 March	Mutations- Spontaneous and Induced DNA- Damage and Repair
19 March, 2023	<b>Sunday</b>
4 <sup>th</sup> Week 21,24 -25March	<b>Gene Expression:</b> Modern concept of gene
23 March, 2023 26 March, 2023	<b>Shaheedi Diwas/Martyrdom Day of BhagatSingh, Rajguru&amp;Sukhdev Sunday</b>



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Name of the Teacher – Dr. Seema Sharma

Class- B.Sc. 1 year

Subject- Botany

Paper-11: Cell Biology

30 March, 2023	<b>Ram Navmi</b>
5 <sup>th</sup> Week 28,31 March,1 April	RNA and Ribosomes
2 April, 2023	<b>Sunday</b>
2 <sup>nd</sup> Week 6-8 April	Protein Synthesis
4 April, 2023 9 April, 2023	<b>Mahavir Jayanti</b> <b>Sunday</b>
3 <sup>rd</sup> Week 11,13 -15 April	Regulation of Gene Expression and Structure of Proteins
14 April, 2023 16 April, 2023	<b>Vaisakhi/Dr. B.R. Ambedkar Jayanti</b> <b>Sunday</b>
4 <sup>th</sup> Week 17 -21 April	<b>Sessional Exams</b>
22 April, 2023 23 April, 2023	<b>Id-UI-Fitr/Parshuram Jayanti</b> <b>Sunday</b>
5 <sup>th</sup> Week 25,27 -29 April	Extra Nuclear Inheritance
30 April, 2023	<b>Sunday</b>
May, 2023 1 <sup>st</sup> Week 2,4-6 May	Revision of Syllabus and Class Test
7 May, 2023	<b>Sunday</b>
2 <sup>nd</sup> Week 9,11 -13 May	Revision of Syllabus and Class Tests
14 May, 2023	<b>Sunday</b>
17 May Onwards	<b>University Exams</b>

# KVA DAV College for Women, Karnal

## Lesson Plan For The Even Semester (February to May, 2023)

Name of the Teacher – Ms. Sushmita Kamboj

Class- B. Sc. IIIrd year

Subject- Botany

Paper-I : Biochemistry and Plant biotechnology

February,2023 1 <sup>st</sup> Week 1Feb , 3 Feb	Introduction to Syllabus and Scheme of Exam Discovery and Nomenclature, Characteristics of enzymes; concept of holoenzyme, Apo-enzyme, coenzyme and co-factors
5Feb, 2023	<b>Guru Ravidas Jayanti , Sunday</b>
2 <sup>nd</sup> Week 6 Feb - 8 Feb 10 Feb	Regulation of enzyme activity and their mechanism of action Definitions of Growth and development and their different phase
12 Feb, 2023	<b>Sunday</b>
3 <sup>rd</sup> Week 13 Feb - 15Feb 17 Feb	<b>Plant hormones-</b> Auxin, Gibberellins, Cytokines, history of their discovery & mechanism of action
18 Feb, 2023 19 Feb, 2023	<b>Maha Shivaratri Sunday</b>
4 <sup>th</sup> Week 20 Feb - 22 Feb 24 Feb	<b>Plant hormones-</b> Abscisic acid & ethylene (history and their action) <b>Photo morphogenesis</b> ; Phyto-chromes and their discovery , Physiological role and their mechanism of action
26 Feb, 2023	<b>Sunday</b>
5 <sup>th</sup> Week 27 Feb - 28 Feb	<b>Lipid metabolism:</b> structure and functions of lipids Biosynthesis of fatty acids, $\beta$ -oxidation of fatty acids
March, 2023 1 <sup>st</sup> Week 1March, 3 March	Saturated & Unsaturated Fatty acids <b>Storage &amp; mobilization of fatty acids</b> -Oral test of Regulation of enzyme activity and mechanism of action
2 <sup>nd</sup> Week 5-12 March, 2023	<b>Holi Break</b>
2 <sup>nd</sup> Week 13-15 March, 17 March 2023	<b>Nitrogen Metabolism:</b> Biology of nitrogen Fixation -Importance of nitrate reductase & its regulation
19 March, 2023	<b>Sunday</b>
4 <sup>th</sup> Week 20 - 22 March, 24 March	Ammonium assimilation Phytochromes
23 March, 2023 26 March, 2023	<b>Shaheedi Diwas/Martyrdom Day of BhagatSingh, Rajguru&amp;Sukhdev Sunday</b>

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## Lesson Plan For The Even Semester (February to May 2023)

Name of the Teacher – Ms. Sushmita Kamboj

Class- B.Sc. IIIrd year

Subject- Botany

Paper-I :Biochemistry and Plant Biotechnology

30 March, 2023	<b>Ram Navmi</b>
5 <sup>th</sup> Week 27-29 March 31 March	Tools & techniques of recombinant DNA technology Cloning vectors
2 April, 2023	<b>Sunday</b>
2 <sup>nd</sup> Week 3 - 5 April	Genomic & cDNA library Transposable elements
4 April, 2023 9 April, 2023	<b>Mahavir Jayanti</b> <b>Sunday</b>
3 <sup>rd</sup> Week 10 -12 April	Revision of Syllabus and Class Tests
14 April, 2023 16 April, 2023	<b>Vaisakhi/Dr. B.R. Ambedkar Jayanti</b> <b>Sunday</b>
4 <sup>th</sup> Week 17 -21 April	<b>Sessional Exams</b>
22 April, 2023 23 April, 2023	<b>Id-UI-Fitr/Parshuram Jayanti</b> <b>Sunday</b>
5 <sup>th</sup> Week 24 -26 April 28 April	Cellular totipotency Differentiation & morphogenesis Vectors for gene delivery and marker gene
30 April, 2023	<b>Sunday</b>
May, 2023 1 <sup>st</sup> Week 1 – 3 May	Revision of Syllabus and Class Test
7 May, 2023	<b>Sunday</b>
2 <sup>nd</sup> Week 8 - 10 May 12 May	Revision of Syllabus and Class Tests
14 May, 2023	<b>Sunday</b>
17 May Onwards	<b>University Exams</b>

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Name of the Teacher –Ms. Sushmita Kamboj

Class- B. Sc. IIIrd year

Subject- Botany

Paper-II: Economic Botany

February,2023 1 <sup>st</sup> Week 2-4Feb	Introduction to Syllabus and Scheme of Exam  Food Plants- Cereals- Rice (Origin, Distribution, Botanical description, idea of cultivation and uses)
5Feb, 2023	<b>Guru Ravidas Jayanti , Sunday</b>
2 <sup>nd</sup> Week 9– 11Feb	<b>Cereal-</b> Wheat (Origin, Distribution, Botanical description, idea of cultivation and uses)
12Feb, 2023	<b>Sunday</b>
3 <sup>rd</sup> Week 16 – 17 Feb	<b>Cereal-</b> Maize (Origin, Distribution, Botanical description, idea of cultivation and uses)
18 Feb, 2023 19 Feb, 2023	<b>Maha Shivaratri Sunday</b>
4 <sup>th</sup> Week 23 -25Feb	<b>Pulses -</b> Gram, Arhar, Pea
26 Feb, 2023	<b>Sunday</b>
March, 2023 1 <sup>st</sup> Week 2-4March	<b>Vegetables -</b> Tomato, Potato and Onion
2 <sup>nd</sup> Week 5 -12 March, 2023	<b>Holi Break</b>
2 <sup>nd</sup> Week 16-18 March	<b>Oils -</b> Groundnut, Mustard and Coconut
19 March, 2023	<b>Sunday</b>
4 <sup>th</sup> Week 24-25March	<b>Fibers -</b> Cotton, Jute & Flax
23 March, 2023  26 March, 2023	<b>Shaheedi Diwas/Martyrdom Day of BhagatSingh, Rajguru&amp;Sukhdev Sunday</b>

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Class- B.Sc. IIIrd year

Subject- Botany

Paper-II : Economic Botany

30 March, 2023	<b>Ram Navmi</b>
5 <sup>th</sup> Week 31 March, 1 April	Morphology of Plant part used, brief idea of cultivation and uses  -Spices- Coriander, Ferula
2 April, 2023	<b>Sunday</b>
2 <sup>nd</sup> Week 6 -8 April	Spices- Ginger , Turmeric & cloves
4 April, 2023 9 April, 2023	<b>Mahavir Jayanti</b> <b>Sunday</b>
3 <sup>rd</sup> Week 13 – 15 April	<b>Medicinal Plants-</b> <i>Cinchona, Rauwolfia, Atropa, Opium, Cannabis,</i> Neem
14 April, 2023 16 April, 2023	<b>Vaisakhi/Dr. B.R. Ambedkar Jayanti</b> <b>Sunday</b>
4 <sup>th</sup> Week 17 -21 April	<b>Sessional Exams</b>
22 April, 2023 23 April, 2023	<b>Id-Ul-Fitr/Parshuram Jayanti</b> <b>Sunday</b>
5 <sup>th</sup> Week 27 - 29 April	<b>Botanical description &amp; Processing-</b> <b>Beverages-</b> Tea& Coffee
30 April, 2023	<b>Sunday</b>
May, 2023 1 <sup>st</sup> Week 4 - 6 May	Revision of Syllabus and Class Test
7 May, 2023	<b>Sunday</b>
2 <sup>nd</sup> Week 11-13 May	Revision of Syllabus and Class Tests
14 May, 2023	<b>Sunday</b>
17 May Onwards	<b>University Exams</b>