Lesson Plan

Class: B.Sc. (Med.) 2nd Semester

Subject: Botany Major (Theory)

Dr. Priyanka Sharma: From Jan 2026 to May 2026

Time period	Topics
JAN (Week 4)	**Bryophytes:** General characters, adaptations to land habit; classification upto classes (Smith,1935); range of thallus organization; alternation of generations; evolution of sporophytes; economic importance.
FEB (Week 1)	Morphology, anatomy and reproduction of *Marchantia* (Hepaticopsida) **TEST OF BRYOPHYTES**
Week 2	Morphology, anatomy and reproduction of *Anthoceros* (Anthocerotopsida)
Week 3	Morphology, anatomy and reproduction of *Funaria* (Bryopsida)**TEST**
Week 4	**Pteridophytes:** General characters; classification (upto classes); alternation of generations; heterospory and seed habit; apospory and apogamy; stelar evolution; economic importance
MARCH (Week 1)	Morphology, anatomy and reproduction of *Rhynia* (Psilopsida), *Selaginella* (Lycopsida)
Week 2	*Equisetum* (Sphenopsida), *Pteris* (Pteropsida).
Week 3	Palaeobotany- Fossils and Fossilization (Process involved, types of fossils and importance of fossils);
Week 4	Reconstruction of the fossil plants:*Lyginopteris, Williamsonia, Cycadeoidea (= Bennettites*); origin and evolution of Gymnosperms; Geological Time Table **Test**
APRIL (Week 1)	**Gymnosperms:** General characters; Pilger and Melchior's (1954) system classification of Gymnosperms, economic importance.
Week 2	Morphology and anatomy of root, stem, leaf/leaflet and reproductive parts including mode of reproduction, life-cycle and economic importance of *Cycas.*
Week 3	*Pinus* and *Ephedra*
Week 4	Revision and test

MAY (Week 1)	Revision and test

Lesson Plan

Class: B.Sc. (Med.) 2nd Semester

Subject: Botany Major (Practical)

Dr. Priyanka Sharma: From Jan. 2026 to May 2026

Time period	Topics
Jan. (Week 4)	***Marchantia***- morphology of thallus, WM rhizoids and scales, VS thallus with gemma cup, WM gemmae, VS of antheridiophore and archegoniophore, LS sporophyte (temporary/ permanent slides)
Feb. (Week 1)	***Anthoceros***- morphology of thallus, WM rhizoids, VS thallus, VS Antheridia and Archegonia, LS sporophyte (temporary/ permanent slides)
Week 2	***Funaria***- morphology, WM leaf, rhizoids, operculum, peristome, annulus, spores, slides showing antheridial and archegonial heads, LS capsule (temporary/ permanent slides)
Week 3	**Revision and Test**
Week 4	***Selaginella***- morphology, WM leaf with ligule, TS stem, WM strobilus, WM microsporophyll and megasporophyll, LS strobilus (temporary/ permanent slide)
March (Week 1)	***Equisetum***- morphology, TS internode, LS strobilus, TS strobilus, WM sporangiophore, WM spores (wet and dry) (temporary slides); TS rhizome (permanent slide)
Week 2	***Pteris***- morphology, TS rachis, VS sporophyll, WM sporangium, WM spores, TS rhizome, WM prothallus with sex organs and young sporophyte (temporary/ permanent slide)
Week 3	***Cycas***- morphology (coralloid roots, bulbil, leaf), TS coralloid root, TS rachis, VS leaflet, VS microsporophyll, WM spores, LS ovule, TS root, LS Seed (temporary/ permanent slide)

Week 4	***Pinus***- morphology (long and dwarf shoots, WM dwarf shoot, male and female), WM dwarf shoot, TS needle, TS stem, LS/TS male cone, WM microsporophyll, WM microspores (temporary slides), LS female cone, LS Seed (temporary/ permanent slide)
April (Week 1)	***Ephedra* –** morphology of stem, TS root, TS stem, LS/TS male strobilus, LS microsporangium, LS female strobilus, LS Seed temporary/ permanent slide)
Week 2	Microtomic technique for permanent slide preparation
Week 3	Excursions and field visit for plant collection
Week 4	Revision and test
May (Week 1)	Revision and test

Lesson Plan

Class: B.Sc. (Med.) 2nd Semester

Subject: Botany Major (Theory)

Dr. Abhishek : From Jan. 2026 to May 2026

Time period	Topics
JAN Week 4	**Bryophytes:** General characters, adaptations to land habit; classification upto classes (Smith,1935); range of thallus organization; alternation of generations; evolution of sporophytes; economic importance.
FEB Week 1	Morphology, anatomy and reproduction of *Marchantia* (Hepaticopsida **TEST OF BRYOPHYTES**
Week 2	Morphology, anatomy and reproduction of *Anthoceros* (Anthocerotopsida)
Week 3	Morphology, anatomy and reproduction of *Funaria* (Bryopsida)**TEST**

Week 4	**Pteridophytes:** General characters; classification (upto classes); alternation of generations; heterospory and seed habit; apospory and apogamy; stelar evolution; economic importance
MARCH (Week 1)	Morphology, anatomy and reproduction of *Rhynia* (Psilopsida), *Selaginella* (Lycopsida)
Week 2	*Equisetum* (Sphenopsida), *Pteris* (Pteropsida).
Week 3	Palaeobotany- Fossils and Fossilization (Process involved, types of fossils and importance of fossils);
Week 4	Reconstruction of the fossil plants:*Lyginopteris, Williamsonia, Cycadeoidea (= Bennettites*); origin and evolution of Gymnosperms; Geological Time Table **Test**
APRIL (Week 1)	**Gymnosperms:** General characters; Pilger and Melchior's (1954) system classification of Gymnosperms, economic importance.
Week 2	Morphology and anatomy of root, stem, leaf/leaflet and reproductive parts including mode of reproduction, life-cycle and economic importance of *Cycas.*
Week 3	*Pinus* and *Ephedra*
Week 4	Revision and test
May (Week 1)	Revision and test

Lesson Plan

Class: B.Sc. (Med.) 2nd Semester

Subject: Botany Major (Practical)

Dr. Abhishek: From Jan. 2026 to May 2026

Time period	Topics
Jan. (Week 4)	***Marchantia***- morphology of thallus, WM rhizoids and scales, VS thallus with gemma cup, WM gemmae, VS of antheridiophore and archegoniophore, LS sporophyte (temporary/ permanent slides)
Feb. (Week 1)	***Anthoceros***- morphology of thallus, WM rhizoids, VS thallus, VS Antheridia and Archegonia, LS sporophyte (temporary/ permanent slides)

Week 2	***Funaria***- morphology, WM leaf, rhizoids, operculum, peristome, annulus, spores, slides showing antheridial and archegonial heads, LS capsule (temporary/ permanent slides)
Week 3	**Revision and Test**
Week 4	***Selaginella***- morphology, WM leaf with ligule, TS stem, WM strobilus, WM microsporophyll and megasporophyll, LS strobilus (temporary/ permanent slide)
March (Week 1)	***Equisetum***- morphology, TS internode, LS strobilus, TS strobilus, WM sporangiophore, WM spores (wet and dry) (temporary slides); TS rhizome (permanent slide)
Week 2	***Pteris***- morphology, TS rachis, VS sporophyll, WM sporangium, WM spores, TS rhizome, WM prothallus with sex organs and young sporophyte (temporary/ permanent slide)
Week 3	***Cycas***- morphology (coralloid roots, bulbil, leaf), TS coralloid root, TS rachis, VS leaflet, VS microsporophyll, WM spores, LS ovule, TS root, LS Seed (temporary/ permanent slide)
Week 4	***Pinus***- morphology (long and dwarf shoots, WM dwarf shoot, male and female), WM dwarf shoot, TS needle, TS stem, LS/TS male cone, WM microsporophyll, WM microspores (temporary slides), LS female cone, LS Seed (temporary/ permanent slide)
April (Week 1)	***Ephedra*** **–** morphology of stem, TS root, TS stem, LS/TS male strobilus, LS microsporangium, LS female strobilus, LS Seed temporary/ permanent slide)
Week 2	Microtomic technique for permanent slide preparation
Week 3	Excursions and field visit for plant collection
Week 4	Revision and test
May (Week 1)	Revision and test

Lesson Plan

Class: B.Sc. (Med.) 2nd Semester

Subject: Botany Major (Theory)

Dr. Swati Nandal : From Jan. 2026 to May 2026

Time period	Topics
JAN Week 4	**Bryophytes:** General characters, adaptations to land habit; classification upto classes (Smith,1935); range of thallus organization; alternation of generations; evolution of sporophytes; economic importance.
FEB Week 1	Morphology, anatomy and reproduction of *Marchantia* (Hepaticopsida **TEST OF BRYOPHYTES**
Week 2	Morphology, anatomy and reproduction of *Anthoceros* (Anthocerotopsida)
Week 3	Morphology, anatomy and reproduction of *Funaria* (Bryopsida)**TEST**
Week 4	**Pteridophytes:** General characters; classification (upto classes); alternation of generations; heterospory and seed habit; apospory and apogamy; stelar evolution; economic importance
MARCH (Week 1)	Morphology, anatomy and reproduction of *Rhynia* (Psilopsida), *Selaginella* (Lycopsida)
Week 2	*Equisetum* (Sphenopsida), *Pteris* (Pteropsida).
Week 3	Palaeobotany- Fossils and Fossilization (Process involved, types of fossils and importance of fossils);
Week 4	Reconstruction of the fossil plants:*Lyginopteris, Williamsonia, Cycadeoidea (= Bennettites*); origin and evolution of Gymnosperms; Geological Time Table **Test**
APRIL (Week 1)	**Gymnosperms:** General characters; Pilger and Melchior's (1954) system classification of Gymnosperms, economic importance.
Week 2	Morphology and anatomy of root, stem, leaf/leaflet and reproductive parts including mode of reproduction, life-cycle and economic importance of *Cycas.*
Week 3	*Pinus* and *Ephedra*
Week 4	Revision and test

May (Week 1)	Revision and test

Lesson Plan

Class: B.Sc. (Med.) 2nd Semester

Subject: Botany Major (Practical)

Dr. Swati Nandal: From Jan. 2026 to May 2026

Time period	Topics
Jan. (Week 4)	***Marchantia***- morphology of thallus, WM rhizoids and scales, VS thallus with gemma cup, WM gemmae, VS of antheridiophore and archegoniophore, LS sporophyte (temporary/ permanent slides)
Feb. (Week 1)	***Anthoceros***- morphology of thallus, WM rhizoids, VS thallus, VS Antheridia and Archegonia, LS sporophyte (temporary/ permanent slides)
Week 2	***Funaria***- morphology, WM leaf, rhizoids, operculum, peristome, annulus, spores, slides showing antheridial and archegonial heads, LS capsule (temporary/ permanent slides)
Week 3	**Revision and Test**
Week 4	***Selaginella***- morphology, WM leaf with ligule, TS stem, WM strobilus, WM microsporophyll and megasporophyll, LS strobilus (temporary/ permanent slide)
March (Week 1)	***Equisetum***- morphology, TS internode, LS strobilus, TS strobilus, WM sporangiophore, WM spores (wet and dry) (temporary slides); TS rhizome (permanent slide)
Week 2	***Pteris***- morphology, TS rachis, VS sporophyll, WM sporangium, WM spores, TS rhizome, WM prothallus with sex organs and young sporophyte (temporary/ permanent slide)
Week 3	***Cycas***- morphology (coralloid roots, bulbil, leaf), TS coralloid root, TS rachis, VS leaflet, VS microsporophyll, WM spores, LS ovule, TS root, LS Seed (temporary/ permanent slide)

Week 4	***Pinus***- morphology (long and dwarf shoots, WM dwarf shoot, male and female), WM dwarf shoot, TS needle, TS stem, LS/TS male cone, WM microsporophyll, WM microspores (temporary slides), LS female cone, LS Seed (temporary/ permanent slide)
April (Week 1)	***Ephedra* –** morphology of stem, TS root, TS stem, LS/TS male strobilus, LS microsporangium, LS female strobilus, LS Seed temporary/ permanent slide)
Week 2	Microtomic technique for permanent slide preparation
Week 3	Excursions and field visit for plant collection
Week 4	Revision and test
May (Week 1)	Revision and test

Lesson Plan

Class: B.Sc. (Med.) 2nd Semester

Subject: Botany Major (Practical)

Dr. Indu: From Jan. 2026 to May 2026

Time period	Topics
Jan. (Week 4)	***Marchantia***- morphology of thallus, WM rhizoids and scales, VS thallus with gemma cup, WM gemmae, VS of antheridiophore and archegoniophore, LS sporophyte (temporary/ permanent slides)
Feb. (Week 1)	***Anthoceros***- morphology of thallus, WM rhizoids, VS thallus, VS Antheridia and Archegonia, LS sporophyte (temporary/ permanent slides)
Week 2	***Funaria***- morphology, WM leaf, rhizoids, operculum, peristome, annulus, spores, slides showing antheridial and archegonial heads, LS capsule (temporary/ permanent slides)
Week 3	**Revision and Test**

Week 4	***Selaginella***- morphology, WM leaf with ligule, TS stem, WM strobilus, WM microsporophyll and megasporophyll, LS strobilus (temporary/ permanent slide)
March (Week 1)	***Equisetum***- morphology, TS internode, LS strobilus, TS strobilus, WM sporangiophore, WM spores (wet and dry) (temporary slides); TS rhizome (permanent slide)
Week 2	***Pteris***- morphology, TS rachis, VS sporophyll, WM sporangium, WM spores, TS rhizome, WM prothallus with sex organs and young sporophyte (temporary/ permanent slide)
Week 3	***Cycas***- morphology (coralloid roots, bulbil, leaf), TS coralloid root, TS rachis, VS leaflet, VS microsporophyll, WM spores, LS ovule, TS root, LS Seed (temporary/ permanent slide)
Week 4	***Pinus***- morphology (long and dwarf shoots, WM dwarf shoot, male and female), WM dwarf shoot, TS needle, TS stem, LS/TS male cone, WM microsporophyll, WM microspores (temporary slides), LS female cone, LS Seed (temporary/ permanent slide)
April (Week 1)	***Ephedra*** **–** morphology of stem, TS root, TS stem, LS/TS male strobilus, LS microsporangium, LS female strobilus, LS Seed temporary/ permanent slide)
Week 2	Microtomic technique for permanent slide preparation
Week 3	Excursions and field visit for plant collection
Week 4	Revision and test
May (Week 1)	Revision and test

Lesson Plan

Class: B.Sc. (Med.) 2nd Semester

Subject: Botany Major (Practical)

Dr. Veena Sachdeva: From Jan. 2026 to May 2026

Time period	Topics
Jan. (Week 1)	***Marchantia***- morphology of thallus, WM rhizoids and scales, VS thallus with gemma cup,
Week 2	WM gemmae, VS of antheridiophore and archegoniophore, LS sporophyte (temporary/ permanent slides)
Week 3	***Anthoceros***- morphology of thallus, WM rhizoids, VS thallus, VS Antheridia and Archegonia, LS sporophyte (temporary/ permanent slides)
Week 4	***Funaria***- morphology, WM leaf, rhizoids, operculum, peristome, annulus, spores,
Feb. (Week 1)	slides showing antheridial and archegonial heads, LS capsule (temporary/ permanent slides)
Week 2	**Revision and Test**
Week 3	***Selaginella***- morphology, WM leaf with ligule, TS stem, WM strobilus, WM microsporophyll and megasporophyll, LS strobilus (temporary/ permanent slide)
Week 4	***Equisetum***- morphology, TS internode, LS strobilus, TS strobilus, WM sporangiophore, WM spores (wet and dry) (temporary slides); TS rhizome (permanent slide)
March (Week 1)	***Pteris***- morphology, TS rachis, VS sporophyll, WM sporangium, WM spores, TS rhizome, WM prothallus with sex organs and young sporophyte (temporary/ permanent slide)
Week 2	***Cycas***- morphology (coralloid roots, bulbil, leaf), TS coralloid root, TS rachis, VS leaflet,
Week 3	VS microsporophyll, WM spores, LS ovule, TS root, LS Seed (temporary/ permanent slide)
Week 4	***Pinus***- morphology (long and dwarf shoots, WM dwarf shoot, male and female), WM dwarf shoot, TS needle, TS stem, LS/TS

	male cone, WM microsporophyll, WM microspores (temporary slides), LS female cone, LS Seed (temporary/ permanent slide)
April (Week 1)	***Ephedra* –** morphology of stem, TS root, TS stem, LS/TS male strobilus, LS microsporangium, LS female strobilus, LS Seed temporary/ permanent slide)
Week 2	Microtomic technique for permanent slide preparation
Week 3	Excursions and field visit for plant collection
Week 4	Revision and test
May (Week 1)	Revision and test

Lesson Plan

Class: B.Sc. (Med.) 2nd Semester

Subject: Botany Skill (Theory)

Dr. Swati Malik : From Jan. 2026 to May 2026

Time period	Topics
Jan (Week 4)	History of gardening; Importance and scope of floriculture and landscape gardening.
Feb. (Week 1)	Nursery Management and Routine Garden Operations:Sexual and vegetative methods of propagation;
Week 2	Soil sterilization;Seed sowing; Pricking;Planting and transplanting; Shading; Stopping or pinching (**TEST)**
Week 3	Defoliation;Wintering;Mulching;Topiary;Role of plant growth regulators.
Week 4	Ornamental Plants:Flowering annuals (*Petunia*, *Chrysanthemum*);.
March (Week 1)	perennials (Rose, China Rose);Divine vines (Money plant, Monstera);Shade and ornamental trees;Ornamental bulbous and foliage plants;
Week 2	Cacti and succulents;Palms and Cycads;Ferns and Selaginellas; Cultivation of plants in pots;Indoor gardening; Bonsai
Week 3	**Revision and test.**

Week 4	Principles of Garden Design and landscaping ideas;
April (Week 1)	Features of garden (Gardenwall, Fencing, Steps, Hedge, Edging, Lawn, Flower beds, Shrubbery, Borders, Watergarden)
Week 2	. Commercial Floriculture: Factors affecting flower production;
Week 3	Production and packaging of cut flowers;Flower arrangements; Methods to prolong vase life ; **(test)**
Week 4	Cultivation of Important cut flowers(Carnation,Aster,Chrysanthemum,
May (Week 1)	Cultivation of Important cut flowers(Dahlia,Gerbera,Gladiolous,).
Week 2	Cultivation of Important cut flowers(Marigold, Rose,Lilium,Orchids).
Week 3	**Revision and test.**
Week 4	**Revision and test.**

Lesson Plan

Class: B.Sc. (Med.) 2nd Semester

Subject: Botany Skill (Practical)

Dr. Sinky Sharma: From Jan. 2026 to May 2026

Time period	Topics
JAN (Week 4)	Plant propagation by cutting
FEB (Week 1)	Plant propagation by grafting.
Week 2	Plant propagation by air-layering.
Week 3	Investigating the effect of different flower preservatives on the vase life of common ornamental flowers
Week 4	Setting up a laboratory scale hydroponics setup.
MARCH (Week 1)	Preparation of different types of floral arrangements.

Week 2	**Revision and test.**
Week 3	Morpho-anatomical study of different types of flowers.
Week 4	Submission of self-grown plant with record
APRIL (Week 1)	Revision and test.
Week 2	Submission of self-grown plant with record
Week 3	Preparation of different types of floral arrangements.
Week 4	Revision
MAY (Week 1)	**Revision and test**

Lesson Plan

Class: B.Sc. (Med.) 4th Semester

Subject: Botany Major (Theory)

Dr. Nidhi Verma: From JAN 2026 to MAY 2026

Time period	Topics
JAN (Week 4)	Tissues - meristematic and permanent (simple, complex and secretory); Tissue systems (Epidermal, ground and vascular) The Shoot system – Histological organizations of shoot apical meristem; Cambium - structure and functions; Secondary growth in dicot stem;
FEB (Week 1)	Anomalous secondary growth (Dracaena, Boerhaavia, Achyranthus and Salvadora) (**TEST)**
Week 2	Leaf- Anatomy of typical Monocot and Dicot leaf; cell inclusions in leaves; Stomatal apparatus and their morphological types, modifications of leaves and Secondary functions of leaves
Week 3	Root system- Histological organizations of root apical meristem; Secondary growth in dicot root; Functions of roots, Structural modifications in roots: Storage (Beta), Respiratory (Rhizophora), Epiphytic (Vanda)
Week 4	Flower-a modified shoot, Development of anther, Microsporogenesis, (microgametogenesis) **(TEST)**
MARCH (Week 1)	Microsporangium -structure and dehiscence mechanism
Week 2	pollen grain and its structure (pollen wall), Pollen germination

Week 3	Male gametophyte, Pollen-pistil interaction; self incompatibility, Pollination: types and agencies. Evolutionary aspects of pollination **(TEST)**
Week 4	Structure of Megasporangium (ovule) and its types; Monocot seed, Megasporogenesis and Megagametogenesis,
APRIL (Week 1)	Female gametophyte (mono, bi and tetrasporic), Double fertilization and its biological importance,
Week 2	Endosperm types. Embryogenesis in Dicot and Monocot **(TEST)**
Week 3	Fruit types; Dispersal mechanisms in fruits and seeds. Polyembryony, Structure of Dicot
Week 4	Revision
MAY (Week 1)	Revision

Lesson Plan

Class: B.Sc. (Med.) 4th Semester

Subject: Botany Major (Practical)

Dr. Nidhi Verma : From Jan 2026 to May 2026

Time period	Topics
JAN (Week 4)	1. Study of various meristems and plant tissues by permanent and temporary slides.
FEB (Week 1)	2. Identification of plant organs on the basis of anatomy
Week 2	3. Study of anatomy of root, stem and leaves by double staining method

Week 3	4. Study of microsporogenesis and gametogenesis in sections of anthers.
Week 4	5. Examination of modes of anther dehiscence and collection of pollen grains for microscopic examination (maize, grasses, Cannabis sativa, Tradescantia, Crotolaria)
MARCH (Week 1)	(Brassica, Petunia, Solanum melongena)
Week 2	6. Field study of several types of flowers with different pollination mechanisms (wind pollination,
Week 3	water pollination, bee/butterfly pollination, bird pollination).
Week 4	7. Study of nuclear and cellular endosperm through permanent slides.
APRIL (Week 1)	8. Isolation of zygotic globular, heart shaped, torpedo stage and mature embryos from suitable seeds.
Week 2	9. To study polyembryony in citrus, jamun, etc. by dissections.
Week 3	10. Study of seed dormancy and methods to break dormancy
Week 4	Revision
MAY (Week 1)	Revision

Lesson Plan

Class: B.Sc. (Med.) 4th Semester

Subject: Botany Major (Theory)

Dr. Swati Balhara : From JAN 2026 to MAY 2026

Time period	Topics
JAN (Week 4)	Tissues - meristematic and permanent (simple, complex and secretory); Tissue systems (Epidermal, ground and vascular) The Shoot system – Histological organizations of shoot apical meristem; Cambium - structure and functions; Secondary growth in dicot stem;
FEB (Week 1)	Anomalous secondary growth (Dracaena, Boerhaavia, Achyranthus and Salvadora) **(TEST)**
Week 2	Leaf- Anatomy of typical Monocot and Dicot leaf; cell inclusions in leaves; Stomatal apparatus and their morphological types, modifications of leaves and Secondary functions of leaves
Week 3	Root system- Histological organizations of root apical meristem; Secondary growth in dicot root; Functions of roots, Structural modifications in roots: Storage (Beta), Respiratory (Rhizophora), Epiphytic (Vanda)
Week 4	Flower-a modified shoot, Development of anther, Microsporogenesis, (microgametogenesis) **(TEST)**
MARCH (Week 1)	Microsporangium -structure and dehiscence mechanism
Week 2	pollen grain and its structure (pollen wall), Pollen germination

Week 3	Male gametophyte, Pollen-pistil interaction; self-incompatibility, Pollination: types and agencies. Evolutionary aspects of pollination **(TEST)**
Week 4	Structure of Megasporangium (ovule) and its types; Monocot seed, Megasporogenesis and Megagametogenesis,
APRIL (Week 1)	Female gametophyte (mono, bi and tetrasporic), Double fertilization and its biological importance,
Week 2	Endosperm types. Embryogenesis in Dicot and Monocot **(TEST)**
Week 3	Fruit types; Dispersal mechanisms in fruits and seeds. Polyembryony, Structure of Dicot
Week 4	Revision
MAY (Week 1)	Revision

Lesson Plan

Class: B.Sc. (Med.) 4th Semester

Subject: Botany Major (Practical)

Dr. Swati Balhara : From Jan 2026 to May 2026

Time period	Topics
JAN (Week 4)	1. Study of various meristems and plant tissues by permanent and temporary slides.
FEB (Week 1)	2. Identification of plant organs on the basis of anatomy
Week 2	3. Study of anatomy of root, stem and leaves by double staining method

Week 3	4. Study of microsporogenesis and gametogenesis in sections of anthers.
Week 4	5. Examination of modes of anther dehiscence and collection of pollen grains for microscopic examination (maize, grasses, Cannabis sativa, Tradescantia, Crotolaria)
MARCH (Week 1)	(Brassica, Petunia, Solanum melongena)
Week 2	6. Field study of several types of flowers with different pollination mechanisms (wind pollination,
Week 3	water pollination, bee/butterfly pollination, bird pollination).
Week 4	7. Study of nuclear and cellular endosperm through permanent slides.
APRIL (Week 1)	8. Isolation of zygotic globular, heart shaped, torpedo stage and mature embryos from suitable seeds.
Week 2	9. To study polyembryony in citrus, jamun, etc. by dissections.
Week 3	10. Study of seed dormancy and methods to break dormancy
Week 4	Revision
MAY (Week 1)	Revision

Lesson Plan

Class: B.Sc. (Med.) 4th Semester

Subject: Botany Major (Theory)

Dr. Swati Malik : From JAN 2026 to MAY 2026

Time period	Topics
JAN (Week 4)	Tissues - meristematic and permanent (simple, complex and secretory); Tissue systems (Epidermal, ground and vascular) The Shoot system – Histological organizations of shoot apical meristem; Cambium - structure and functions; Secondary growth in dicot stem;
FEB (Week 1)	Anomalous secondary growth (Dracaena, Boerhaavia, Achyranthes and Salvadora) **(TEST)**
Week 2	Leaf- Anatomy of typical Monocot and Dicot leaf; cell inclusions in leaves; Stomatal apparatus and their morphological types, modifications of leaves and Secondary functions of leaves
Week 3	Root system- Histological organizations of root apical meristem; Secondary growth in dicot root; Functions of roots, Structural modifications in roots: Storage (Beta), Respiratory (Rhizophora), Epiphytic (Vanda)
Week 4	Flower-a modified shoot, Development of anther, Microsporogenesis, (microgametogenesis) **(TEST)**
MARCH (Week 1)	Microsporangium -structure and dehiscence mechanism
Week 2	pollen grain and its structure (pollen wall), Pollen germination

Week 3	Male gametophyte, Pollen-pistil interaction; self incompatibility, Pollination: types and agencies. Evolutionary aspects of pollination **(TEST)**
Week 4	Structure of Megasporangium (ovule) and its types; Monocot seed, Megasporogenesis and Megagametogenesis,
APRIL (Week 1)	Female gametophyte (mono, bi and tetrasporic), Double fertilization and its biological importance,
Week 2	Endosperm types. Embryogenesis in Dicot and Monocot **(TEST)**
Week 3	Fruit types; Dispersal mechanisms in fruits and seeds. Polyembryony, Structure of Dicot
Week 4	Revision
MAY (Week 1)	Revision

Lesson Plan

Class: B.Sc. (Med.) 4th Semester

Subject: Botany Major (Practical)

Dr. Swati Malik : From Jan 2026 to May 2026

Time period	Topics
JAN (Week 4)	1. Study of various meristems and plant tissues by permanent and temporary slides.
FEB (Week 1)	2. Identification of plant organs on the basis of anatomy
Week 2	3. Study of anatomy of root, stem and leaves by double staining method

Week 3	4. Study of microsporogenesis and gametogenesis in sections of anthers.
Week 4	5. Examination of modes of anther dehiscence and collection of pollen grains for microscopic examination (maize, grasses, Cannabis sativa, Tradescantia, Crotolaria)
MARCH (Week 1)	(Brassica, Petunia, Solanum melongena)
Week 2	6. Field study of several types of flowers with different pollination mechanisms (wind pollination,
Week 3	water pollination, bee/butterfly pollination, bird pollination).
Week 4	7. Study of nuclear and cellular endosperm through permanent slides.
APRIL (Week 1)	8. Isolation of zygotic globular, heart shaped, torpedo stage and mature embryos from suitable seeds.
Week 2	9. To study polyembryony in citrus, jamun, etc. by dissections.
Week 3	10. Study of seed dormancy and methods to break dormancy
Week 4	Revision
MAY (Week 1)	Revision

Lesson Plan

Class: B.Sc. (Med.) 4th Semester

Subject: Botany Major (Practical)

Dr. Renu Budhwar : From Jan 2026 to May 2026

Time period	Topics
JAN (Week 1)	1. Study of various meristems and plant tissues by permanent and temporary slides.
Week 2	2. Identification of plant organs on the basis of anatomy
Week 3	3. Study of anatomy of root, stem and leaves by double staining method
Week 4	4. Study of microsporogenesis and gametogenesis in sections of anthers.
FEB (Week 1)	5. Examination of modes of anther dehiscence and collection of pollen grains for microscopic examination (maize, grasses)
Week 2	Cannabis sativa, Tradescantia, Crotolaria)
Week 3	Brassica,
Week 4	Petunia,
MARCH (Week 1)	Solanum melongena)
Week 2	water pollination
Week 3	, bee/butterfly pollination, bird pollination).
Week 4	7. Study of nuclear and cellular endosperm through permanent slides.
APRIL (Week 1)	8. Isolation of zygotic globular, heart shaped, torpedo stage and mature embryos from suitable seeds.
Week 2	9. To study polyembryony in citrus, jamun, etc. by dissections.

Week 3	10. Study of seed dormancy and methods to break dormancy
Week 4	Revision
MAY (Week 1)	Revision

Lesson Plan

Subject: Botany Minor vocational (Theory)

Dr. Priyanka Sharma: From JAN 2026 to MAY 2026

Time period	Topics
JAN (Week 4)	Horticulture: Definition, branches, scope and economic importance of horticultural crops. Classification of horticultural crops based on climatic requirements and season of growth.
FEB (Week1)	Manures: Definition, importance of manures, FYM (compost), oil cakes, green manure, .
Week 2	organic manures and vermicompost **(TEST)**
Week 3	Natural Propagation by seeds, vegetative Structures like Bulbs, Tubers, Corms, Rhizomes, Rootstock,
Week 4	runners, Offsets and suckers. Artificial Propagation: Cutting, Layering, Grafting and Budding.
MARCH (Week 1)	Application of plant growth regulators in horticulture – Auxins, Gibberellins, Cytokinins, Ethylene and Brassinosteroids **(TEST)** .
Week 2	Greenhouse technology- definition, types, layout, construction, irrigation systems, care and attention, hardening of plants.
Week 3	Soil and climatic requirements of horticultural crops, Selection of site, planning and training

Week 4	Management and Importance of Pruning and Cropping systems; garden implements and their uses.
APRIL (Week 1)	Management: Orchard management, Nutrition management, Water management and Weed **(TEST)**
Week 2	. Management. Growing of Important fruit plants (Mango, Ber, Almond, Lemon,
Week 3	Banana through vegetative methods)
Week 4	Revision and test.
MAY (Week 1)	Revision and test.

Lesson Plan

Class: B.Sc. (Med.) 4th Semester

Subject: Botany Minor Vocational (Practical)

Dr. Priyanka Sharma: From JAN 2026 to MAY 2026

Time period	Topics
JAN (Week 4)	1. Identification and use of various garden tools and implements.
FEB (Week 1)	2. Identification and description of any two varieties/hybrids of tropical and subtropical vegetable, fruit, flower and ornamental crops.
Week 2	3. Propagation practices by seed, Rhizome, bulb, corm, vegetative propagation (cutting, layering, budding, and grafting with two examples.
Week 3	4. Seed propagation- seed treatments, sowing and seedling production.
Week 4	5. Nursery practices, transplanting, field preparation, sowing/planting,
MARCH (Week 1)	use of herbicides, top dressing of fertilizers.
Week 2	6. Use of growth regulators in fruit crops.

Week 3	7. Identification and collection of important pests in fruit crops.
Week 4	8. Identification and collection of important diseases in fruit crops and Herbarium preparation.
APRIL (Week 1)	9. Making of organic compost.
Week 2	10. Identification and management of nutritional disorders inimportant fruits, vegetables, and flowers.
Week 3	11. Collection of herbarium on nutritional disorders and diseases of horticultural crops
Week 4	Revision and test.
MAY (Week 1)	Revision and test.

Lesson Plan

Class: B.Sc. (Med..) 4th Semester

Subject: Botany Minor Vocational (Practical)

Dr. Nidhi Verma: From JAN 2026 to MAY 2026

Time period	Topics
JAN (Week 4)	1. Identification and use of various garden tools and implements.
FEB (Week 1)	2. Identification and description of any two varieties/hybrids of tropical and subtropical vegetable, fruit, flower and ornamental crops.
Week 2	3. Propagation practices by seed, Rhizome, bulb, corm, vegetative propagation (cutting, layering, budding, and grafting with two examples.
Week 3	4. Seed propagation- seed treatments, sowing and seedling production.
Week 4	5. Nursery practices, transplanting, field preparation, sowing/planting,
MARCH (Week 1)	use of herbicides, top dressing of fertilizers.
Week 2	6. Use of growth regulators in fruit crops.

Week 3	7. Identification and collection of important pests in fruit crops.
Week 4	8. Identification and collection of important diseases in fruit crops and Herbarium preparation.
APRIL (Week 1)	9. Making of organic compost.
Week 2	10. Identification and management of nutritional disorders in important fruits, vegetables, and flowers.
Week 3	11. Collection of herbarium on nutritional disorders and diseases of horticultural crops
Week 4	Revision and test.
MAY (Week 1)	Revision and test.

Lesson Plan

Class: B.Sc. (Med.) 6th Semester

Subject: Botany Major (Theory)

Dr. Veena Sachdeva: From JAN 2026 to MAY 2026

Time period	Topics
JAN (Week 1)	Discovery and nomenclature of enzymes, Characteristics of enzymes, Concept of holoenzymes and apoenzymes, Coenzymes and cofactors, Regulation of enzyme activity I, Regulation of enzyme activity II
Week 2	Mechanism of enzyme action, Class test of enzymology, ATP, Aerobic respiration, Anaerobic respiration, Kreb`s cycle
Week 3	Chemiosmotic theory, Redox potential, Oxidative phosphorylation, Pentose phosphate pathway, Structure and function of lipids **(TEST)**
Week 4	Fatty acid biosynthesis and β oxidation, Saturated and unsaturated fatty acids, Storage and mobilization of fatty acids, Nitrogen metabolism
FEB (Week 1)	Tools of recombinant DNA technology, Cloning vectors, Genomic and cDNA library, Transposable elements, Techniques of recombinant DNA technology
Week 2	Cloning vectors, Genomic and cDNA library, Transposable elements, Aspects of plant tissue culture, Cellular totipotency **(TEST)**
Week 3	Differentiation, Morphogenesis, Biology of *Agrobacterium* sp., Vectors for gene delivery, Marker genes
Week 4	PAPER 2- Food plants – Rice, Wheat, Maize Pulses – gram, Arhar, Pea
MARCH (Week 1)	Vegetables – potato, Tomato, Onion Fibres – cotton, Jute, Flax **(TEST)**
Week 2	Groundnut, Mustard, Sunflower, Coconut Introduction to spices Spices – coriander, Ferula, Turmeric, Ginger, Clove
Week 3	Medicinal plants - *Cinchona* sp. *Rauwolfia sp., Atropa* sp., Opium sp.,
Week 4	*Cannabis* sp., *Azadirachta* sp., *Withania* sp.**(TEST)**
APRIL (Week 1)	Sugarcane and timber-yielding plants
Week 2	Beverages: Tea and Coffee **(TEST)**

Week 3	Energy plantation: *Hevea* sp. and Biofuels
Week 4	Revision and Test
MAY (Week 1)	Revision and Test

Lesson Plan

Class: B.Sc. (Med.) 6th Semester

Subject: Botany Major (Practical)

Dr. Veena Sachdeva: From JAN 2026 to MAY 2026

Time period	Topics
JAN (Week 1)	Demonstration of aerobic respiration
Week 2	Determination of anaerobic respiration
Week 3	Evolution of heat during respiration
Week 4	Demonstration of manometric determination of R.Q.
FEB (Week 1)	Determination of peroxidase activity
Week 2	Simple tests for detection of carbohydrates
Week 3	Simple tests for detection of proteins and fats
Week 4	Study of plants parts/products from point of view of economic importance of cereals, Pulses,
MARCH (Week 1)	Vegetables, oil yielding plants, fiber yielding
Week 2	Timber yielding, beverages, rubber yielding
Week 3	To prepare tissue culture medium
Week 4	Preparation of Petri plates and slants for culture
APRIL (Week 1)	Study of sterilization techniques
Week 2	Demonstration of anther culture
Week 3	Demonstration of protoplast isolation and culture, callus formation

Week 4	Revision and Test
MAY (Week 1)	Revision and Test

Lesson Plan

Class: B.Sc. (Med.) 6th Semester

Subject: Botany Major (Theory)

Dr. Renu Budhwar: From JAN 2026 to MAY 2026

Time period	Topics
JAN (Week 1)	Discovery and nomenclature of enzymes, Characteristics of enzymes, Concept of holoenzymes and apoenzymes, Coenzymes and cofactors, Regulation of enzyme activity I, Regulation of enzyme activity II
Week 2	Mechanism of enzyme action, Class test of enzymology, ATP, Aerobic respiration, Anaerobic respiration, Kreb`s cycle
Week 3	Chemiosmotic theory, Redox potential, Oxidative phosphorylation, Pentose phosphate pathway, Structure and function of lipids **(TEST)**
Week 4	Fatty acid biosynthesis and β Oxidation, Saturated and unsaturated fatty acids, Storage and mobilization of fatty acids, Nitrogen metabolism
FEB (Week 1)	Tools of recombinant DNA technology, Cloning vectors, Genomic and c DNA library, Transposable elements, Techniques of recombinant DNA technology
Week 2	Cloning vectors, Genomic and c DNA library, Transposable elements, Aspects of plant tissue culture, Cellular totipotency **(TEST)**
Week 3	Differentiation, Morphogenesis, Biology of *Agrobacterium* sp., Vectors for gene delivery, Marker genes
Week 4	PAPER 2- Food plants – Rice, Wheat, Maize Pulses – gram, Arhar, Pea
MARCH (Week 1)	Vegetables – potato, Tomato, Onion Fibres – cotton, Jute, Flax **(TEST)**
Week 2	Groundnut, Mustard, Sunflower, Coconut Introduction to spices Spices – coriander, Ferula, Turmeric, Ginger, Clove

Week 3	Medicinal plants - *Cinchona* sp. *Rauwolfia sp., Atropa* sp., Opium sp.,
Week 4	*Cannabis* sp., *Azadirachta* sp., *Withania* sp. **(TEST)**
APRIL (Week 1)	Sugarcane and timber-yielding plants
Week 2	Beverages: Tea and Coffee **(TEST)**
Week 3	Energy plantation: Hevea sp. and Biofuels
Week 4	Revision
MAY (Week 1)	Revision

Lesson Plan

Class: B.Sc. (Med.) 6th Semester

Subject: Botany Major (Practical)

Dr. Renu Budhwar: From JAN 2026 to MAY 2026

Time period	Topics
JAN (Week 1)	Demonstration of aerobic respiration
Week 2	Determination of anaerobic respiration
Week 3	Evolution of heat during respiration
Week 4	Demonstration of manometric determination of R.Q.
FEB (Week 1)	Determination of peroxidase activity
Week 2	Simple tests for detection of carbohydrates
Week 3	Simple tests for detection of proteins and fats
Week 4	Study of plants parts/products from point of view of economic importance of cereals, Pulses,
MARCH (Week 1)	Vegetables, oil yielding plants, fiber yielding
Week 2	Timber yielding, beverages, rubber yielding
Week 3	To prepare tissue culture medium

Week 4	Preparation of Petri plates and slants for culture
APRIL (Week 1)	Study of sterilization techniques
Week 2	Demonstration of anther culture
Week 3	Demonstration of protoplast isolation and culture, callus formation
Week 4	Revision and Test
MAY (Week 1)	Revision and Test

Lesson Plan

Class: B.Sc. (Med.) 6th Semester

Subject: Botany Major (Theory)

Dr. Indu : From JAN 2026 to MAY 2026

Time period	Topics
JAN (Week 4)	Discovery and nomenclature of enzymes, Characteristics of enzymes, Concept of holoenzymes and apoenzymes, Coenzymes and cofactors, Regulation of enzyme activity I, Regulation of enzyme activity II
FEB (Week 1)	Mechanism of enzyme action, Class test of enzymology, ATP, Aerobic respiration, Anaerobic respiration, Kreb`s cycle
Week 2	Chemiosmotic theory, Redox potential, Oxidative phosphorylation, Pentose phosphate pathway, Structure and function of lipids **(TEST)**
Week 3	Fatty acid biosynthesis and β Oxidation, Saturated and unsaturated fatty acids, Storage and mobilization of fatty acids, Nitrogen metabolism
Week 4	Tools of recombinant DNA technology, Cloning vectors, Genomic and c DNA library, Transposable elements, Techniques of recombinant DNA technology
MARCH (Week 1)	Cloning vectors, Genomic and c DNA library, Transposable elements, Aspects of plant tissue culture, Cellular totipotency **(TEST)**

Week 2	Differentiation, Morphogenesis, Biology of *Agrobacterium* sp., Vectors for gene delivery, Marker genes
Week 3	PAPER 2- Food plants – rice, Wheat, Maize Pulses – gram, Arhar, Pea
Week 4	Vegetables – potato, Tomato, Onion Fibres – cotton, Jute, Flax **(TEST)**
APRIL (Week 1)	Groundnut, Mustard, Sunflower, Coconut Introduction to spices Spices – coriander, Ferula, Turmeric, Ginger, Clove
Week 2	Medicinal plants - *Cinchona* sp. *Rauwolfia sp., Atropa* sp., Opium sp., *Cannabis* sp., *Azadirachta* sp., *Withania* sp. **(TEST)**
Week 3	Sugarcane and timber-yielding plants Beverages: Tea and Coffee Energy plantation: Hevea sp. and Biofuels
Week 4	Revision
MAY (Week 1)	Revision

Lesson Plan

Class: B.Sc. (Med.) 6th Semester

Subject: Botany Major (Practical)

Dr. Indu : From JAN 2026 to MAY 2026

Time period	Topics
JAN (Week 4)	Demonstration of aerobic respiration
FEB (Week 1)	Determination of anaerobic respiration
Week 2	Evolution of heat during respiration
Week 3	Demonstration of manometric determination of R.Q.
Week 4	Determination of peroxidase activity
MARCH (Week 1)	Simple tests for detection of carbohydrates, proteins and fats

Week 2	Study of plants parts/products from point of view of economic importance of cereals, Pulses, Vegetables, oil yielding plants,
Week 3	fiber yielding, Timber yielding, beverages, rubber yielding
Week 4	To prepare tissue culture medium, Preparation of Petri plates and slants for culture
APRIL (Week 1)	Study of sterilization techniques
Week 2	Demonstration of anther culture
Week 3	Demonstration of protoplast isolation and culture, callus formation
Week 4	Revision and Test
MAY (Week 1)	Revision and Test

Lesson Plan

Class: B.Sc. (Med.) 6th Semester

Subject: Botany Major (Practical)

Dr. Abhishek: From JAN 2026 to MAY 2026

Time period	Topics
JAN (Week 4)	Demonstration of aerobic respiration
FEB (Week 1)	Determination of anaerobic respiration
Week 2	Evolution of heat during respiration
Week 3	Demonstration of manometric determination of R.Q.
Week 4	Determination of peroxidase activity
MARCH (Week 1)	Simple tests for detection of carbohydrates, proteins and fats
Week 2	Study of plants parts/products from point of view of economic importance of cereals, Pulses, Vegetables, oil yielding plants,
Week 3	fiber yielding, Timber yielding, beverages, rubber yielding
Week 4	To prepare tissue culture medium, Preparation of Petri plates and slants for culture

APRIL (Week 1)	Study of sterilization techniques
Week 2	Demonstration of anther culture
Week 3	Demonstration of protoplast isolation and culture, callus formation
Week 4	Revision and Test
MAY (Week 1)	Revision and Test

Lesson Plan

Class: B.Sc. (Med.) 6th Semester

Subject: Botany Major (Practical)

Dr. Priyanka Sharma: From JAN 2026 to MAY 2026

Time period	Topics
JAN (Week 4)	Demonstration of aerobic respiration
FEB (Week 1)	Determination of anaerobic respiration
Week 2	Evolution of heat during respiration
Week 3	Demonstration of manometric determination of R.Q.
Week 4	Determination of peroxidase activity
MARCH (Week 1)	Simple tests for detection of carbohydrates, proteins and fats
Week 2	Study of plants parts/products from point of view of economic importance of cereals, Pulses, Vegetables, oil yielding plants,
Week 3	fiber yielding, Timber yielding, beverages, rubber yielding
Week 4	To prepare tissue culture medium, Preparation of Petri plates and slants for culture
APRIL (Week 1)	Study of sterilization techniques
Week 2	Demonstration of anther culture
Week 3	Demonstration of protoplast isolation and culture, callus formation
Week 4	Revision and Test

MAY (Week 1)	Revision and Test

Lesson Plan

Class: B.Sc. (Med.) 6th Semester

Subject: Botany Major (Theory)

Dr. Sinky Sharma : From JAN 2026 to MAY 2026

Time period	Topics
JAN (Week 4)	Discovery and nomenclature of enzymes, Characteristics of enzymes, Concept of holoenzymes and apoenzymes, Coenzymes and cofactors, Regulation of enzyme activity I, Regulation of enzyme activity II
FEB (Week 1)	Mechanism of enzyme action, Class test of enzymology, ATP, Aerobic respiration, Anaerobic respiration, Kreb`s cycle
Week 2	Chemiosmotic theory, Redox potential, Oxidative phosphorylation, Pentose phosphate pathway, Structure and function of lipids **(TEST)**
Week 3	Fatty acid biosynthesis and β Oxidation, Saturated and unsaturated fatty acids, Storage and mobilization of fatty acids, Nitrogen metabolism
Week 4	Tools of recombinant DNA technology, Cloning vectors, Genomic and c DNA library, Transposable elements, Techniques of recombinant DNA technology
MARCH (Week 1)	Cloning vectors, Genomic and c DNA library, Transposable elements, Aspects of plant tissue culture, Cellular totipotency **(TEST)**
Week 2	Differentiation, Morphogenesis, Biology of *Agrobacterium* sp., Vectors for gene delivery, Marker genes
Week 3	PAPER 2- Food plants – rice, Wheat, Maize Pulses – gram, Arhar, Pea
Week 4	Vegetables – potato, Tomato, Onion Fibres – cotton, Jute, Flax
APRIL (Week 1)	Groundnut, Mustard, Sunflower, Coconut Introduction to spices

	Spices – coriander, Ferula, Turmeric, Ginger, Clove
Week 2	Medicinal plants - *Cinchona* sp. *Rauwolfia sp., Atropa* sp., Opium sp., *Cannabis* sp., *Azadirachta* sp., *Withania* sp. **(TEST)**
Week 3	Sugarcane and timber-yielding plants Beverages: Tea and Coffee Energy plantation: Hevea sp. and Biofuels
Week 4	Revision
MAY (Week 1)	Revision

Lesson Plan

Class: B.Sc. (Med.) 6th Semester

Subject: Botany Major (Practical)

Dr. Sinky Sharma: From JAN 2026 to MAY 2026

Time period	Topics
JAN (Week 4)	Demonstration of aerobic respiration
FEB (Week 1)	Determination of anaerobic respiration
Week 2	Evolution of heat during respiration
Week 3	Demonstration of manometric determination of R.Q.
Week 4	Determination of peroxidase activity
MARCH (Week 1)	Simple tests for detection of carbohydrates, proteins and fats
Week 2	Study of plants parts/products from point of view of economic importance of cereals, Pulses, Vegetables, oil yielding plants,
Week 3	fiber yielding, Timber yielding, beverages, rubber yielding
Week 4	To prepare tissue culture medium, Preparation of Petri plates and slants for culture
APRIL (Week 1)	Study of sterilization techniques
Week 2	Demonstration of anther culture
Week 3	Demonstration of protoplast isolation and culture, callus formation

Week 4	Revision and Test
MAY (Week 1)	Revision and Test

Lesson Plan

Class: B.Sc. (Med.) 6th Semester

Subject: Botany Major (Practical)

Dr. Swati Malik: From JAN 2026 to MAY 2026

Time period	Topics
JAN (Week 4)	Demonstration of aerobic respiration
FEB (Week 1)	Determination of anaerobic respiration
Week 2	Evolution of heat during respiration
Week 3	Demonstration of manometric determination of R.Q.
Week 4	Determination of peroxidase activity
MARCH (Week 1)	Simple tests for detection of carbohydrates, proteins and fats
Week 2	Study of plants parts/products from point of view of economic importance of cereals, Pulses, Vegetables, oil yielding plants,
Week 3	fiber yielding, Timber yielding, beverages, rubber yielding
Week 4	To prepare tissue culture medium, Preparation of Petri plates and slants for culture
APRIL (Week 1)	Study of sterilization techniques
Week 2	Demonstration of anther culture
Week 3	Demonstration of protoplast isolation and culture, callus formation
Week 4	Revision and Test
MAY (Week 1)	Revision and Test

Lesson Plan

Class: B.Sc. (Med.) 6th Semester

Subject: Botany Major (Practical)

Dr. Swati Nandal: From JAN 2026 to MAY 2026

Time period	Topics
JAN (Week 4)	Demonstration of aerobic respiration
FEB (Week 1)	Determination of anaerobic respiration
Week 2	Evolution of heat during respiration
Week 3	Demonstration of manometric determination of R.Q.
Week 4	Determination of peroxidase activity
MARCH (Week 1)	Simple tests for detection of carbohydrates, proteins and fats
Week 2	Study of plants parts/products from point of view of economic importance of cereals, Pulses, Vegetables, oil yielding plants,
Week 3	fiber yielding, Timber yielding, beverages, rubber yielding
Week 4	To prepare tissue culture medium, Preparation of Petri plates and slants for culture
APRIL (Week 1)	Study of sterilization techniques
Week 2	Demonstration of anther culture
Week 3	Demonstration of protoplast isolation and culture, callus formation
Week 4	Revision and Test
MAY (Week 1)	Revision and Test

Lesson Plan

Class: B.Sc. (Med.) 6th Semester

Subject: Botany Major (Practical)

Dr. Nidhi Verma: From JAN 2026 to MAY 2026

Time period	Topics
JAN (Week 4)	Demonstration of aerobic respiration
FEB (Week 1)	Determination of anaerobic respiration
Week 2	Evolution of heat during respiration
Week 3	Demonstration of manometric determination of R.Q.
Week 4	Determination of peroxidase activity
MARCH (Week 1)	Simple tests for detection of carbohydrates, proteins and fats
Week 2	Study of plants parts/products from point of view of economic importance of cereals, Pulses, Vegetables, oil yielding plants,
Week 3	fiber yielding, Timber yielding, beverages, rubber yielding
Week 4	To prepare tissue culture medium, Preparation of Petri plates and slants for culture
APRIL (Week 1)	Study of sterilization techniques
Week 2	Demonstration of anther culture
Week 3	Demonstration of protoplast isolation and culture, callus formation
Week 4	Revision and Test
MAY (Week 1)	Revision and Test

Lesson Plan

Class: B.Sc. (Med.) 6th Semester

Subject: Botany Major (Practical)

Dr. Swati Balhara: From JAN 2026 to MAY 2026

Time period	Topics
JAN (Week 4)	Demonstration of aerobic respiration
FEB (Week 1)	Determination of anaerobic respiration
Week 2	Evolution of heat during respiration
Week 3	Demonstration of manometric determination of R.Q.
Week 4	Determination of peroxidase activity
MARCH (Week 1)	Simple tests for detection of carbohydrates, proteins and fats
Week 2	Study of plants parts/products from point of view of economic importance of cereals, Pulses, Vegetables, oil yielding plants,
Week 3	fiber yielding, Timber yielding, beverages, rubber yielding
Week 4	To prepare tissue culture medium, Preparation of Petri plates and slants for culture
APRIL (Week 1)	Study of sterilization techniques
Week 2	Demonstration of anther culture
Week 3	Demonstration of protoplast isolation and culture, callus formation
Week 4	Revision and Test
MAY (Week 1)	Revision and Test