

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan (1st term)

Mrs. Parvinder Kaur

Class: *B.Sc.2nd Med,

**Paper B: Structure, Development and
Reproduction of Angiosperms**

**** M.Sc I,**

Paper III : Mycology and Microbiology

Subject: Botany

Session: 2015-16

S.No	Week (Start Date)	Topics to be covered during the week (*BSc.II and **MSc.I)
Week 1	20 th July to 25 th July, 2015	*The basic body plan Diversity in plant form in annuals, biennials and perennials
Week 2	27 th July to 1 st Aug, 2015	*Root system- various types, structural modifications for storage **General Characteristics of Fungi
Week 3	3 rd Aug to 8 th Aug, 2015	* Structural modifications for reproduction, respiration ** General Characteristics of Fungi contd.
Week 4	10 th Aug 2015 to 15 th Aug, 2015	*Stem modifications Aerial & underground stem **Tissue system in Fungi
Week 5	17 th Aug 2015 to 22 nd Aug, 2015	*Leaf Venation, Phyllotaxy, Simple & compound Leaves ** Recent trends in the classification of fungi.
Week 6	24 th Aug2015 to 29 th Aug, 2015	*Leaf functions & modifications. ** Recent trends in the classification of fungi.
Week 7	31 st Aug.2015 to 5 th Sept, 2015	*- Internal Structure, Dicot Leaves ** General Characters/Acc. Of Myxomycota
Week8	7 th Sept, 2015 to 12 th Sept, 2015	* Internal structure of monocot Leaf ** General Characters/ Acc. Of Myxomycota contd.
Week9	14 th Sept,2015 to 19 th Sept,	* flower, A modified shoot

	2015	** General Characters/ Acc. Of Zygomycota
Week10	21 st Sept 2015 to 3 rd Oct.2015	* Structure of anther and pollen grains **General Characters/ Acc. Of Zygomycota contd.
Week11	5 th Oct.2015 to 10 th Oct, 2015	* Structure of male gametophyte **General Characters/ Acc. Of Oomycota
Week12	12 th Oct, 2015 to 21 th Oct, 2015	* structure of pistil **General Characters/ Acc. Of Oomycota contd.

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Teaching Plan (1st term) Mrs. Anita Mehta

Class: *B.Sc.1st Med,

Paper A : Diversity of Cryptogams

**** M.Sc I,**

Paper III : Mycology and Microbiology

Subject: Botany

Session: 2015-16

S. No	Date From	Date Upto	Topics to be covered
Week 1	20 TH July,2015	25 th July,2015	* Plant Diversity : Introduction, Bacteria : Salient Features. ** Viruses : Nomenclature, classification
Week 2	27 th July, 2015	1st Aug. 2015	* Bacteria : Types, Cell structure and economic importance. ** Viruses :Morphology & distribution in Host Plants,
Week 3	3rd Aug 2015	8 st Aug 2015	* Algae : General characters, classification Systematic position. Cyanophyceae, structure & life history of <i>Oscillatoria</i> . ** Viruses : Infection, Replication & transmission of plant viruses.
Week 4	10 th Aug 2015	15 th Aug 2015	*Cyanophyceae : Structure and life history of <i>Oscillatoria</i> **Eubacteria : Nomenclature, classification.
Week 5	17 th Aug 2015	22 nd Aug 2015	* Algae : General characters of Chlorophyceae & Xanthophyceae. **Eubacteria : structure, reproduction & nutrition
Week 6	24 th Aug 2015	29 th Aug 2015	*Chlorophyceae : Structure and life history of <i>Volvox</i> . **Economic Importance of Eubacteria; General account of Archaeobacteria
Week 7	31 st Aug 2015	5 th Sept 2015	*Structure and life history of Cladophora . **Brief account of MLO's; Spiroplasma
Week 8	7 th Sept 2015	12 th Sept 2015	*General characters of Xanthophyceae and life history of <i>Vaucheria</i> **Brief history of Viroids, Mycoviruses

Week 9	14 th Sept 2015	19 th Sept 2015	*General characters of phaeophyceae structure and life history of Dictyota. **Mycorrhiza: Introduction and types of mycorrhizae
Week 10	21 th Sept 2015	3 rd Oct 2015	*General characters of Rhodophyceae Structure and life history of <i>Batrachospermum</i> . Economic importance of Algae. ** Ectomycorrhizae and Endomycorrhizae
Week 11	5 th Oct 2015	10 th Oct 2015	*Fungi : General characters, systematic position, structures, life history of <i>Albugo</i> ** Important of Mycorrhizae in plant growth and agriculture.
Week 12	12 th Oct,2015	21 st Oct 2015	*FUNGI: structure and life history of Rhizopus and Saccharomyces. **Heterokaryosis and Parasexuality

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan (1st term) Dr. Kiran Rana

Class: *B.Sc.1st Med,

Paper B : Cell Biology

**** M.Sc I,**

Paper II : Bryology

Subject: Botany

Session: 2015-16

S. No	Date From	Date Upto	Topics to be covered
Week 1 B.Sc	20 th july, 2015	25 th july, 2015	Introductrion to Cell Biology & Genetics; Animal & Plant cell ;Prokaryotic & Eukaryotic cell Structure ; Ultrastructure and functions of a typical plant cell and its organelles(brief account); Structure and functions of cell wall and plasma membrane ;Cell division - Mitosis .
Week 2	27 th july, 2015	1 st Aug, 2015	General characteristics of Bryophytes; System of classification , Salient features of Hepatophytina. Ultrastructure and functions of : Nucleus, Mitochondrion, Plastids.
Week 3	3 rd Aug, 2015	8 th Aug, 2015	Salient features of Anthocerophytina,Muscophytina; Economic importance of Bryophytes; Fossil Bryophytes. Ultrastructure and functions of : Endoplasmic reticulum, Golgi apparatus, Lysosomes, Ribosomes.
Week 4	10 th Aug, 2015	15 th Aug, 2015	Structure and development of sex organs in Bryophytes; Origin of Bryophytes; Cytological studies in Bryophytes. Physical structure of chromosome, Giant chromosomes, Nucleosome.
Week 5	17 th Aug, 2015	22 nd Aug, 2015	Ecology of Bryophytes ; Chemistry of Bryophytes. Chromosomal alterations (deletion, duplication, inversion, translocation and their importance)and their significance.
Week 6	24 th Aug, 2015	29 th Aug, 2014	Water relations in Bryophytes; Anthocerotales. Variation in chromosome number (aneuploidy and polyploidy introduction) and their importance.
Week 7	31 st Aug, 2015	5 th Sept, 2015	Calobryales & Jungermanniales . Meiosis in plants and their significance, Synaptonemal complex
Week 8	7 th Sept, 2015	12 th Sept, 2015	Metzgeriales & Marchantiales. DNA structure(Watson and Crick model); Nucleosome.

Week 9	14 th Sept, 2015	19 th Sept, 2015	Effect of various factors on protonemal differentiation and bud formation; Apogamy and Apospory . Types and role of DNA; Replication of DNA .
Week 10	21 st Sept, 2015	3 rd Oct, 2015	Monocleales, Sphaerocarpaceae & Sphagnopsida Structure and concept of gene; one gene one enzyme hypothesis; Genetic code, characteristics, exception.
Week 11	5 th Oct., 2015	10 th Oct., 2015	Andreaeopsida (<i>Andreaea</i> & <i>Takakia</i>) Archidiopsida. Wobble hypothesis; RNA: Structure and its types.
Week 12	12 th Oct., 2015	21 st Oct., 2015	Peristomiopsida – Tetraphidae, Buxbaumidae, Polytrichidae characters to be cont. Transcription & Translation

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Teaching Plan (1st term) Dr. Vineeta Sharma

Class: *B.Sc.3rd Med,

**Paper A : Plant Physiology, Biochemistry
and Biotechnology**

**** M.Sc I,**

Paper I : Phycology

Subject: Botany

Session: 2015-16

S. No	Date From	Date Up to	Topics to be covered
Week 1	20 th July	25 th July	*Solutions and Colloids: True solutions, electrolytes and non-electrolytes; Colloidal solutions and colloids, types of colloids, characteristics, gels and emulsions. Plant Water Relations: Importance of water to plant life; physical properties of water. **General characteristics of algae, similarities and dissimilarities with fungi and bryophytes
Week 2	27 th July	1 st Aug	*Plant Water Relations : Imbibition, Diffusion, osmosis, Plasmolysis and deplasmolysis, concept of osmotic potential, water potential and pressure potential. ** Habitat diversity in algae
Week 3	3 rd Aug	8 th Aug	* Absorption of water, active and passive mechanism of water absorption. ** Thallus diversity in algae
Week 4	10 th Aug	15 th Aug	* Transport of water, mechanisms and theories to explain ascent of sap. ** Reproductive diversity in algae,
Week 5	17 th Aug	22 nd Aug	* Transpiration, mechanism of Opening and closing of stomata, mechanism of transpiration, factors affecting transpiration, antitranspirants. ** Origin and evolution of sex in algae, life cycles in algae and concept of alternations of generations
Week 6	24 th Aug	29 th Aug	*Mineral Nutrition: Essential macro and micro elements and their role. ** classification of algae,
Week 7	31 st Aug	5 th Sept	* Mineral uptake; mechanism of mineral uptake.

			** cyanophyta, Prochlorophyta
Week 8	7 th Sept	12 th Sept	<p>* Nitrogen Metabolism: Biological nitrogen fixation; Importance of nitrate reductase and its regulation; ammonia assimilation.</p> <p>** xanthophyta, bacillariophyta, dinophyta</p>
Week 9	14 th Sept	19 th Sept	<p>* Proteins: Classification, role and structure (primary, secondary and tertiary) synthesis of amino acids.</p> <p>** chlorophyta</p>
Week 10 (including mid term)	21 st Sept	3 rd Oct	<p>* Basics of Enzymology : Discovery and nomenclature; classification, structure, properties, factors affecting enzyme activity, mechanism of enzyme action.</p> <p>** cryptophyta, rhodophyta</p>
Week 11	5 th Oct	10 th Oct	<p>* Lipid metabolism : structure and function of lipids; fatty acid biosynthesis; β - Oxidation; saturated and unsaturated fatty acids; storage and mobilization of fatty acids.</p> <p>** Pheophyta, bioluminescence in dinoflagellates</p>
Week 12	12 th Oct	21 st Oct	<p>* Growth and development –definitions, phases of growth and development, kinetics of growth.</p> <p>** economic importance of algae</p>

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan (1st term) Mr. Roop Lal

Class: *B.Sc.3rd Med,

**Paper A : Plant Physiology, Biochemistry
and Biotechnology**

Paper B: Ecology and Utilization of Plants

Subject: Botany

Session: 2015-16

S. No	Date From	Date Up to	Topics to be covered
Week 1	20 th July	25 th July	Solutions and Colloids: True solutions, electrolytes and non-electrolytes; Colloidal solutions and colloids, types of colloids, characteristics, gels and emulsions. Plant Water Relations: Importance of water to plant life; physical properties of water. *Ecology - Definition, scope, relationship with other sciences.
Week 2	27 th July	1 st Aug	Plant Water Relations : Imbibition, Diffusion, osmosis, Plasmolysis and deplasmolysis, concept of osmotic potential, water potential and pressure potential. *Plant Environment: Climatic factors i.e. Atmosphere and light affecting growth and distribution of plants.
Week 3	3 rd Aug	8 th Aug	Absorption of water, active and passive mechanism of water absorption. *Climatic factors i.e. Temperature and rain fall affecting growth and distribution of plants.
Week 4	10 th Aug	15 th Aug	Transport of water, mechanisms and theories to explain ascent of sap. *Edaphic and topographic factors affecting growth and distribution of plants.
Week 5	17 th Aug	22 nd Aug	Transpiration types, mechanism of Opening and closing of stomata, mechanism of transpiration, factors affecting transpiration, antitranspirants. *Biotic factors affecting growth and distribution of plants.
Week 6	24 th Aug	29 th Aug	Mineral Nutrition: Essential macro and micro elements and their role.

			<p>*Ecosystem: Concept, structure; abiotic and biotic components; trophic levels, food chain, food web.</p>
Week 7	31 st Aug	5 th Sept	<p>Mineral uptake; mechanism of mineral uptake.</p> <p>*Ecological pyramids, energy flow, biogeochemical cycles of carbon, nitrogen and water.</p>
Week 8	7 th Sept	12 th Sept	<p>Nitrogen Metabolism: Biological nitrogen fixation; Importance of nitrate reductase and its regulation; ammonia assimilation.</p> <p>*Crop Production : Area of cultivation, soil requirement, cultivation practices and high yielding varieties of: Cereals (Wheat, Rice and Maize).</p>
Week 9	14 th Sept	19 th Sept	<p>Proteins: Classification, role and structure (primary, secondary and tertiary) synthesis of amino acids.</p> <p>*Crop Production : Area of cultivation, soil requirement, cultivation practices and high yielding varieties of: Fibers (Cotton); Vegetables (Potato).</p>
Week 10 (including mid term)	21 st Sept	3 rd Oct	<p>Basics of Enzymology : Discovery and nomenclature; classification, structure, properties, factors affecting enzyme activity, mechanism of enzyme action.</p> <p>*Crop Production : Area of cultivation, soil requirement, cultivation practices and high yielding varieties of: Fruits (Mango, Grapes, Lemon); Sugar-yielding plants (Sugarcane).</p>
Week 11	5 th Oct	10 th Oct	<p>Lipid metabolism : structure and function of lipids; fatty acid biosynthesis; β - Oxidation; saturated and unsaturated fatty acids; storage and mobilization of fatty acids.</p>

			<p>*Crop Production :</p> <p>Area of cultivation, soil requirement, cultivation practices and high yielding varieties of: Oil-yielding plants (Groundnut, Mustard); Brief introduction on genetically modified crops.</p>
Week 12	12 th Oct	21 st Oct	<p>Growth and development –definitions, phases of growth and development, kinetics of growth.</p> <p>*Community ecology – community characteristics, frequency, density cover, life forms, biological spectrum.</p>

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan

Dr.Garima

Class: M. Sc. II

Paper XIII

Subject: Biotechnology

Session: 2015-16

S. No	Date From	Date Upto	Topics to be covered
Week 1	20 th July	25 th July	Concept and scope of Biotechnology
Week 2	27 th July	1 st Aug	Status and tools in biotech,
Week 3	3 rd Aug	8 th Aug	Types of culture, source of material, sterilizations
Week 4	10 th Aug	15 th Aug	Isolation of plant tissue, standard nutrient media,
Week 5	17 th Aug	22 nd Aug	oxygenic growth factors, culture techniques,
Week 6	24 th Aug	29 th Aug	Isolation of protoplast, culture and fusion methods
Week 7	31 st Aug	5 th Sept	culture procedures for induction of haploids, media and nutritional requirements,
Week 8	7 th Sept	12 th Sept	Significance of haploids
Week 9	14 th Sept	19 th Sept	Recombinant DNA technology, isolation and purifications of DNA from plant cells,
Week 10 (including mid term)	21 st Sept	3 rd Oct	DNA sequencing, DNA engineering through cutting and joining DNA,
Week 11	5 th Oct	10 th Oct	Restriction endonucleases, ligases, applications of Biotech,
Week 12	12 th Oct	21 st Oct	Applications of biotech (cont.), start of unit IV

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Teaching Plan

Dr. Harpreet

Class: M. Sc. I

Paper IV

Subject: Lab Techniques

Session: 2015-16

S. No	Date From	Date Upto	Topics to be covered
Week 1	20 th July	25 th July	Principle and applications of light microscope
Week 2	27 th July	1 st Aug	Principle and applications of light microscope
Week 3	3 rd Aug	8 th Aug	Scanning and transmission electron microscopy
Week 4	10 th Aug	15 th Aug	Tracer techniques
Week 5	17 th Aug	22 nd Aug	Radioactive isotopes, half life
Week 6	24 th Aug	29 th Aug	Autoradiography
Week 7	31 st Aug	5 th Sept	pH metery: principles and applications
Week 8	7 th Sept	12 th Sept	Principles, procedure and application of chromatography.
Week 9	14 th Sept	19 th Sept	Principles, procedure and application of chromatography. Cont..
Week 10 (including mid term)	21 st Sept	3 rd Oct	Electrophoresis: principle and working
Week 11	5 th Oct	10 th Oct	calorimetry
Week 12	12 th Oct	21 st Oct	Spectrophotometry,

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Teaching Plan

Dr. Nitina

Class: M.Sc. II

Paper: XV

Subject: Ecology and Environment

Session: 2015-16

S. No	Date From	Date Upto	Topics to be covered
Week 1	20 th July	25 th July	Unit I – 1. Environment and Ecosystem
Week 2	27 th July	1 st Aug	Unit I – 2. Population Ecology
Week 3	3 rd Aug	8 th Aug	Unit I – 3. Plant Communities Unit II –5.Biogeochemical cycles
Week 4	10 th Aug	15 th Aug	Unit II – 4. Biosphere Reserves
Week 5	17 th Aug	22 nd Aug	Unit II – 6. Biodiversity
Week 6	24 th Aug	29 th Aug	Unit III – 7. Air Pollution
Week 7	31 st Aug	5 th Sept	Unit III – 7. Water Pollution
Week 8	7 th Sept	12 th Sept	Unit III – 7. Land Pollution
Week 9	14 th Sept	19 th Sept	8. Management and Conservation of Natural Resources
Week 10 (including mid term)	21 st Sept	3 rd Oct	9. Non Conventional Sources of Energy
Week 11	5 th Oct	10 th Oct	9. Non Conventional Sources of Energy
Week 12	12 th Oct	21 st Oct	Unit IV – 10. Ozone Depletion

Teaching Plan

Dr. Lalita

Class: B.Sc-II

**Paper – A: DIVERSITY OF SEED
PLANTS AND THEIR SYSTEMATICS**

Subject: Botany

Session: 2015-16

S. No	Date From	Date Upto	Topics to be covered
Week 1	20 th July	25 th July	General characteristics of Gymnosperms, Basis of classification and Economic importance of gymnosperms
Week 2	27 th July	1 st Aug	Introduction of fossil gymnosperms: <i>Lyginopteris</i> : Introduction, external structure of stem, primary stem, root and leaf; reproduction.
Week 3	3 rd Aug	8 th Aug	<i>Williamsonia</i> : Introduction, external morphology; internal structure; reproductive organs, male and female flowers
Week 4	10 th Aug	15 th Aug	Structure, reproduction : male and female strobilus; structure of ovule,
Week 5	17 th Aug	22 nd Aug	Development of male and female gametophytes of <i>Cycas</i> , Pollination, fertilization, development of embryo,
Week 6	24 th Aug	29 th Aug	Structure of seed and life cycle of <i>Cycas</i> . Structure, reproduction male and female strobilus of <i>Pinus</i> ,
Week 7	31 st Aug	5 th Sept	Structure of ovule; development of male and female gametophytes, Pollination, fertilization of <i>Pinus</i>
Week 8	7 th Sept	12 th Sept	Development of embryo, structure of seed and life cycle of <i>Pinus</i> .

			Structure, reproduction male and female strobilus of <i>Ephedra</i>
Week 9	14 th Sept	19 th Sept	Structure of ovule; development of male and female gametophytes of <i>Ephedra</i>
Week 10 (including mid term)	21 st Sept	3 rd Oct	Pollination, fertilization, development of embryo, structure of seed and life cycle of <i>Ephedra</i>
Week 11	5 th Oct	10 th Oct	General characters of Angiosperms; Plant nomenclature and International Code of Botanical Nomenclature : Principles and rules; taxonomic ranks,
Week 12	12 th Oct	21 st Oct	Type concept; principle of priority, aims and objectives of plant taxonomy; a brief introduction to taxonomy as synthetic discipline.

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan

Miss. Vibha

Class: B.Sc-II

**Paper – B: Structure, Development
and Reproduction of Angiosperms**

M.Sc-I

Paper-V: Anatomy of Angiosperms

Subject: Botany

Session: 2015-16

S. No	Date From	Date Upto	Topics to be covered (BSc. II * and MSc I **)
Week 1	20 th July	25 th July	*The basic body plan and diversity in plant forms **Shoot development
Week 2	27 th July	1 st Aug	*Plant forms in annuals, biennials and perennials contd... **Shoot development Contd...
Week 3	3 rd Aug	8 th Aug	* Root system-various types, structural modifications for storage **Root development
Week 4	10 th Aug	15 th Aug	*Structural modifications for reproduction, respiration **Root development contd...
Week 5	17 th Aug	22 nd Aug	*Stem modifications Aerial and underground stem **Leaf growth and differentiation
Week 6	24 th Aug	29 th Aug	*Leaf venation, phyllotaxy, simple and compound leaves **Leaf growth and differentiation contd...
Week 7	31 st Aug	5 th Sept	*Leaf venation, phyllotaxy, simple and compound leaves contd... ** Structure, differentiation and phylogeny of xylem, reaction wood
Week 8	7 th Sept	12 th Sept	*Leaf functions and modifications- internal structure ** Structure, differentiation and phylogeny of

			xylem, reaction wood contd...
Week 9	14 th Sept	19 th Sept	*Dicot leaf, Internal structure of monocot leaf ** Structure, differentiation and phylogeny of phloem
Week 10 (including mid term)	21 st Sept	3 rd Oct	*Flower, a modified shoot ** Structure, differentiation and phylogeny of phloem contd...
Week 11	5 th Oct	10 th Oct	*Structure of anther and pollen grains ** Transfer cell, structure and activity of vascular and cork cambium.
Week 12	12 th Oct	21 st Oct	*Structure of male gametophyte ** Transfer cell, structure and activity of vascular and cork cambium contd...

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan

Dr. Garima

Class: M.Sc-II

Paper – XIII: Biotechnology

Subject: Botany

Session: 2015-16

S. No	Date From	Date Upto	Topics to be covered
Week 1	20 th July	25 th July	Concept and scope of Biotechnology
Week 2	27 th July	1 st Aug	Status and tools in biotech,
Week 3	3 rd Aug	8 th Aug	Types of culture, source of material, sterilizations
Week 4	10 th Aug	15 th Aug	Isolation of plant tissue, standard nutrient media,
Week 5	17 th Aug	22 nd Aug	oxygenic growth factors, culture techniques,
Week 6	24 th Aug	29 th Aug	Isolation of protoplast, culture and fusion methods
Week 7	31 st Aug	5 th Sept	culture procedures for induction of haploids, media and nutritional requirements,
Week 8	7 th Sept	12 th Sept	Significance of haploids
Week 9	14 th Sept	19 th Sept	Recombinant DNA technology, isolation and purifications of DNA from plant cells,
Week 10 (including mid term)	21 st Sept	3 rd Oct	DNA sequencing, DNA engineering through cutting and joining DNA,
Week 11	5 th Oct	10 th Oct	Restriction endonucleases, ligases, applications of Biotech,
Week 12	12 th Oct	21 st Oct	Applications of biotech (cont.), start of unit IV

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan

Dr. Nitina

Class: B.Sc-III

Paper B: Ecology and Utilization of Plants

Subject: Botany

Session: 2015-16

S. No	Date From	Date Upto	Topics to be covered
Week 1	20 th July	25 th July	Unit I – 1. Definition, Scope and Relation with other sciences
Week 2	27 th July	1 st Aug	Unit I - 2. Plant Environment: Climatic factors affecting growth and distribution of plants
Week 3	3 rd Aug	8 th Aug	Unit I - 2. Edaphic factors and Topographic factors affecting growth and distribution of plants
Week 4	10 th Aug	15 th Aug	Unit I - 2. Edaphic factors
Week 5	17 th Aug	22 nd Aug	Unit I – 2. Biotic factors affecting growth and distribution of plants
Week 6	24 th Aug	29 th Aug	Unit I – 3. Ecosystem: Concept, Structure, abiotic and biotic components, Trophic levels, Food chain, Food web, Ecological Pyramids
Week 7	31 st Aug	5 th Sept	Unit I – 3. Ecosystem: Energy flow, Biogeochemical cycles of carbon, nitrogen and water
Week 8	7 th Sept	12 th Sept	Unit III – 1. Crop Production: i) Cereals
Week 9	14 th Sept	19 th Sept	Unit III – 1. Crop Production ii) Fibres iii) Vegetables
Week 10 (including mid term)	21 st Sept	3 rd Oct	Unit III – 1. Crop Production iv) Fruits v) Sugar-yielding plants
Week 11	5 th Oct	10 th Oct	Unit III – 1. Crop Production vi) Oil yielding plants
Week 12	12 th Oct	21 st Oct	Unit III - 2. Brief introduction on genetically modified crops Unit II – 1. Community characteristics, frequency, density cover, life forms,

			biological spectrum
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PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan

Dr. Nitina

Class: M.Sc-I

Paper – V: Ecology and Environment

Subject: Botany

Session: 2015-16

S. No	Date From	Date Upto	Topics to be covered
Week 1	20 th July	25 th July	Unit I – 1. Environment and Ecosystem
Week 2	27 th July	1 st Aug	Unit I – 2. Population Ecology
Week 3	3 rd Aug	8 th Aug	Unit I – 3. Plant Communities Unit II –5.Biogeochemical cycles
Week 4	10 th Aug	15 th Aug	Unit II – 4. Biosphere Reserves
Week 5	17 th Aug	22 nd Aug	Unit II – 6. Biodiversity
Week 6	24 th Aug	29 th Aug	Unit III – 7. Air Pollution
Week 7	31 st Aug	5 th Sept	Unit III – 7. Water Pollution
Week 8	7 th Sept	12 th Sept	Unit III – 7. Land Pollution
Week 9	14 th Sept	19 th Sept	8. Management and Conservation of Natural Resources
Week 10 (including mid term)	21 st Sept	3 rd Oct	9. Non Conventional Sources of Energy
Week 11	5 th Oct	10 th Oct	9. Non Conventional Sources of Energy
Week 12	12 th Oct	21 st Oct	Unit IV – 10. Ozone Depletion

PG.GOVT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan

Dr. Navneet

Class: M.Sc-II

Paper – XII: Plant Physiology

Subject: Botany

Session: 2015-16

S. No	Date From	Date Upto	Topics to be covered
Week 1	27 th Oct	1 st Nov	Phytohormones: Auxins & Gibberellins:transport, biosynthesis,physiological roles and mechanism of action.
Week 2	3 rd Nov	8 th Nov	Cytokinins, Abcissins, Ethylene, Phenols,Synthetic regulators.
Week 3	10 th Nov	15 th Nov	Growth: Process, dynamics, factors.Source sink relationship, Photoperiodism, Phytochrome.
Week 4	17 th Nov	22 nd Nov	Tropisms, rhythms, seed and bud dormancy, seed germination.
Week 5	24 th Nov	29 th Nov	Water relations of plants. Applications of plant physiology in agriculture.

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan

Dr. Harpreet

Class: M.Sc-II

Paper – XI: Molecular Biology

Subject: Botany

Session: 2015-16

S. No	Date From	Date Upto	Topics to be covered
Week 1	20th July	25th July	Nomenclature, composition and structure of nucleic acids
Week 2	27th July	1st Aug	structure of DNA Shape of DNA studied from various physico-chemical properties (A-, B-, Z-DNA)
Week 3	3rd Aug	8th Aug	Role of cyclins and cyclin dependent kinases
Week 4	10th Aug	15th Aug	Mechanism of programmed cell death
Week 5	17th Aug	22nd Aug	Replication of DNA (Double-stranded and single stranded); rolling circle model of replication, Types of DNA polymerase, DNA topoisomerase, DNA ligase, DNAase, Reverse transcriptase
Week 6	24th Aug	29th Aug	Transcription factors and machinery Formation of Initiation complex, Transcription activators and repressors
Week 7	31st Aug	5th Sept	RNA polymerases, elongation and termination, RNA Processing: RNA editing, Splicing, Poly-adenylation, Capping RNA transport.
Week 8	7th Sept	12th Sept	Structure of ribosomes; initiation, elongation and termination of polypeptide chain; Translational proof reading; post-translational processing of polypeptide chain; Inhibitor of protein synthesis
Week 9	14th Sept	19th Sept	Constitutive and induced genes; Regulatory genes, structural genes and repressors; Regulation of gene expression in phages; Regulation of gene expression in Prokaryotes; operon model, Role of cAMP in the transcription of operon, lactose and arabinose operons;

Week 10 (including mid term)	21st Sept	3rd Oct	Regulation of gene expression in eukaryotes, histone, non-histone proteins; different models of control, translation enzymatic and hormonal control. Biochemistry and molecular biology of cancer, Genetic rearrangements in progenitor cells, Oncogenes and Tumour suppressing genes,
Week 11	5th Oct	10th Oct	Cancer and Cell cycle, Virus induced cancer, Metastasis, Interaction of cancer cells with normal cells, Apoptosis, Therapeutic interventions of uncontrolled cell growth, Chemical carcinogenesis, Structure and functions of different classes of immunoglobulins;
Week 12	12th Oct	21st Oct	Primary and Secondary immune response; lymphocytes and accessory cells; Humoral and Cell Mediated Immunity; MHC; Mechanism of Immune response and generation of immunological diversity; Genetic control of immune response, Effector mechanisms; Application of Immunological principles

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan

Mrs. Satvir

Class: MSc II

Paper: XIV

Subject: Genetics and Plant breeding

Session: 2015-16

S. No	Date From	Date Upto	Topics to be covered
Week 1	20 th July	25 th July	
Week 2	27 th July	1 st Aug	Multiple alleles, pleiotropy, phenocopy, penetrance and Expressivity, Complementation tests.
Week 3	3 rd Aug	8 th Aug	Pseudoalleles, linkage. Crossing over, sex linkage
Week 4	10 th Aug	15 th Aug	Sex linked inheritance, Sex limited and Sex influenced traits.
Week 5	17 th Aug	22 nd Aug	Recombination, its molecular basis, role of Rec A, Rec BCD enzymes, Site specific recombination
Week 6	24 th Aug	29 th Aug	Linkage maps and tetrad analysis. Extra chromosomal inheritance.
Week 7	31 st Aug	5 th Sept	Genetic transformation, transduction and conjugation in bacteria
Week 8	7 th Sept	12 th Sept	Multigene families. Mapping bacteriophage genome, phage phenotypes.
Week 9	14 th Sept	19 th Sept	Quantitative genetics
Week 10 (including mid term)	21 st Sept	3 rd Oct	Quantitative genetics in continuation, human genetics
Week 11	5 th Oct	10 th Oct	Human genetics in continuation ,population genetics
Week 12	12 th Oct	21 st Oct	Population genetics in continuation.

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan

Dr. NITINA

Class: B.Sc. (III) Final

Paper: B

Subject: Ecology & Utilization of Plants

Session: 2015-16

S. No	Date From	Date Upto	Topics to be covered
Week 1	20 th July	25 th July	Unit I – 1. Definition, Scope and Relation with other sciences
Week 2	27 th July	1 st Aug	Unit I - 2. Plant Environment: Climatic factors affecting growth and distribution of plants
Week 3	3 rd Aug	8 th Aug	Unit I - 2. Edaphic factors and Topographic factors affecting growth and distribution of plants
Week 4	10 th Aug	15 th Aug	Unit I - 2. Edaphic factors
Week 5	17 th Aug	22 nd Aug	Unit I – 2. Biotic factors affecting growth and distribution of plants
Week 6	24 th Aug	29 th Aug	Unit I – 3. Ecosystem: Concept, Structure, abiotic and biotic components, Trophic levels, Food chain, Food web, Ecological Pyramids
Week 7	31 st Aug	5 th Sept	Unit I – 3. Ecosystem: Energy flow, Biogeochemical cycles of carbon, nitrogen and water
Week 8	7 th Sept	12 th Sept	Unit III – 1. Crop Production: i) Cereals
Week 9	14 th Sept	19 th Sept	Unit III – 1. Crop Production ii) Fibres iii) Vegetables
Week 10 (including mid term)	21 st Sept	3 rd Oct	Unit III – 1. Crop Production iv) Fruits v) Sugar-yielding plants
Week 11	5 th Oct	10 th Oct	Unit III – 1. Crop Production vi) Oil yielding plants
Week 12	12 th Oct	21 st Oct	Unit III - 2. Brief introduction on genetically modified crops Unit II – 1. Community characteristics, frequency, density cover, life forms,

			biological spectrum
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Teaching Plan (Ist Term) Navdeep kaur**Class: B.Sc. I Medical****PAPER A - Diversity of Microbes****PAPER B - Cell Biology & Genetics****Subject: Botany****Session: 2015 -2016**

S. No	Date From	Date Upto	Topics to be covered
Week 1 B.Sc	20 th july, 2015	25 th july, 2015	PAPER A - Plant Diversity: Introduction Bacteria : Salient features PAPER B - Introductrion to Cell Biology & Genetics; Animal & Plant cell ;Prokaryotic & Eukaryotic cell Structure ; Ultrastructure and functions of a typical plant cell and its organelles(brief account); Structure and functions of cell wall and plasma membrane.
Week 2	27 th july, 2015	1 st Aug, 2015	PAPER A - Bacteria : Types, cell structures and Economic importance PAPER B- Ultrastructure and functions of : Nucleus, Mitochondrion, Plastids.
Week 3	3 rd Aug, 2015	8 th Aug, 2015	PAPER A - Algae : general characters , classification, systematic position. PAPER B- Ultrastructure and functions of : Endoplasmic reticulum, Golgi apparatus, Lysosomes, Ribosomes.
Week 4	10 th Aug, 2015	15 th Aug, 2015	PAPER A- Cyanophyceae: Structure and life history of <i>Oscillatoria</i> PAPER B -Physical structure of chromosome, Giant chromosomes, Nucleosome.
Week 5	17 th Aug, 2015	22 nd Aug, 2015	PAPER A- General characters of Chlorophyceae and Xanthophyceae PAPER B- Chromosomal alterations (deletion, duplication, inversion, translocation and their importance)and their significance.
Week 6	24 th Aug, 2015	29 th Aug, 2014	PAPER A- Structure and life history of <i>Volvox</i> . PAPER B -Variation in chromosome number (aneuploidy and polyploidy introduction) and their importance.

Week 7	31 st Aug, 2015	5 th Sept, 2015	PAPER A-Structure and life history of <i>Cladophora</i> PAPERB- Meiosis in plants and their significance, Synaptonemal complex
Week 8	7 th Sept, 2015	12 th Sept, 2015	Internal Examination
Week 9	14 th Sept, 2015	19 th Sept, 2015	PAPER A- General characters of xanthophyceae. Structure and life history of <i>Vaucheria</i> PAPER B- DNA structure(Watson and Crick model); Nucleosome.
Week 10	21 st Sept, 2015	3 rd Oct, 2015	PAPER A- General characteristics of Pheophyceae Structure and life history of <i>Dictyota</i> PAPER B- Types and role of DNA; Replication of DNA .
Week 11	5 th Oct., 2015	10 th Oct., 2015	PAPER A- General characters of Rhodophyceae Structure and life history of <i>Batrachospermum</i> PAPER B- Wobble hypothesis; RNA:Structure and its types.
Week 12	12 th Oct., 2015	21 st Oct., 2015	PAPER A- FUNGI: General characters , systematic position, structure and life history of <i>Albugo</i> PAPER B- Transcription & Translation

PG.GOV'T COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH

Teaching Plan

Class: M. SC. BOTANY

Paper -4

Subject: BIO STATISTICS

Session: 2015-16

S. No	Date From	Date Upto	Topics to be covered
Week 1	20 th July	25 th July	Basics of statistics
Week 2	27 th July	1 st Aug	Basics of statistics
Week 3	3 rd Aug	8 th Aug	Representation of data
Week 4	10 th Aug	15 th Aug	Representation of data

Week 5	17 th Aug	22 nd Aug	Population and samples
Week 6	24 th Aug	29 th Aug	Basics of probability
Week 7	31 st Aug	5 th Sept	Basics of probability
Week 8	7 th Sept	12 th Sept	September Exam
Week 9	14 th Sept	19 th Sept	Binomial Distribution
Week 10	21 st Sept	3 rd Oct	Normal Distribution
Week 11	5 th Oct	10 th Oct	Poisson Distribution
Week 12	12 th Oct	21 st Oct	Correlation and Regression Analysis