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

**Teaching Plan OddSemester (For Undergraduate Classes - First Year)**

**Session (2022-2023)**

**Class:** B.Sc. 1st year **(**1st Sem.**)Name of the Teacher:** Dr. Davinder Kaur

**Subject:** Botany**Period:** 6tha(1-3) and 4thb(4-6)

**Paper :**Paper A- aPlant Diversity**Room No :** 6th(221) and 4th(218)

Paper B- bCell biology

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| **S. No** | **Dates** | **Topics to be covered** |
| Week 1 | 16-08-2022 to 20-08-2022 | Admission |
| Week 2 | 22-08-2022 to 27-08-2022 | Admission |
| Week 3 | 29-08-2022 to 03-09-2022 | aPlant Diversity: Introduction, Bacteria: Salient Features.  bUltrastructure and function of typical plant cell, Endoplasmic  reticulum and Golgi apparatus |
| Week 4 | 05-09-2022 to 10-09-2022 | aBacteria: Types, Cell structure and economic importance  bUltrastructure and function of Lysosome, Mitochondria, Plastids  and nucleus |
| Week 5 | 12-09-2022 to 17-09-2022 | aAlgae: General characters, classification, Systematic position.  bUltrastructure and function of Ribosome, cell wall and plasma  membrane |
| Week 6 | 19-09-2022to 24-09-2022 | aCyanophyceae: structure &amp; life history of Oscillatoria.  bPhysical structure of chromosome; Gaint chromosome: polytene  and lampbrush chromosome |
| Week 7 | 26-09-2022 to 01-10-2022 | aChlorophyceae: Structure and life history of Volvox and  Cladophora.  bChromosome alterations and their importance |
| Week 8 | 03-10-2022 to 08-10-2022 | aGeneral characters of Xanthophyceae and life history of Vaucheria  bVariation in chromosome number |
| Week 9 | 10-10-2022 to 15-10-2022 | aPhaeophyceae : structure and life history of Dictyota.  bIntroduction and their importance - Cell division: mitosis |
| Week 10 | 17-10-2022 to 22-10-2022 | aGeneral characters of Rhodophyceae :Structure and life history ofBatrachospermum. Economic importance of Algae.  bMeiosis in plant and their significance |
| Week 11 | 25-10-2022 to 27-10-2022 | aFungi: General characters, systematic position, structures, life  history of Albugo.  bSynaptonemal complex and DNA structure |
| **Mid Semester Exam (28thOctober 2022 – 4th November 2022)** | | |
| Week 13 | 5-11-2022 | aFungi: structure and life history of Rhizopus and Saccharomyces.  bReplication of DNA |
| Week 14 | 07-11-2022 to 12-11-2022 | aFungi: structure and life history of Agaricus and Ustilago.  bStructure and function of gene and genetic code |
| Week 15 | 14-11-2022 to 19-11-2022 | aFungi: structure and life history of Puccinia and Colletotrichum  bRNA structure and its types, Transcription and translation |
| Week 16 | 21-11-2022 to 26-11-2022 | a General account of Lichens and their economic importance.  bRegulation of gene expression in prokaryotes and eukaryotes. |

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**Teaching Plan Odd Semester (For Ongoing Classes UG-PG)**

**Session (2022-2023)**

**Class: B.Sc. 2ndyear (3rd Sem.) Name of the Teacher: Dr. Radha Chauhan**

**Subject: Botany Period: 3rd (1-3), 1st (4-6)**

**Papers: A & B Room No.: 126, 219**

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| **S. No.** | **Dates** | **Topics to be covered** |
| Week 1 | 13-08-2022 | General characters of gymnosperms, General characters of Angiosperms |
| Week 2 | 16-08-2022 to 20-08-2022 | *Williamsonia,*Lyginopteris |
| Week 3 | 22-08-2022 to 27-08-2022 | Diversity of Angiosperms, Differences between gymnosperms and angiosperms |
| Week 4 | 29-08-2022 to 03-09-2022 | Root system: Tap root and adventitious root system, their various types |
| Week 5 | 05-09-2022 to 10-09-2022 | Root modifications for storage, respiration and reproduction |
| Week 6 | 12-09-2022 to 17-09-2022 | *Cycas* |
| Week 7 | 19-09-2022 to 24-09-2022 | Stem: Modifications of underground stem |
| Week 8 | 26-09-2022 to 01-10-2022 | *Pinus, Ephedra* |
| Week 9 | 03-10-2022 to 08-10-2022 | Simple and compound leaves, functions, Leaf modifications |
| Week 10 | 10-10-2022 to 15-10-2022 | Leaf: Venation, phyllotaxy, simple and compound leaves, functions and modifications; internal structure (dicot and monocot leaves) |
| Week 11 | 17-10-2022 to 22-10-2022 | Internal structure (dicot and monocot leaves) |
| Week 12 | 25-10-2022 to 27-10-2022 | Flower: As a modified shoot, Structure and development of male gametophytes |
| **Mid Semester Exam (28th October 2022 – 4th November 2022)** | | |
| Week 13 | 5-11-2022 | Structure of anther |
| Week 14 | 07-11-2022 to 12-11-2022 | Structure of pistil; Structure and development of female gametophytes |
| Week 15 | 14-11-2022 to 19-11-2022 | Different types of ovules and embryo-sacs |
| Week 16 | 21-11-2022 to 25-11-2022 | Double fertilization and its significance; Fossil gymnosperms: Geological time Scale, Brief account of fossils, their formation and types (excluding details) |

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**Teaching Plan Odd Semester (For Ongoing Classes UG-PG)**

**Session (2022-2023)**

**Class: B.Sc. 3**   **Name of the Teacher: Dr. ManviMalwal**

**Subject: Botany Period: 1st in (1-3), 6th in (4-6)**

**Paper: A&B Room No : 219(1-3) and 221 (4-6)**

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| **S. No** | **Dates** | **Topics to be covered** |
| Week 1 |  | a.Importance of water to plant life, physical properties of water, imbibition, diffusion  b.Ecology: Definition, scope, relationship with other sciences. |
| Week 2 | 16-08-2022 to 20-08-2022 | a Osmosis, Plasmolysis, Deplasmolysis, concept of osmotic potential  b. Plant Environment: Climatic factors affecting growth and distribution of plants*.* |
| Week 3 | 22-08-2022 to 27-08-2022 | a.Water potential and pressure potential, absorption of water, active and passive mechanism of water absorption  b.Edaphic factors affecting growth and distribution of plants, |
| Week 4 | 29-08-2022 to 03-09-2022 | a.Transport of water, mechanism and theories to explain ascent of sap,  b. Topographic factors affecting growth and distribution of plants.Biotic factors affecting growth and distribution of plants. |
| Week 5 | 05-09-2022 to 10-09-2022 | a Transpiration types, mechanism of opening and closing of stomata,  b Ecosystem : Concept, structure |
| Week 6 | 12-09-2022 to 17-09-2022 | a Mechanism of transpiration, factors affecting transpiration, antitranspirants.  b. Abiotic and biotic components |
| Week 7 | 19-09-2022 to 24-09-2022 | a Mineral Nutrition, hydroponics and its importance; essential macro and micro elements; essentiality criteria  b Trophic levels, food chain, food web, ecological pyramids, energy flow |
| Week 8 | 26-09-2022 to 01-10-2022 | a Deficiency symptoms and their roles  b Biogeochemical cycles of carbon, nitrogen and water. |
| Week 9 | 03-10-2022 to 08-10-2022 | a Mineral uptake and Mechanism of mineral uptake  b Biogeochemical cycles of carbon |
| Week 10 | 10-10-2022 to 15-10-2022 | a Nitrogen metabolism, biological nitrogen fixation,  b Biogeochemical cycles of nitrogen and water. |
| Week 11 | 17-10-2022 to 22-10-2022 | a Importance of nitrate reductase and its regulation, ammonia assimilation,  Community Ecology |
| Week 12 | 25-10-2022 to 27-10-2022 | a& bRevision |
| **Mid Semester Exam (28th October 2022 – 4th November 2022)** | | |
| Week 13 | 5-11-2022 | a Lipid metabolism; structure and function of lipids, β oxidation, saturated and unsaturated fatty acids.  b Community characteristics, frequency, density cover, |
| Week 14 | 07-11-2022 to 12-11-2022 | a Proteins, Classification, role and structure of proteins.  b Revision |
| Week 15 | 14-11-2022 to 19-11-2022 | a Basics of Enzymology, Discovery and nomenclature; classification, structure, properties Factors affecting its activity, mechanism of enzyme action.  b Revision |
| Week 16 | 21-11-2022 to 25-11-2022 | a& bRevision |