**POST GRADUATE GOVERNMENT COLLEGE FOR GIRLS, SECTOR-42, CHANDIGARH**

**Teaching Plan for 3rd & 5th Semester**

**Session (2020-2021)**

**Class: \*B.Sc. 2nd; \*\*B.Sc. 3rd & \*\*\*M.Sc. 2ndyear Name of the Teacher: Dr. Radha Chauhan**

**Subject: Botany Papers: \*A & B (Botany)**

**\*\*B (Plant Ecology)**

**\*\*\*XII (Plant Physiology)**

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| **S. No.** | **Dates** | **Topics to be covered** |
| Week 1 | 03.8.20- 08.8. 20 | \* General characters of Angiosperms  \*\* Ecology: Definition, scope, relationship with other sciences.  \*\*\* Stress physiology: water stress |
| Week 2 | 10.8. 20- 14.8. 20 | \* Diversity of Angiosperms, Differences between gymnosperms and angiosperms  \*\*Plant Environment: Climatic factors affecting growth and distribution of plants.  \*\*\* Stress physiology: temperature and salt stress |
| Week 3 | 17.8. 20- 22.8. 20 | \* General characters of gymnosperms, *Cycas*  \*\* Edaphic factors affecting growth and distribution of plants,  \*\*\* Stress physiology: biotic stress |
| Week 4 | 24.8. 20- 29.8. 20 | \* Root system: Tap root and adventitious root system, their various types  \*\* Topographic factors affecting growth and distribution of plants.  \*\*\* Photosynthesis –I (Light reactions), Photosynthesis –II (Dark reactions) |
| Week 5 | 31.8.20- 05.9. 20 | \* Root modifications for storage, respiration and reproduction  \*\* Ecosystem : Concept, structure, Abiotic and biotic components  \*\*\* Photosynthesis –II (Dark reactions) |
| Week 6 | 07.9. 20- 12.9. 20 | \* *Pinus, Williamsonia*  \*\* Trophic levels, food chain, food web, ecological pyramids, energy flow  \*\*\* Cell organelles and Cell membrane detailed structure and function |
| Week 7 | 14.9. 20- 19.9. 20 | \* Stem: Modifications of underground stem  \*\* Biogeochemical cycles of carbon, nitrogen and water  \*\*\* Translocation; phloem loading and unloading including details |
| Week 8 | 21.9. 20- 26.9. 20 | \* Leaf: Venation, phyllotaxy, simple and compound leaves, functions and modifications; internal structure (dicot and monocot leaves)  \*\* Biotic factors affecting growth and distribution of plants  \*\*\*Water relations of plant; transpiration, soil-plant-atmosphere continuum |
| Week 9 | 28.9. 20-3.10. 20 | \* Simple and compound leaves, functions, Leaf modifications  \*\* Community Ecology: Community characteristics, frequency, density cover,  \*\*\* Respiration |
| Week 10 | 05.10. 20- 10.10. 20 | \**Ephedra,* Lyginopteris  \*\* Community Ecology: life forms, biological spectrum  \*\*\*Nitrogen metabolism |
| Week 11 | 12.10. 20- 16.10. 20 | \*Internal structure (dicot and monocot leaves)  \*\* Ecological succession – Hydrosere and Xerosere.  \*\*\*Growth process detailed; Photoperiodism; Phytochrome |
| Week 12 | 19.10. 20- 24.10. 20 | \* Flower : As a modified shoot, functions  \*\* Air pollution  \*\*\*Phytohormones: Auxins, Cytokinins |
| Week 13 | 27.10. 20-30.10. 20 | \* Structure of anther and pistil  \*\* Water pollution  \*\*\* Bud dormancy & germination |
| Week 14 | 3.11. 20-7.11. 20 | \* Structure and development of male gametophytes  \*\* Soil pollution and its control.  \*\*\*Phytohormones: Gibberellins |
| Week 15 | 09.11. 20-12.11. 20 | \* Structure and development of female gametophytes.  \*\* Conservation and management of natural resources  \*\*\*Phytohormones: Abscissins and ethylene |
| Week 16 | 16.11. 20- 21.11. 20 | \* Different types of ovules and embryo-sacs  \*\* Renewable and non-renewable  \*\*\*Phenols; synthetic retardants and inhibitors |
| Week 17 | 23.11. 20- 28.11. 20 | \* Double fertilization and its significance; Fossil gymnosperms : Geological time Scale, Brief account of fossils, their formation and types (excluding details)  \*\*Biological spectrum  \*\*\*Seed dormancy & germination; Application of Plant Physiology |