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

**Teaching Plan Session Odd Semester**

**(2019-2020)**

**Class: B.Sc. 2nd year M.Sc. 1st& 2ndyear Name of the Teacher: Dr. Radha Chauhan**

**Subject: Botany Room No: 211, 224, 219**

**Papers: \*II (Bryology) Periods: \* I (2, 5) & IV (4)**

**\*\*V (Anatomy of Angiosperms) \*\* III (3, 5, 6)**

**\*\*\*XII (Plant Physiology) \*\*\*I (3), V (6) & VII (1)**

**\*\*\*\*A (Botany) \*\*\*\* II (2, 4, 6)**

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| **S. No.** | **Dates** | **Topics to be covered** |
| Week 1 | 23.7.19- 27.7.19 | \*General character of bryophytes, Comparative account of Bryophytes classification  \*\*Various theories of shoot apical meristem  \*\*\*Photosynthesis –I (Light reactions)  \*\*\*\* General characters of Angiosperms |
| Week 2 | 29.7.19- 03.8.19 | \*Comparative account of Bryophytes classification  \*\*Organization and activity of shoot apical meristem  \*\*\*Photosynthesis –II (Dark reactions)  \*\*\*\* Differences between gymnosperms and angiosperms |
| Week 3 | 5.8.19- 10.8.19 | \*Anthocerotales detailed account  \*\*Theories for root apical meristem  \*\*\*Photosynthesis –II (Dark reactions)  \*\*\*\* Diversity of Angiosperms |
| Week 4 | 13.8.19- 17.8.19 | \*Marchantiales and Jungermanniales detailed account  \*\*Organization of Root apical meristem  \*\*\*Stress physiology: water, temperature, stresses  \*\*\*\* Diversity of Angiosperms |
| Week 5 | 19.8.19- 24.8.19 | \*Detailed account on Jungermanniales  \*\*Vascular tissue differentiation in roots and Lateral roots development  \*\*\*Stress physiology: salt and biotic stresses  \*\*\*\* Root system: Tap root and adventitious root system, their various types |
| Week 6 | 26.8.19- 31.8.19 | \*Detailed account on Sphagnales and Takakiales  \*\*Phyllotaxy and Kranz anatomy  \*\*\*Translocation; phloem loading and unloading including details  \*\*\*\* Root modifications for storage, respiration and reproduction |
| Week 7 | 02.9.19- 07.9.19 | \*Water relation of Bryophytes detailed:ectohydric, endohydric  \*\*Leaf development; Differentiation of mesophyll  \*\*\*Cell organelles and Cell membrane detailed structure and function  \*\*\*\* Stem: Modifications of aerial stem |
| Week 8 | 09.9.19- 14.9.19 | \*Water relation of Bryophytes detailed: mixohydric, dessication& rehydration  \*\*Differentiation of epidermis (with special reference to stomata and trichomes)  \*\*\*Water relations of plant; transpiration  \*\*\*\* Stem: Modifications of underground stem |
| Week 9 | 16.9.19- 21.9.19 | \*Detailed account on Polytrichales; Economic Importance  \*\*Leaf abscission; Transition to flowering  \*\*\*Water relations of plant: soil-plant-atmosphere continuum  \*\*\*\* Leaf: Venation, phyllotaxy, simple and compound leaves, functions and modifications; internal structure (dicot and monocot leaves) |
| Week 10 | 23.9.19- 28.9.19  (Youth festival from 24.9.19-27.9.19) | \*Structure & development of sex organs in bryophytes; Ecology of bryophytes  \*\*Floral Meristem  \*\*\*Respiration  \*\*\*\*Simple and compound leaves, functions and |
| Week 11 | 30.9.19- 05.10.19 | \*Detailed account on Metzeriales; Monocleales  \*\*Floral development in *Arabidopsis*  \*\*\*Growth process detailed; Photoperiodism; Phytochrome  \*\*\*\*Leaf modifications; Internal structure (dicot and monocot leaves) |
| MID SEMESTER EXAMS | | |
| Week 12 | 16.10.19- 19.10.19 | \*Detailed account on Andreaeopsida  \*\*Floral development in *Arabidopsis*  \*\*\*Phytohormones: Auxins  \*\*\*\* Flower : As a modified shoot, functions |
| Week 13 | 21.10.19- 26.10.19 | \*Experimental studies on protonema& bud formation; Apogamy&apospory  \*\*Floral development in *Antirrhinum*  \*\*\*Phytohormones: Cytokinins  \*\*\*\* Structure of anther and pistil |
| Week 14 | 29.10.19- 2.11.19 | \*Chemistry of Bryophytes  \*\*Structure, differentiation and phylogeny of Xylem Reaction wood.  \*\*\*Phytohormones: Gibberellins  \*\*\*\* Structure and development of male gametophytes |
| Week 15 | 04.11.19- 09.11.19 | \*Cytology of Bryophytes-I  \*\*Structure, differentiation and phylogeny of Phloem; Transfer Cells  \*\*\*Phytohormones: Abscissins and ethylene  \*\*\*\* Structure and development of female gametophytes. |
| Week 16 | 11.11.19- 16.11.19 | \*Cytology of Bryophytes-II  \*\*Phylogeny of Phloem; Transfer Cells  \*\*\*Phenols; synthetic retardants and inhibitors  \*\*\*\* Different types of ovules |
| Week 17 | 18.11.19- 23.11.19 | \*Detailed account on Peristomiopsida  \*\*Structure and activity of vascular and cork cambium  \*\*\*Seed dormancy & germination; Application of Plant Physiology  \*\*\*\* Different types of embryo-sacs |
| Week 18 | 25.11.19- 30.11.19 | \*Detailed account on Sphaerocarpales; Calobryales  \*\*Seed coat anatomy with reference to legumes; cereals  \*\*\*Bud dormancy & germination  \*\*\*\* Double fertilization and its significance |