**GOVT. COLLEGE FOR WOMEN, LAKHAN MAJRA**

**Session 2024-25 (Odd Semester)**

**LESSON PLAN**

**Name of Program: UG Multidisciplinary Program B.Sc. LIFE SCIENCE (Semester – 1st)**

**Name of Course: BOTANY – DSC A-1 (Theory)**

**Nomenclature of Course: Diversity of Microbes**

**Course Code: 24BOTM401DS01**

**Credits (L+T+P) : 2 + 0 + 2**

**Marks: 50 = 35(Th. Exam) + 15(Internal Assessment)**

| **MONTH** | **WEEK** | **SYLLABUS** |
| --- | --- | --- |
| **July** | 4th week | Bacteria: General Characters and Structure. |
|  | 5th week | Bacteria: Nutrition, Reproduction & Economic Importance. |
| **August** | 1st week | Algae: General Characters and Structure. |
|  | 2nd week | Algae: General Account of Reproduction. |
|  | 3rd week | Algae: Classification & Type Study of *Volvox*. |
|  | 4th  week | Algae: Type Study of *Oedogonium* & Cyanobacteria. |
|  | 5th week | Algae: Type Study of *Vaucheria*. |
| **September** | 1st week | Algae: Type Study of *Ectocarpus*. |
|  | 2nd week | Algae: Type Study of *Polysiphonia*; Algae Economic Importance |
|  | 3rd week | Fungi: General Characters, Nutrition & Reproduction |
|  | 4th week | Fungi: Type Study of *Phytophthora.* |
|  | 5th week | Fungi: Type Study of *Mucor* & *Penicillium* |
| **October** | 1st week | Fungi: Type Study of *Puccinia* |
|  | 2nd week | Fungi: Type Study of *Agaricus* & *Colletotrichum* |
|  | 3rd week | Fungi: Economic Importance; Lichens: General characters, Structure, Reproduction & Economic Importance. |
|  | 4th week | Lichens: Economic Importance; Mycorrhiza: Structure & Significance. |
| **November** | 2nd week | Virus: General Characters, Classification, Replication & Plant virus disease. |
|  | 3rd week | Class Test |

**HOD (Botany)**

**GOVT. COLLEGE FOR WOMEN, LAKHAN MAJRA**

**Session 2024-25 (Odd Semester)**

**LESSON PLAN**

**Name of Program: UG Multidisciplinary Program B.Sc. LIFE SCIENCE (Semester – 1st)**

**Name of Course: BOTANY – DSC A-1 (Practical)**

**Nomenclature of Course: Diversity of Microbes**

**Course Code:**

**Credits (L+T+P) : 2 + 0 + 2.**

**Marks: 50 = 35(Practical Exam) + 15(Internal Assessment)**

| **MONTH** | **WEEK** | **SYLLABUS** |
| --- | --- | --- |
| **July** | 4th week | Permanent Slides of Bacteria. |
|  | 5th week | Permanent Slides of Bacteria. |
| **August** | 1st week | Permanent Slides of Bacteria. |
|  | 2nd week | Permanent Slide of Volvox. |
|  | 3rd week | Permanent Slide of Oedogonium |
|  | 4th  week | Permanent Slide of Cyanobacteria & Gram staining of Bacterial culture |
|  | 5th week | Permanent Slide of *Vaucheria*. |
| **September** | 1st week | Permanent Slide of *Ectocarpus*. |
|  | 2nd week | Permanent Slide of *Polysiphonia* |
|  | 3rd week | Study of Bacteria in Root Nodules |
|  | 4th week | Fungi: Type Study of *Phytophthora.* |
|  | 5th week | Permanent Slide of *Mucor* & *Penicillium* |
| **October** | 1st week | Permanent Slide of *Puccinia* |
|  | 2nd week | Permanent Slide of *Agaricus.* |
|  | 3rd week | Permanent Slide of *Colletotrichum*. |
|  | 4th week | Study of growth forms of Lichens |
| **November** | 2nd week | Study of Plant Viral & Bacterial disease |
|  | 3rd week | Revision |

**HOD (Botany)**

**GOVT. COLLEGE FOR WOMEN, LAKHAN MAJRA**

**Session 2024-25 (Odd Semester)**

**LESSON PLAN**

**Name of Program: B.Sc. (Medical) Semester – 3rd**

**Name of Course: BOTANY (Theory)**

**Nomenclature of Course with Code: Biology & Diversity of Seed Plants-I (BOT 3.1)  
 Plant Anatomy (BOT 3.2)**

**Credits (L+T+P) : 6 + 0 + 6.**

**Marks: 100 = 40 + 40 (Th. Exam) + 10 + 10(Internal Assessment)**

| **MONTH** | **WEEK** | **SYLLABUS** |
| --- | --- | --- |
| **July** | 4th week | Gymnosperms: General Characters, Origin & Evolution |
|  | 5th week | Leaf: structure, shape, and types |
| **August** | 1st week | Gymnosperms: Classification |
|  | 2nd week | Geological time-scale; Paleobotany; Fossil Plants. |
|  | 3rd week | Morphology, Anatomy and Reproduction of *Cycas*. |
|  | 4th  week | Morphology, Anatomy and Reproduction of *Pinus*. |
|  | 5th week | Morphology, Anatomy and Reproduction of *Ephedra*; Economic Importance of Gymnosperms. |
| **September** | 1st week | Plant Tissue System |
|  | 2nd week | Dicot & Monocot Leaf anatomy |
|  | 3rd week | Cambium: Structure & Function |
|  | 4th week | Dicot & Monocot: Stem anatomy |
|  | 5th week | Shoot Apical Meristem & Phyllotaxy |
| **October** | 1st week | Secondary growth in Stem |
|  | 2nd week | Anomalous Secondary growth in Stem |
|  | 3rd week | Root Apical Meristem |
|  | 4th week | Root system: RAM, Dicot & Monocot anatomy and Secondary growth. |
| **November** | 2nd week | Structural Modifications in Roots: Storage, Respiratory & Epiphytic. |
|  | 3rd week | Class test/ Revision |

**HOD (Botany)**

**GOVT. COLLEGE FOR WOMEN, LAKHAN MAJRA**

**Session 2024-25 (Odd Semester)**

**LESSON PLAN**

**Name of Program: B.Sc. (Medical) Semester – 3rd**

**Name of Course: BOTANY (Practical)**

**Nomenclature of Course with Code: P-201**

**Credits (L+T+P) : 6 + 0 + 6.**

**Marks: 50**

| **MONTH** | **WEEK** | **SYLLABUS** |
| --- | --- | --- |
| **July** | 4th week | Leaf shape |
|  | 5th week | Leaf Venation |
| **August** | 1st week | Types of leaves |
|  | 2nd week | Phyllotaxy |
|  | 3rd week | Permanent slides & Specimen of *Cycas*. |
|  | 4th  week | Permanent slides & Specimen of *Pinus*. |
|  | 5th week | Permanent slides & Specimen of *Ephedra* |
| **September** | 1st week | Section cutting and Permanent slide preparation. |
|  | 2nd week | To prepare Permanent slides & study Specimen of Dicot leaf |
|  | 3rd week | To prepare Permanent slides & study Specimen of Monocot leaf |
|  | 4th week | To prepare Permanent slides & study Specimen of Dicot Stem |
|  | 5th week | To prepare Permanent slides & study Specimen of Monocot Stem |
| **October** | 1st week | Permanent slides & Specimen of Secondary growth in Stem |
|  | 2nd week | Anomalous Secondary growth in Stem |
|  | 3rd week | To prepare Permanent slides & study Specimen of Dicot Root |
|  | 4th week | To prepare Permanent slides & study Specimen of Monocot |
| **November** | 2nd week | Structural Modifications in Roots: Storage, Respiratory & Epiphytic. |
|  | 3rd week | Revision |

**HOD (Botany)**

**GOVT. COLLEGE FOR WOMEN, LAKHAN MAJRA**

**Session 2024-25 (Odd Semester)**

**LESSON PLAN**

**Name of Program: B.Sc. (Medical) Semester – 5th**

**Name of Course: BOTANY (Theory)**

**Nomenclature of Course with Code: Plant Physiology (BOT 5.1)  
 Ecology (BOT 5.2)**

**Credits (L+T+P) : 6 + 0 + 6.**

**Marks: 100 = 40 + 40 (Th. Exam) + 10 + 10(Internal Assessment)**

| **MONTH** | **WEEK** | **SYLLABUS** |
| --- | --- | --- |
| **July** | 4th week | Water Properties; Plant-water Relation |
|  | 5th week | Diffusion, Osmosis, DPD & Water Potential |
| **August** | 1st week | Imbibition; Absorption of water by Roots. |
|  | 2nd week | Transpiration & Physiology of Stomata; Mineral Nutrition & deficiency symptoms. |
|  | 3rd week | Photosynthesis: Pigments, Chloroplast, Absorption of light, Z-scheme, |
|  | 4th  week | Photophosphorylation; C3, C4 & CAM pathway; Photorespiration; Phloem transport; Translocation of organic substances. |
|  | 5th week | Plant hormones: Auxin, Gibberllins, Cytokinins, Ethylene, ABA, JA, BRs. |
| **September** | 1st week | Phytochromes, Cryptochromes; Photoperiodism. |
|  | 2nd week | Senescence, Seed dormancy, Flowering & Fruit ripening; Introduction to Ecology; Abiotic & Biotic factors. |
|  | 3rd week | Plant Adaptation to water & salinity. |
|  | 4th week | Population ecology; Community ecology |
|  | 5th week | Ecosystem: Structure & Function |
| **October** | 1st week | Biogeochemical cycles |
|  | 2nd week | Phytogeographical regions of India |
|  | 3rd week | Environmental Pollution |
|  | 4th week | Global Climate change: Green-house effect, Ozone depletion, Global warming & Biomagnification |
| **November** | 2nd week | Class test/ Revision |
|  | 3rd week | Class test/ Revision |

**HOD (Botany)**

**GOVT. COLLEGE FOR WOMEN, LAKHAN MAJRA**

**Session 2024-25 (Odd Semester)**

**LESSON PLAN**

**Name of Program: B.Sc. (Medical) Semester – 5th**

**Name of Course: BOTANY (Practical)**

**Nomenclature of Course with Code: P-301**

**Credits (L+T+P) : 6 + 0 + 6.**

**Marks: 50**

| **MONTH** | **WEEK** | **SYLLABUS** |
| --- | --- | --- |
| **July** | 4th week | To demonstrate plasmolysis & deplasmolysis in plant cell. |
|  | 5th week | To study Osmosis |
| **August** | 1st week | To study phenomenon of Imbibition by POP method. |
|  | 2nd week | To study transpiration by 4 leaf method |
|  | 3rd week | To demonstrate phenomenon of transpiration using Ganong’s Potometer. |
|  | 4th  week | To separate different Photosynthetic pigments in plants by Paper Chromatography |
|  | 5th week | To study Adaptations in Hydrophytes |
| **September** | 1st week | To study Adaptations in Hydrophytes |
|  | 2nd week | To study Adaptations in Xerophytes |
|  | 3rd week | To study Adaptations in Halophytes |
|  | 4th week | To demonstrate phenomenon of Phototropism in plants. |
|  | 5th week | To study determine the rate of photosynthesis under varying conc. Of CO2 |
| **October** | 1st week | To determine species density, frequency & abundance by Quadrate Method. |
|  | 2nd week | To determine species density, frequency & abundance by Quadrate Method. |
|  | 3rd week | To determine species density, frequency & abundance by Quadrate Method. |
|  | 4th week | To study the effect of different light intensities on rate of photosynthesis using Wilmott’s bubbler. |
| **November** | 2nd week | Revision |
|  | 3rd week | Revision |

**HOD (Botany)**