# Lesson Plan (2020-21)

**Name of Assistant/ Associate Professor: Mr. Naresh Kumar**

**B.Sc I Sem. 1st** **Subject: Botany (Paper 102L)**

**Lesson Plan: From November 2020 to February 2021**

| November2020 | |
|---|---|
| | **Topic Covered** |
| Week 1(2nd to 7th November) | Archegoniates: Unifying features of archegoniates, Transition to land habit, Alternation of generations, |
| Week 2 (9th to 13th (November) | Archegoniates: General account of Paleobotany; Types of fossils and process of fossilization. |
| Week 3 (16th to 21 November) | Study of fossil plants: *Rhynia* and *Lyginopteris* |
| Week 4 (23 to 28 November)) | Problem solving. Bryophytes: General characteristics, Range of habitat and thallus organization. |
| Week 5 (1st to 5th December) | Bryophytes: Classification up to classes (Smith), morphology, anatomy and reproduction of *Marchantia* |
| Week 6 (7th to 12th December) | Bryophytes: morphology, anatomy and reproduction of *Anthoceros* |
| Week 7 (14th to 19th December) | Bryophytes: morphology, anatomy and reproduction of *Funaria*. (Developmental details not to be included). Ecology and Economic importance of Bryophytes |
| Week 8 (21st to 26th December) | **Pteridophytes:** General characteristics, Classification up to Classes (Smith) |
| Week 9 (28th to 31st December) | Anatomy and reproduction of *Selaginella*, Seminars and Problem solving sessions |
| Week 10 (1st & 2nd January) | Morphology, anatomy and reproduction of *Equisetum* and *Pteris*. |
| Week 11 (4th to 9th January) | Morphology, anatomy and reproduction of *Equisetum* and *Pteris*. Heterospory and seed habit. Economic importance of Pteridophytes |
| Week 12 (11th to 16th January) | **Gymnosperms:** General characteristics. Seminars/ Problem solving/ Class Test |
| Week 13 (18th to 23rd January) | Gymnosperms Classification up to Classes (Pilger and Melchior, 1954) morphology of *Cycas*, |
| Week 14 (25th to30th January) | Anatomy and reproduction of *Cycas*, Seminars and Problem solving sessions |
| Week 15 (01 to 06 Feb.) | Morphology, anatomy and reproduction of *Pinus*. |
| Week 16 (08 to 13 Feb.) | Ecological and Economic importance of Gymnosperms. |
| Week 17 (15 to 20 Feb.) | Revision and Class Tests |
| Week 18 (22 to 29 Feb.) | Revision of Topic and Problem Solving |

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# Lesson Plan (2020-21)

Name of Assistant/Associate Professor: **Mr. Naresh Kumar**

Class: **B.Sc II Sem. 3rd** Subject: **Botany (Paper 301)**

Lesson Plan: **From November 2020 to February 2021**

| November2020 | |
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| **Weak of Month** | **Topic Covered** |
| Week 1(2nd to 7th November) | Root and shoot apical meristem. |
| Week 2 (9th to 13th (November) | Simple and Complex Tissues |
| Week 3 (16th to 21 November) | Theories of shoot apex. |
| Week 4 (23 to 28 November)) | Structure of Dicot and monocot root. |
| Week 1 (1st to 5th December) | Structure of dicot and monocot stem. |
| Week 2 (7th to 12th December) | Structure of dicot and monocot leaves |
| Week 3 (14th to 19th December) | Class presentations by students-I ,preparation |
| Week 4 (21st to 26th December) | Stomata and its types, epidermal hairs, trichomes. |
| Week 5 (28th to 31st December) | Structure and function of vascular cambium, seasonal activity. |
| Week 1 (1st & 2nd January) | Secondary growth in root and stem. |
| Week 2 (4th to 9th January) | Types of wood: Heartwood and soft wood. |
| Week 3 (11th to 16th January) | Class presentations by students-II, test assignment |
| Week 4 (18th to 23rd January) | Anamolous secondary growth in Boehravia and Dracaena. |
| Week 5 (25th to30th January) | Detailed study of Epidermis and cuticle. |
| Week 1 (01 to 06 Feb.) | Group Discussion,class presentation |
| Week 2 (08 to 13 Feb.) | Anatomical aspects of adaptations in xerophytes. |
| Week 3 (15 to 20 Feb.) | Anatomical aspects of adaptations in hydrophytes. |
| Week 4 (22 to 29 Feb.) | Anatomical aspects of adaptations in halophytes, Revision |

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# Lesson Plan (2020-21)

Name of Assistant/ Associate Professor: **Mr. Naresh Kumar**

Class: **B.Sc III Sem. 5** Subject: **Botany (Paper 501L)**

Lesson Plan: **From November 2020 to February 2021**

| November2020 | |
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| **Weak of Month** | **Topic Covered** |
| Week 1 (2nd November to 7th November) | The cell theory, prokaryotic and eukaryotic cells, cell size and shape. |
| Week 2 (9th November to 15 November) | Eukaryotic cell components, cell cycle, overview of cell cycle |
| Week 3 (16th to 21 November) | Mitosis, meiosis, molecular controls |
| Week 4 (23 to 28 November)) | Cell organelles-I: mitochondria: structure, marker enzymes, composition; Semiautonomous nature; Symbiont hypothesis; Proteins synthesized within mitochondria; |
| Week 5 (1st to 5th December) | mitochondrial DNA. Chloroplast Structure, marker enzymes, composition; semiautonomous nature, chloroplast DNA structure and function.<br>Student Presentations and Class Test |
| Week 6 (7th to 12th December) | ER, Golgi body & Lysosomes: Structures and roles. |
| Week 7 (14th to 19th December) | Cell Organelles-II Peroxisomes and Glyoxisomes: Structures, composition<br>ribosome structure and assembly, |
| Week 8 (21st to 26th December) | Functions in animals and plants and biogenesis. |
| Week 9 (28th to 31st December) | Nucleus, general introduction, discussion and doubt clearing Translation |
| Week 10 (1st & 2nd January) | Nucleus structure, nuclear envelope, structure of nuclear pore complex. |
| Week 11 (4th to 9th January) | Chromatin, molecular organization, DNA packaging in eukryotes |
| Week 12 (11th to 16th January) | Euchromatin & heterochromatin, nucleolus and ribosome structure, Revision. |
| Week 13 (18th to 23rd January) | Cell membrane & cell wall, functions of membranes, revision |
| Week 14 (25th to30th January) | models of membrane structure, |
| Week 15 (01 to 06 Feb.) | The fluidity of membranes, membrane proteins and their function, revision |
| Week 16 (08 to 13 Feb.) | Carbohydrates in the membrane, faces of the membranes, selective permeability of membranes |
| Week 17 (15 to 20 Feb.) | Cell wall, structure and function, revision<br>Revision |
| Week 18 (22 to 29 Feb.) | Seminars, Test, Revision |

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