***GOVT COLLEGE MAHENDERGARH***

***LESSON PLAN JAN TO APRIL 2024***

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| **Name of the Assistant/Associate Professor: Jitender Kumar** |
| **Class and Section: Bsc (Medical) IInd year Section: 6th Sem** |
| **Subject: Botany** |
| **Paper: Biochemistry and PlantBiotechnology** |

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| **Week 1**  **Chapter:** **Basics of Enzymology** |
| **Discovery and nomenclature** |
| **identification, classification** |
| **Week 2**  **Chapter : characteristics of enzymes** |
| **Assignments** |
| **Concept of holoenzyme** |
| **apoenzyme** |
| **Week 3**  **Chapter :** **coenzyme and co-factors** |
| **Assignments** |
| **regulation of enzyme activity** |
| **mechanism of action** |
| **Week 4**  **Chapter Respiration** |
| **Assignments ATP - the biological energy currency** |
| **aerobic and anaerobic respiration;** |
| **Week 5**  **Chapter : Krebs cycle** |
| **electron ransport mechanism (chemiosmotic theory);** |
| **redox -potential;** |
| **Week 6**  **Chapter :** **oxidative phosphorylation** |
| **Assignments** |
| **pentose phosphate pathway** |
| **Week 7**  **Chapter Lipid metabolism** |
| **Assignments** |
| **Structure and functions of lipids** |
| **fatty acid biosynthesis; ß-oxidation** |
| **Week 8**  **Chapter : saturated and unsaturated fatty acids** |
| **storage and mobilization of fatty acids.** |
| **Nitrogen metabolism** |
| **Biology of nitrogen fixation** |
| **Week 9**  **Chapter importance of nitrate reductase** |
| **ammonium assimilation.** |
| **Week 10**  **Chapter : Genetic engineering and Biotechnology:** |
| **Tools and techniques of recombinant DNA**  **technology** |
| **Week 11**  **Chapter : cloning vectors** |
| **Assignments:** |
| **Test of genomic and cDNA library;** |
| **Problems and Group Discussion** |
| **Week 12**  **Chapter :** **transposable elements** |
| **aspects**  **of plant tissue culture** |
| **Week 13**  **Chapter :** cellular totipotency |
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| **Week 14**  **Chapter : differentiation and morphogenesis; biology** |
| **Assignments** |
| **Revision** |
| **test taken** |

***GOVT COLLEGE MAHENDERGARH***

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| **Name of the Assistant/Associate Professor: Jitender Kumar** |
| **Class and Section: Bsc (Medical) IInd year Section: 4th Sem** |
| **Subject: Botany** |
| **Paper: BIOLOGY AND DIVERSITY OF SEED PLANTS-II** |

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| **Week 1**  **Chapter:** **Taxonomy and Systematics** |
| **Taxonomy and Systematics** |
| **fundamental components of taxonomy** |
| **identification, classification** |
| **Week 2**  **Chapter : Taxonomy *cont.*** |
| **Assignments** |
| **description, nomenclature and phylogeny** |
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| **Week 3**  **Chapter :** **Role of chemotaxonomy, cytotaxonomy *cont.*** |
| **Assignments** |
| **Role of chemotaxonomy, cytotaxonomy** |
| **taximetrics in relation to taxonomy** |
| **Week 4**  **Chapter Botanical Nomenclature:** |
| **Assignments Botanical Nomenclature** |
| **principles and rules,** |
| **principle of priority, Keys to identification of plants.** |
| **Week 5**  **Chapter :**  **Botanical Nomenclature** |
| **principle of priority, Keys to identification of plants.** |
| **Type concept, taxonomic ranks** |
| **Week 6**  **Chapter :** **Salient features of the systems of classification of**  **angiosperms proposed by Bentham & Hooker** |
| **Assignments** |
| **classification of angiosperms proposed by Bentham & Hooker** |
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| **Week 7**  **Chapter Engler & Prantl, Floral Terms**  **and Types of Inflorescence** |
| **Assignments** |
| **Diversity of Flowering Plants** |
| **Test of Type & Diagnostic features and economic importance of the**  **following families: Ranunculaceae** |
| **Week 8**  **Chapter : Brassicaceae** |
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| **Diagnostic features and economic importance of the**  **following families: Ranunculaceae** |
| **Malvaceae, Euphorbiaceae,** |
| **Week 9**  **Chapter: Rutaceae, Fabaceae, Cucurbitaceae** |
| **Type & Diagnostic features and economic importance of the**  **following families : Rutaceae, Fabaceae, Cucurbitaceae** |
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| **Week 10**  **Chapter : Diversity of Flowering Plants** |
| **Diagnostic features and economic importance of the**  **families: Apiaceae** |
| **Week 11**  **Chapter : Diversity of Flowering Plants** |
| **Assignments: Diagnostic features and economic importance of the**  **families** **Asclepiadaceae,** |
| **Test of type Asclepiadaceae,** |
| **Problems and Group Discussion on Asclepiadaceae,** |
| **Week 12**  **Chapter : Lamiaceae** |
| **Solanaceae Diagnostic features and economic importance** |
| **Week 13**  **Chapter :** **Asteraceae** |
| **Asteraceae Diagnostic features and economic importance** |
| **Week 14**  **Chapter : Liliaceae** |
| **Assignments Liliaceae** |
| **Liliaceae Diagnostic features and economic importance** |
| **Assignments** |
| **Revision** |
| **test taken** |

***GOVT COLLEGE MAHENDERGARH***

**Name of Assistant/Associate Professor: Jitender Kumar**

**Class & Section:-B.Sc.2nd SEMESTER (MEDICAL) 2024**

**Subject:- BOTANY **

**Subject Lesson Plan:**

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| **Week 1**  **Chapter: Bryophyta** |
| **Assignments: General Characters** |
| **Bryophyta- General characters, classification (upto classes),** |
| **Classifiaction** |
| **Week 2**  **Chapter :Bryophyta cont.** |
| **Alternation of generations in Bryophyta** |
| **Evolution of Sporophytes** |
| **Week 3**  **Chapter : Bryophyta cont.** |
| **Assignments: economic importance** |
| **Rivision** |
| **Units test taken** |
| **Week 4**  **Chapter : Bryophyta** |
| **Assignments** |
| **Structure and reproduction (excluding development) of Marchantia** |
| **Week 5**  **Chapter :Bryophyta** |
| **Assignments** |
| **Anthoceros (Anthocerotopsida) Reproduction** |
| **Doubt class or test (Brophyta)** |
| **Week 6**  **Chapter : Byophyta** |
| **Assignments** |
| **Funaria (Bryopsida) Reproduction** |
| **Type study: Periplaneta Americana, Habitat, Habits and Ext. morphology** |
| **Week 7**  **Chapter : Pteridophyta** |
| **Assignments: General Characters of Pteridophyta** |
| **Classification of Pteridophyta (upto classes)** |
| **Week 8**  **Chapter: : Pteridophyta** |
| **Assignments** |
| **Alternation of generations in pteridophyta** |
| **heterospory, apospory, apogamy** |
| **Week 9**  **Chapter :** **Pteridophyta** |
| **Assignments heterospory, apospory, apogamy** |
| **Doubt class or test** |
| **Economic importance of pteridophyta** |
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| **Week 10**  **Chapter : Phylum: Pteridophyta Cont.** |
| **Assignments Economic importance of pteridophyta** |
| **General account of stellar evolution** |
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| **Week 11**  **Chapter :** **Pteridophyta** |
| **Assignments Structure and reproduction (excluding development) of Rhynia** |
| **Structure and reproduction (excluding development) of Rhynia** |
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| **Week 12**  **Chapter : Pteridophyta** |
| **Assignments** |
| **Selaginella (Lycopsida)** |
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| **Week 13**  **Chapter : :** **Pteridophyta Cont.** |
| **Assignments** |
| **Equisetum (Sphenopsida)** |
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| **Week 14**  **Chapter : : Pteridophyta Cont.** |
| **Pteris (Pteropsida)** |
| **Doubt Class or Test Pteridophyta** |