***GOVT COLLEGE MAHENDERGARH***

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

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

|  |
| --- |
| **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 |
|  |
| **Week 14****Chapter : differentiation and morphogenesis; biology** |
| **Assignments** |
|  **Revision**  |
| **test taken**  |

 ***GOVT COLLEGE MAHENDERGARH***

|  |
| --- |
| **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** |

|  |
| --- |
| **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** |
|  |
| **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** |
|  |
| **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** |
|  |
| **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** |
|  |
| **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:**

|  |
| --- |
| **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** |
|  |
| **Week 10****Chapter : Phylum: Pteridophyta Cont.** |
| **Assignments Economic importance of pteridophyta** |
| **General account of stellar evolution** |
|  |
| **Week 11****Chapter :** **Pteridophyta**  |
| **Assignments Structure and reproduction (excluding development) of Rhynia** |
| **Structure and reproduction (excluding development) of Rhynia** |
|  |
| **Week 12****Chapter : Pteridophyta** |
| **Assignments** |
| **Selaginella (Lycopsida)** |
|  |
| **Week 13****Chapter : :** **Pteridophyta Cont.** |
| **Assignments** |
| **Equisetum (Sphenopsida)** |
|  |
| **Week 14****Chapter : : Pteridophyta Cont.** |
| **Pteris (Pteropsida)** |
| **Doubt Class or Test Pteridophyta** |