

**LESSON PLAN**  
**Even Semester (Feb.-May 2023)**

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| <b>NAME OF THE TEACHER: SUJATA RANI</b><br><b>CLASS &amp; SECTION: B.SC. I ( MED)</b><br><b>SUBJECT NAME AND CODE: ZOOLOGY</b>                            |  |
| <b>1.LIFE AND DIVERSITY FROM ANNELIDA TO ARTHROPODA AND GENETICS-I</b><br><br><b>2. LIFE AND DIVERSITY FROM MOLLUSCA TO ECHINODERMATA AND GENETICS-II</b> |  |
| <b>WEEK</b>   | <b>TOPICS COVERED</b>  |
| <b>01 Feb to 15 Feb</b>   | 1.Type study- <i>Pheretima</i> ,<br>2.General characters and classification of annelida<br>3. Biodiversity and economic importance of Annelida<br>4. Metamerism in Annelida<br>5. Trochophore larva  |
| <b>16 Feb to 28 Feb</b>   | 1.Elements of Heredity and variations:<br>Monohybrid and Dihybrid crosses and laws based ,Test cross, back cross, numericals related to crosses<br>2.The varieties of gene interactions<br>Complementary Genes, supplementary genes,Epistasis, duplicate genes, Additive genes, duplicate, lethal genes, pleiotropy, Polymeric inheritance<br>3. Linkage and recombination : Coupling and repulsion hypothesis, crossing-over and chiasma formation; gene mapping.<br><b>(ASSIGMENT-I,Class tests as per schedule)</b> |
| <b>01 March to 15 March</b>   | 1.Sex determination and its mechanism : male and female heterozygous systems, genetic balance system; role of y-chromosome, male haploidy, cytoplasmic and environmental factors, role of hormones in sex determination.<br>2.Sex linked inheritance : Haemophilia and colour blindness in man, eye colour in <i>Drosophila</i> , Non-disjunction of sex-chromosome in <i>Drosophila</i> ; Sex-linked and sex-influenced inheritance<br><b>(Class tests as per schedule)</b>   |
| <b>16 March to 31 March</b>   | 1.Type study- <i>Poeciloceris</i> ,<br>2.Biodiversity and economic importance of Arthropoda( Insects),<br>3.General characters and classification of Arthropoda  |

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|                             | <p>4. Extra chromosomal inheritance- Meaning, shell coiling in snail, Kappa particles in <i>Paramecium</i>, Milk factor in mice</p> <p><b>PAPER -II</b></p> <p>5. Multiple allelism</p> <p>6. Human genetics, Karyotype, chromosomal abnormalities, twins</p> <p>7. Inborn errors of Metabolism</p> <p><b>(Class tests as per schedule)</b></p>  |
| <b>01 April to 15 April</b> | <p>1. Type study- <i>Pila</i></p> <p>2. Torsion and detorsion in Mollusca, Respiration and foot</p> <p>(ASSIGNMENT-II, Class tests as per schedule)</p>  |
| <b>16 April to 30 April</b> | <p>1. Type study – Asteries (Sea Star)</p> <p>2. Phylum – Echinodermata : a) General characters and classification up to order b) Biodiversity and economic importance</p> <p>3. Echinoderm larvae, Aristotle’s Lantern</p> <p>4. Applied genetics : Genetic counseling, pre-natal diagnostics, DNA-finger printing, transgenic animals.</p> <p>(ASSIGNMENT-II, Class tests as per schedule)</p> |
| <b>01 May to 15 May</b>     | <p>1. Phylum Hemichordate: General character; type study of <i>Balanoglossus</i></p> <p>2. Nature and function of genetic material : Structure and type of nucleic acids; Protein synthesis</p>  |
| <b>16 May to 26 May</b>     | <p>Eugenics, Euthenics and Euphenics; Spontaneous and induced (chemical and radiations) mutations; Gene mutations; Chemical basis of mutations; transition, transversion, structural chromosomal aberrations (deletion, duplication, inversion and translocation); numerical aberrations (autopolyploidy, euploidy and polyploidy in animals)</p>  |
|                             | Revision and doubt sessions, Practice of previous year papers  |

**Note:-**

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- E-Mail: [sssujatasharma@gmail.com](mailto:sssujatasharma@gmail.com)

**LESSON PLAN**  
**Even Semester (Feb.-May 2023)**

**NAME OF ASSISTANT PROFESSOR :SUJATA RANI**  
**CLASS/SECTION: B. Sc.Medical SEM IV**  
**SUBJECT: ZOOLOGY THEORY Paper-1 AND Paper-II**

| PAPER –I<br>PAPER -II | 1.LIFE AND DIVERSITY OF CHORDATES-II<br>2.MAMMALIAN PHYSIOLOGY-II  |
|-----------------------|--|
| WEEK                  | TOPICS COVERED<br>( Both papers simultaneously)  |
| 01 Feb to 15 Feb      | 1.Circulation: Origin, conduction and regulation of heart beat, cardiac cycle, electrocardiogram, cardiac output, fluid pressure and flow pressure in closed and open circulatory system; composition and functions of blood & lymph; mechanism of coagulation of blood, coagulation factors; anticoagulants, haemopoiesis.<br>2. Respiration: Exchange of respiratory gases, transport of gases, lung air volumes, oxygen dissociation curve of hemoglobin, bohr’s effect, haburger’s phenomenon (chloride shift), control / regulation of respiration. |
| 16 Feb to 28 Feb      | 1. Mammals: Classification<br>2.Adaptive radiations of mammals ,Dentition<br>3.Type study of Rat<br><br>(Class tests as per schedule)  |
| 01 March to 15 March  | 1.Chemical integration or Endocrinology: Structure and mechanism of hormone action; physiology of hypothalamus, pituitary, thyroid, parathyroid, adrenal, pancreas and gonads.( TOPIC 1 FROM PAPER II.Unit II)<br>2. Neural Integration: Nature, origin and propagation of nerve impulse alongwithmeddullated& non-medullated nerve fibre, conduction of nerve impulse across synapse.( TOPIC 2 FROM PAPER II,Unit II)<br>(Class tests as per schedule)  |
| 16 March to 31 March  | 1. Reptilia: Origin, Evolutionary tree. Extinct reptiles; Poisonous and non-poisonous snakes; Poison apparatus<br>2. Type study of Lizard ( <i>Hemidactylus</i> )  |
| 01 April to 15 April  | 1.Type study of Pigeon ( <i>Columba livia</i> )<br>2.Flight adaptation in birds  |

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|                             | 3.Principles of aerodynamics in Bird flight, migration in birds<br><b>(ASSIGMMENT-II,Class tests as per schedule)</b>   |
| <b>16 April to 30 April</b> | 1. Type study of frog ( <i>Rana tigrina</i> )<br>2. Amphibia: Origin, Evolutionary tree. Parental Care in Amphibia<br><b>(ASSIGMMENT-II,Class tests as per schedule)</b>  |
| <b>01 May to 15 May</b>     | 1. Reproduction: Spermatogenesis, Capacitation of spermatozoa, ovulation, formation of corpus luteum, oestrous-anoestrous cycle, Menstrual cycle in human; fertilization, implantation and gestation<br>(TOPIC 1 FROM PAPER II,UNIT II).                |
| <b>16 May to 26 May</b>     | Excretion: Patterns of excretory products viz. amonetelic, ureotlic uricotelic, ornithine cycle (kreb's – henseleit cycle) for urea formation in liver. urine formation, counter-current mechanism of urine concentration, osmoregulation, micturition. |
|                             | Revision and doubt sessions,Practice of previous year papers  |

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**LESSON PLAN FOR EVEN SEM**  
**SESSION 2019-20**

Name of Teacher :- **SUJATA RANI**  
CLASS/SECTION: **B.Sc.Medical SEM VI**  
SUBJECT: **ZOOLOGY THEORY**

| <b>PAPER-I AND PAPER-II</b> | <b>AQUACULTURE AND PEST MANAGEMENT-I<br/>AQUACULTURE AND PEST MANAGEMENT-II</b>   |
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| <b>DAYS</b>                 | <b>TOPICS COVERED</b>   |
| <b>01 Feb to 15 Feb</b>     | <p>1. Pests of Sugercane: (a) Sugercane leaf-hopper (<i>Pyrillaperpusilla</i>) (b) Sugercane Whitefly (<i>Aleurolobusbarodensis</i>) (c) Sugercane top borer (<i>Scirpophaganivella</i>) (d) Sugercane root borer (<i>Emmaloceradepresella</i>) (e) Gurdaspur borer (<i>Bissetiasteniellus</i>)<br/>With their systematic position, habits and nature of damage cause. Life cycle and control of <i>Pyrillaperpusilla</i> only. (TOPIC FROM PAPER-1)</p> <p>2. Pests of Stored grains: (a) Pulse beetle (<i>Callosobruchus maculatus</i>) (b) Rice weevil (<i>Sitophilus oryzae</i>) (c) Wheat weevil (<i>Trogoderma granarium</i>) (d) Rust Red Flour beetles (<i>Tribolium castaneum</i>) (e) Lesser grain borer (<i>Rhizoperthadominica</i>) (f) Grain &amp; Flour moth (<i>Sitotrogacerealella</i>)<br/>Their systematic position, habits and nature of damage caused. Life cycle and control of <i>Trogoderma granarium</i>.<br/>(TOPIC FROM PAPER-II)</p> |
| <b>16 Feb to 28 Feb</b>     | <p>Pests of Cotton: (a) Pink bollworm (<i>Pectinophoragossypiella</i>) (b) Red cotton bug (<i>Dysdercus Cingulatus</i>) (c) Cotton grey weevil (<i>Mylocerus</i>) (d) Cotton Jassid (<i>Amrascadevastans</i>)<br/>With their systematic position, habits and nature of damage caused. Life cycle and control of <i>Pectinophoragossypiella</i>.<br/><b>(ASSIGMMENT-I, Class tests as per schedule)</b></p>  |
| <b>01 March to 15 March</b> | <p>1. Pests of Wheat: Wheat stem borer (<i>Sesamia inferens</i>) with its systematics position, habits, nature of damage caused. Life cycle and control.</p> <p>2. Pests of Paddy: (a) Gundhi bug (<i>Leptocorisa acuta</i>) (b) Rice grasshopper (<i>Hieroglyphus banian</i>) (c) Rice stem borer (<i>Scirpophagaincertullus</i>) (d) Rice Hispa (<i>Diceladispa armigera</i>)<br/>With their systematic position, habits and nature of damage caused. Life cycle and control of <i>Leptocorisa acuta</i>.</p>   |
| <b>16 March to 31 March</b> | <p>1. Pests of Vegetables: (a) <i>Raphidopalpafaveicollis</i> – The Red pumpkin beetle. (b) <i>Dacus cucurbitas</i> – The pumpkin fruit fly. (c) <i>Tetranychustelarius</i> – The vegetable mite. (d) <i>Epilachna</i> – The Hadda beetle</p>   |

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|                             | <p>Their systematics position, habits and nature of damage caused. Life cycle and control of <i>Aulacophora faveicollis</i>.</p> <p>2. Introduction to world fisheries: Production, utilization and demand.</p> <p>3. Fresh Water fishes of India: River system, reservoir, pond, tank fisheries; captive and culture fisheries, cold water fisheries.</p> <p>4. Fishing crafts and gears.</p> |
| <b>01 April to 15 April</b> | <p>1. Fin fishes, Crustaceans, Molluscs and their culture.</p> <p>2. Seed production: Natural seed resources – its assessment, collection, Hatchery production</p> <p>2. Nutrition: Sources of food (Natural, Artificial) and feed composition (Calorie and Chemical ingredients).</p> <p><b>(ASSIGMENT-II, Class tests as per schedule)</b></p>   |
| <b>16 April to 30 April</b> | <p>1. Field Culture: Ponds-running water, recycled water, cage, culture; poly culture.</p> <p>2. Culture technology: Biotechnology, gene manipulation and cryopreservation of gametes</p> <p>3. Insect control: Biological control, its history, requirement and precautions and feasibility of biological agents for control.</p> <p><b>(ASSIGMENT-II, Class tests as per schedule)</b></p>   |
| <b>01 May to 15 May</b>     | <p>1. Chemical control: History, Categories of pesticides. Important pesticides from each category to pests against which they can be used. Insect repellants and attractants.</p> <p>2. Integrated pest management</p>  |
| <b>16 May to 26 May</b>     | <p>1. Important bird and rodent pests of agriculture &amp; their management</p> <p>2. Revision and doubt sessions</p> <p>3. Discussions of previous year papers</p>  |

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