**LESSON PLAN**

**Name of Assistant Professor: Dr. Madhu Bala**

**Class & Semester: B.Sc- I 2nd Semester**

**Subject: Zoology**

**College Name: Government College Alewa Jind**

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|  | **JANUARY** |
| Ist WEEK | **EXAMS** |
| 2nd WEEK | **EXAMS** |
| 3rd WEEK | Chordates: Salient features of chordates; Principles of classification |
| 4th WEEK | Protochordates: Urochordata: Systematic position, distribution,  |
| 5th WEEK | Urochordata ecology, morphology and affinities |

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|  | **FEBRUARY** |
| **Ist WEEK** | Pisces: General characters and classification up to classes with examples emphasizing their biodiversity,  |
| **2nd WEEK** | Pisces: Scales & Fins, |
| **3rd WEEK** | Pisces :Type study of Labeo |
| **4th WEEK** | **Pisces :Type study of Labeo** |
| **5th WEEK** | **Pisces :Type study of Labeo** |

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|  | **MARCH** |
| **Ist WEEK** | **Amphibia: General characters and Classification upto class level**  |
| **2nd WEEK** | **Amphibia :Type study of frog,** |
| **3rd WEEK** | **Amphibia :Type study of frog,** |
| **4th WEEK** | **Parental Care and Neoteny in Amphibia** |
| **5th WEEK** | **Reptilia: General characters and Classification upto classes,** |

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|  | **APRIL** |
| **Ist WEEK** | **Aves: General characters**  |
| **2nd WEEK** | **Classifications upto classes.** |
| **3rd WEEK** | **Flight/Aerial adaptation in birds,** |
| **4th WEEK** | **Flight/Aerial adaptation in birds,** |
| **5th WEEK** | **Archaeopteryx as missing link** |

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|  | **MAY** |
| **Ist WEEK** | **Mammals: General characters and classification up to classes;** |
| **2nd WEEK** | **REVISION** |
| **3rd WEEK** | **EXAMS** |
| **4th WEEK** | **EXAMS** |
| **5th WEEK** | **EXAMS** |

**Name of Assistant Professor: Dr. Madhu Bala**

**Class & Semester: B.Sc-II 4th Semester**

**Subject: Zoology**

**College Name: Government College Alewa Jind**

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|  | **JANUARY** |
| **Ist WEEK** | **EXAMS** |
| **2nd WEEK** | **EXAMS** |
| **3rd WEEK** | **Introduction, classification, structure, function and general properties of proteins, carbohydrates and lipids.**  |
| **4th WEEK** | **Nomenclature, classification and mechanisms of enzyme action; Enzyme Kinetics, factors affecting enzyme activity, inhibition of enzymes** |
| **5th WEEK** | **Transport through biomembranes (Active and Passive), osmotic pressure, hydrogen ion concentration and buffers** |

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|  | **FEBRUARY** |
| **Ist WEEK** | **Nutrition: Nutritional components: Carbohydrates, fats, lipids, Vitamins and Minerals;; control of secretion of digestive juices.**  |
| **2nd WEEK** | **Types of nutrition & feeding, Digestion of lipids, proteins, carbohydrates & nucleic acids;** |
| **3rd WEEK** | **symbiotic digestion, lactose intolerance, Physico-chemical mechanism of Absorption of nutrients & assimilation** |
| **4th WEEK** | **Muscles: Types of muscles, ultra-structure of skeletal muscle, neuromuscular junction.** |
| **5th WEEK** | **Bio-chemical and physical events during muscle contraction, single muscle twitch, tetanus, muscle fatigue, muscle tone, oxygen debt., Cori’s cycle, single unit smooth muscles, their physical and functional properties.** |

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|  | **MARCH** |
| Ist WEEK | Circulation: Origin, conduction and regulation of heart beat; cardiac cycle, electrocardiogram, cardiac output, fluid pressure and flow pressure in closed and open circulatory system; control / regulation of respiration (peripheral reflexes, chemical control and Higher centres), Myoglobin., ornithine cycle (Kreb’s – Henseleit cycle) for urea formation in liver;  |
| 2nd WEEK | Composition and functions of blood & lymph; Mechanism of coagulation of blood, coagulation factors; anticoagulants, haemopoiesis. Respiration: |
| 3rd WEEK | Exchange of respiratory gases, transport of gases, lung air volumes, oxygen dissociation curve of haemoglobin, Bohr’s effect, Hamburger’s phenomenon (Chloride shift), |
| 4th WEEK | Excretion: Patterns of excretory products viz. Amonotelic, ureotlic uricotelic |
| 5th WEEK | Urine formation, composition of Urine, |

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|  | APRIL |
| Ist WEEK | counter-current mechanism of urine formation, osmoregulation, micturition. |
| 2nd WEEK | Neural Integration: Nature, origin and propagation of nerve impulse alongwith medullated & non-medullated nerve fibre, conduction of nerve impulse across synapse, synaptic delay and synaptic fatigueHormonal disorders. Reproduction: Spermatogenesis,  |
| 3rd WEEK | Neurotransmitter. Chemical integration of Endocrinology: Structure, chemical nature and mechanism of peptide and steroid hormone action; |
| 4th WEEK | physiology of hypothalamus, pituitary, thyroid, parathyroid, adrenal, pancreas and gonads, |
| 5th WEEK | Capacitation of spermatozoa, oogenesis, ovulation, formation of corpus luteum, oestrous-anoestrous cycle, |

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|  | **MAY** |
| Ist WEEK | Menstrual cycle in human, fertilization, implantation and gestation, parturition |
| 2nd WEEK | REVISION |
| 3rd WEEK | EXAM |
| 4th WEEK | EXAM |
| 5th WEEK | EXAM |

**Name of Assistant Professor: Dr. Madhu Bala**

**Class & Semester: B.Sc-III 6th Semester**

**Subject: Zoology**

**College Name: Government College Alewa Jind**

 **PAPER-I (Aquaculture and Pest Management-I)**

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|  | **JANUARY** |
| **Ist WEEK** | **EXAMS** |
| **2nd WEEK** | **EXAMS** |
| **3rd WEEK** | **Introduction to world fisheries.** |
| **4th WEEK** | **Fresh water fishes of India** |
| **5th WEEK** | **Fishing crafts and gears** |

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|  | **FEBRUARY** |
| **Ist WEEK** | **Fin fishes culture** |
| **2nd WEEK** | **Crustacean culture** |
| **3rd WEEK** | **Mollusca and** **culture** |
| **4th WEEK** | **Captive and culture fisheries** |
| **5th WEEK** | **Cold water fisheries** |

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|  | **MARCH** |
| **Ist WEEK** | **Important insects of crops and vegetables- Introduction** |
| **2nd WEEK** | Sugarcane leaf hopper- Systematic position, habits and nature of damage caused. |
| **3rd WEEK** | Sugarcane leaf hopper- Life cycle and control |
| **4th WEEK** | Cotton pink ballworm- Systematic position, habits and nature of damage caused. |
| **5th WEEK** | Cotton pink ballworm- Life cycle and control |

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|  | **APRIL** |
| **Ist WEEK** | Wheat stem borer- Systematic position, habits and nature of damage caused. |
| **2nd WEEK** | Wheat stem borer- Life cycle and control |
| **3rd WEEK** | Paddy Gandhi bug- Systematic position, habits and nature of damage caused. |
| **4th WEEK** | Paddy Gandhi bug- Life cycle and control |
| **5th WEEK** | **Red pumpkin beetle-** **Systematic position, habits and nature of damage caused.** |

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|  | **MAY** |
| **Ist WEEK** | **Red pumpkin beetle-** **Life cycle and control** |
| **2nd WEEK** | **REVISION** |
| **3rd WEEK** | EXAMS |
| **4th WEEK** | EXAMS |
| **5th WEEK** | EXAMS |

 **PAPER-II (Aquaculture and Pest Management-II)**

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|  | **JANUARY** |
| **Ist WEEK** | **EXAMS** |
| **2nd WEEK** | **EXAMS** |
| **3rd WEEK** | **Aquaculture-Seed Production** |
| **4th WEEK** | **Aquaculture-Nutrition** |
| **5th WEEK** | **Field culture** |

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|  | **FEBRUARY** |
| **Ist WEEK** | **Poly culture** |
| **2nd WEEK** | **Culture technologies** |
| **3rd WEEK** | **Gene manipulation** |
| **4th WEEK** | **Cryopreservation of gametes** |
| **5th WEEK** | **Pulse beetle** **Systematic position, habits and nature of damage caused.** |

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|  | **MARCH** |
| **Ist WEEK** | **Pulse beetle** **Life cycle and control** |
| **2nd WEEK** | **Insect control introduction** |
| **3rd WEEK** | **Biological control of insects** |
| **4th WEEK** | **Chemical control of insects** |
| **5th WEEK** | **Important pesticides** |

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|  | **APRIL** |
| **Ist WEEK** | **Insect repellant and attractants** |
| **2nd WEEK** | **Integrated pest management** |
| **3rd WEEK** | **Important bird pests- introduction** |
| **4th WEEK** | **Important bird pests-management** |
| **5th WEEK** | **Important rodents pests -introduction** |

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|  | **MAY** |
| **Ist WEEK** | **Important rodents pests -management** |
| **2nd WEEK** | **REVISION** |
| **3rd WEEK** | EXAMS |
| **4th WEEK** | EXAMS |
| **5th WEEK** | EXAMS |