Lesson Plan

Session - 2025-2026
Teacher's Name - Dr. Manjeet Kaur
Class - B.Sc IInd year (Life Science)
Subject - Zoology

Sr. No.	Month	Topics (Course code : B23-ZOO-501)
1.	August 2025	Basic concepts of Ecology : Definition, Significance, Concepts of habitat and ecological niche, Ecosystem : Concept, components, properties and functions; Ecological energetics and energy flow models; Food chain; Food web; Trophic structure; Ecological pyramids, concept of productivity
2.	September 2025	Factors affecting environment : Abiotic factors (light - intensity, quality and duration), temperature, humidity, wind, rainfall, topography, edaphic factors, Biotic factors. Introduction to Major ecosystems of world. Biogeochemical cycles : Concepts, reservoir pool, gaseous cycles and sedimentary cycles.
3.	October 2025	Community Ecology : Characteristics, composition, structure, origin and development of a community, Ecological succession. Population : Growth and regulation. Population Interaction : Competition Predation, Parasitism, Commensalisms and Mutualism. Concept of Biodiversity and Conservation of natural resources.
4.	November 2025	Climate change : Global warming; Greenhouse effect; Ozone depletion and Sustainable development. Natural Resources : Types, uses and conservation. Environmental Pollution : Air, water, soil and management strategies. Environment Impact Assessment. Revision & Preparation for Exams.
5.	December 2025	Exams

Dr. Manjeet Kaur
Department of Zoology

Lesson Plan

Session – 2025 – 2026
Teacher's Name – Dr. Manjeet Kaur
Class – B.Sc II year (Life Science)
Subject – Zoology

Sr. No.	Month	Topics (Course code: B24-Z00-301)
1.	August 2025	General structure of Animal cell, Plasma membrane, ER Endoplasmic Reticulum: Types and Functions, Golgi complex: Structure; Associated enzymes and Role of Golgi complex in animal cell. Ribosomes: Types, biogenesis and role in protein synthesis.
2.	September 2025	Lysosomes: structure, enzymes and their role; Polymorphism. Mitochondria: Structure, Mitochondria as semiautonomous body; Biogenesis and Functions of Mitochondria Cilia and Flagella: Structure and Function. Ultrastructure and Functions of Nucleus: Nuclear membrane, nuclear lamina, nucleolus. Fine structure of Chromosomes, Nucleosome concept and role of histones, euchromatin and heterochromatin.
3.	October 2025	Introduction and Mendel's laws of Inheritance. Linkage and Recombination. Cell cycle, Crossing over and Chiasma formation; Gene mapping. Sex determination 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 Sex-linked Inheritance: Haemophilia and colour blindness in man; Eye colour in Drosophila; Non-disjunction of sex Chromosome in Drosophila; sex linked and sex influenced inheritance Extra chromo
4.	November 2025	Multiple allelism, Human Genetics, Inborn Errors of Metabolism, Applied Genetics, Revision, Preparation for Exam
5.	December 2025	Exams

Dr. Manjeet Kaur
Department of Zoology

Lesson Plan

Session – 2025-2026
Teacher's Name – Dr. Manjeet Kaur
Course Type – MDC – 3
Name of the course – Basics of Zoology – III
Course Code – B23-Zoo-303

Sr. No.	Month	
1.	August 2025	Human Skeleton and bones: Characteristics (axial and appendicular), Joints, Cartilage and Ligaments, Interaction between Skeleton muscle and nerves. ABO and Rh System in Humans, method of determination, importance and dangers of blood transfusion.
2.	September 2025	Human cell and Chromosomes: Cell as unit of life, morphology and functional element of human chromosome. Sex determination, Definition, different types and scope. Weekly Test
3.	October 2025	Respiration in Humans: Anatomy and Physiology of respiration, Factors affecting change of gases and diffusing capacity. Introduction to Dental Formula, types and development of tooth. Weekly Test
4.	November 2025	Darwinism, species and Population: Concept of Evolution, theory of Darwinism, Neo-Darwinism, Genetic Drift, Hardy Weinberg Law. Human Evolution: Origin and evolution, adaptive evolution. Preparation for Exams.
5.	December 2025	Exams

Dr. Manjeet Kaur
Department of Zoology