

M.N.S.GOV'T. COLLEGE, BHIWANI
DEPARTMENT OF ZOOLOGY

LESSON PLAN

SESSION: 2025-26

Name of Teacher: Dr. KHUSHBOO

Class & Section: B.Sc.-III (M) Section - A

Paper: Immunology (20UZ00501)
Animal Biotechnology (20UZ00502)

Month	Week	Topic
August	Week 1	Historical Aspects of Immunology.
	Week 2	Anatomical Barriers, Cells & Molecules involved in innate immunity, Adaptive Immunity
	Week 3	Artificial & Natural Immunity, Passive & Active Immunity, Types of Antibody
	Week 4	Concept, Scope & Applications of Biotechnology, Antigenicity & Immunogenicity, Adjuvant & rapids
September	Week 1	Factors influencing immunogenicity, B & T cell epitopes
	Week 2	Class Test, Cloning vectors - Plasmids, Cosmids, Phagemids, YAC, BAC.
	Week 3	Lambda & M13 bacteriophage. Str. and function of immunoglobulins
	Week 4	Antigen-Antibody interactions, Primary & Secondary immune response.
October	Week 1	Restriction enzymes, Nomenclature, DNA sequencing
	Week 2	Blotting techniques, Class Test
	Week 3	PCR, DNA fingerprinting, Gell & Coombs' classification of Hypersensitivity
	Week 4	Diwali vacations
	Week 5	Types of vaccines, Genetically Modified organisms, Application of transgenic animals
November	Week 1	Culture Techniques & Applications
	Week 2	Expression of cloned genes in Mammals
	Week 3	rDNA technology
	Week 4	Revision of Syllabus

Khushboo

M.N.S.GOV. COLLEGE, BHIWANI
DEPARTMENT OF

LESSON PLAN

SESSION: 2025-26

Name of Teacher: **Dr. KHUSHBOO**

Class & Section: **B.Sc.-III (M) Section-B**

Paper: **Public Health & Hygiene (20USECZ507)**

Month	Week	Topic
August	Week 1	Definition of Public Health, Hygiene, Social & Preventive Medicine, Personal Hygiene
	Week 2	Disease transmission, Principle of Health education & Methodology
	Week 3	Group & Mass methods A-vaccines, Medical entomology, Control of Household pests
	Week 4	Primary Health Care system functioning in rural areas, Maternal & Child health
September	Week 1	Various Health organizations
	Week 2	Class Test, Malaria & AIDS control-NHP
	Week 3	Food handling & Public Health
	Week 4	Preventing food borne illness, spread of communicable disease
October	Week 1	Sanitation of food serving institutions,
	Week 2	Environmental sanitation, hygiene in food handling
	Week 3	Class Test, Personal hygiene of food handler.
	Week 4	Diwali vaccination
	Week 5	Food Adulteration, Common adulterants
November	Week 1	Health hazards, National / International laws, Consumer guidance.
	Week 2	Consumer rights & court, Central facilities for assessing food adulteration
	Week 3	Role of food inspectors
	Week 4	Revision of Syllabus

Khushboo

M.N.S.GOV'T. COLLEGE, BHIWANI
DEPARTMENT OF

LESSON PLAN

SESSION: 2025-26

Name of Teacher: Dr. KHUSHBOO

Class & Section: B.A - I (MDC ZOOLOGY SECTION)

Paper: Basics of Zoology - I (24UN-ZOO-MDC 104)

Month	Week	Topic
August	Week 1	Definition & Scope of Zoology, Introduction to Animal Kingdom, Non-chordates, Invertebrates
	Week 2	Basic characters of animals with special reference to Non-chordates
	Week 3	General characters of Porifera & Protozoa.
	Week 4	Study of Amoeba & sponges
September	Week 1	General characters of Arthropoda
	Week 2	General characters of Mollusca
	Week 3	Ecological importance of corals & leech
	Week 4	Class Test, Ecological role of earthworm
October	Week 1	Morphology of earthworm
	Week 2	General characters of Arthropods & Mollusca
	Week 3	Basic characters of Insects & snails. Grasshopper as insect pest.
	Week 4	Diwali vacations
	Week 5	Economic importance of Honey Bee, Snails as Pest in Paddy fields.
November	Week 1	General characters of Echinodermata
	Week 2	Study of basic characters of Starfish
	Week 3	Economic importance of Starfish
	Week 4	Revision of Syllabus

Khushboo

DEPARTMENT OF ZOOLOGY

LESSON PLAN (ODD SEMESTER)

SESSION: 2025-26

Name of Assistant Professor: Dr. Umesh Kumar

Class & Section: B.Sc. I (Life Science) Section A & B

Paper: 24 UN-ZOO-101 (Animal Diversity of Non-Chordates)

Month	Week/ Days	Chapter/ Topic
August	Week 1	General characters, classification of Protozoa
	Week 2	Type study of Plasmodium
	Week 3	General characters of Porifera
	Week 4	Classification of Porifera up to class level
September	Week 1	General characters of Coelentrata
	Week 2	Classification of Coelentrata up to class level
	Week 3	Type Study of Obelia
	Week 4	General characters of Platyhelminthes, General characters of Aschelminthes, Class test
October	Week 1	Platyhelminthes and Aschelminthes: Classification up to class level
	Week 2	Type study of Liver Fluke, Fasciola hepatica, Phylum – Annelida: General characters and classification up to class level
	Week 3	Type study of Earthworm, Pheretima posthuma (Habitat, habits, metamerism, digestive System, circulatory system, nervous system, reproductive system)
	Week 4	Phylum – Arthropoda: General characters and classification up to class level, Type study of Cockroach, Periplaneta americana (Habitat, habits, external morphology, digestive system, respiratory system, excretory system, reproductive system)
November	Week 1	Phylum - Mollusca: General characters and classification up to class level, Type study of Pila
	Week 2	Phylum – Echinodermata: General characters and classification up to class level, Type study of Asterias (Sea Star) (Habitat, habits, external morphology, water vascular system, Circulatory System)
	Week 3	Phylum Hemichordata: General characters of Hemichordates with examples
	Week 4	Class test & Revision


26/11/25

Dr. Umesh Kumar

Department of Zoology

DEPARTMENT OF ZOOLOGY**LESSON PLAN (EVEN SEMESTER)****SESSION: 2025-26**

Name of Assistant Professor: Dr. Umesh Kumar

Class & Section: B.Sc. I (Life Science) Section A & B

Paper: 24 UN-ZOO-201 (Animal Diversity of Chordates)

Month	Week/ Days	Chapter/ Topic
January	Week 1	Principles of classification of chordates
	Week 2	Protochordates: Urochordata: Systematic position, distribution, ecology, morphology and affinities
	Week 3	Type Study of Herdmania
	Week 4	Pisces: General characters and classification up to classes
February	Week 1	Pisces: Examples emphasizing their biodiversity, Scales, Fins of Pisces
	Week 2	Type study of Labeo, class test
	Week 3	Amphibia: General characters and Classification upto class level
	Week 4	Type study of frog, Parental Care and Neoteny in Amphibia
March	Week 1	Reptilia: General characters and Classification upto classes
	Week 2	Aves: General characters and Classifications upto classes.
	Week 3	Flight/Aerial adaptation in birds,
	Week 4	Archaeopteryx as missing link
April	Week 1	Mammals: General characters
	Week 2	Mammals: classification up to classes;
	Week 3	Type study of Rat,
	Week 4	Class test & Revision


26/9/25**Dr. Umesh Kumar****Department of Zoology**

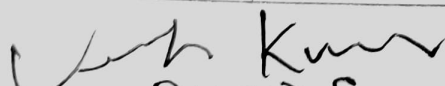
LESSON PLAN (ODD SEMESTER)**SESSION: 2025-26**

Name of Assistant Professor: Dr. Umesh Kumar

Class & Section: Bachelor of Arts

Paper: 24UN-ZOO- MDC303 (Basics of Zoology-III)

Month	Week/ Days	Chapter/ Topic
August	Week 1	Humans Skeleton and bones: Characteristics (axial and appendicular skeleton),
	Week 2	Joints, cartilage and ligaments
	Week 3	Interaction between skeletal muscles and nerves.
	Week 4	ABO and RH system in humans, methods of determination, importance and dangers of blood transfusion
September	Week 1	Human cell and chromosomes
	Week 2	Cell as unit of life
	Week 3	Morphology and functional elements of human chromosome
	Week 4	Sex Determination: Definition, different types and scope.
October	Week 1	Respiration in humans:
	Week 2	Anatomy of respiration,
	Week 3	Physiology of respiration,
	Week 4	factors affecting change of gases and diffusing capacity.
	Week 5	Introduction to Dental Formula, types and development of tooth
November	Week 1	Darwinism, species and population: Concept of evolution,
	Week 2	Theory of Darwinism, Neo-Darwinism,
	Week 3	Genetic drift, Hardy Weinberg Law
	Week 4	Human Evolution: Origin and evolution, adaptive evolution


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Dr. Umesh Kumar

Department of Zoology

LESSON PLAN FOR ODD SEMESTER (SESSION: 2024-25)

Name of Assistant Professor: **Dr. Ajay Kumar**

Department of Zoology

Class & Section: B.Sc.II (Life Science) Section A+B

Paper: Cell biology and Animal genetics (24UN-ZOO-301)

Month	Week/ Days	Chapter/ Topic
August	Week 2	Animal cell, plasma membrane
	Week 3	Transport across membrane,
	Week 4	Transport across membrane, mechanism
	Week 5	Endoplasmic Reticulum, types and function
September	Week 1	Mendelism: introduction
	Week 2	Mendel's Law of inheritance
	Week 3	Inheritance and multiple alleles
	Week 4	Sex determination and mechanism and factors
	Week 5	Sex determination continuous
October	Week 1	Sex linked inheritance, hemophilia and color blindness in human
	Week 2	Mid term exam
	Week 3	Cytoplasmic inheritance continue
	Week 4	Diwali vacation
	Week 5	Human genetics karyotype applied genetics
November	Week 2	Chromosomal abnormalities involving autosomes and sex chromosomes
	Week 3	Inborn errors of metabolism, twins and genetics counselling, cilia flagella
	Week 4	Cell organelles.-Ribosomes, lysosomes and mitochondria, nucleus
	Week 5	Nucleosome, chromatin / Revision

LESSON PLAN FOR EVEN SEMESTER (SESSION: 2024-25)

Name of Assistant Professor: **Dr. Ajay Kumar**

Department of Zoology

Class & Section: B.Sc.III (Life Science) Section B

Paper: Aquaculture (20UZ00504) Economic Zoology (20UZ00505)

Month	Week/ Days	Chapter/ Topic
August	Week 1	General discription of fish feeding habits
	Week 2	Typs of fins, scale and age determination in fish
	Week 3	Gill and gas exchange, reproduction, bioluminescent, electric organ, parental care and migration, receptors
	Week 4	Life history, damage and control of Pyrrilla, helioverpa, papilio demouleus
	Week 5	Life cycle damage and control of callosobronchus, sitophilus etc lac culture
September	Week 1	Life history medical importance of pediculus humanus, anopheles, culex, aedes xenophysilia and sericulture
	Week 2	Inland fisheries and marine fisheries
	Week 3	Fish diseases and fishing craft and gears, depletion of fisheries resources
	Week 4	Sustainable aquaculture, techniques of fish culture
	Week 5	Pearl and prawn culture pen, cage and poly culture
October	Week 1	Preservation and artificial insemination, puberty induction
	Week 2	Mid term exam
	Week 3	Estrous synchronisation, piggery
	Week 4	Diwali vacation
	Week 5	Poultry farming, principles of poultry breeding
November	Week 1	Poultry management
	Week 2	Poultry management od stocks and broiler
	Week 3	Management continous
	Week 4	Processing of eggs
	Week 5	Processing of egg continues and revision

DEPARTMENT OF ZOOLOGY

LESSON PLAN (Third SEM.)

SESSION: 2025-26

Name: Preeti Sangwan (Extension Lecturer)

Class: B.Sc. 2nd Year

Paper: Basics of Zoology-III(MDC)

Month	Week/ Days	Chapter/ Topic
August	Week 1	Human Skeleton and bones: Characteristics, joints ,cartilage and ligament.
	Week 2	Interaction between skeleton muscles and nerves.
	Week 3	ABO and RH system in human, methods of determination of blood , importance and dangers of blood transfusion.
	Week 4	Cell as unit of life,morphology and functional elements of human chromosomes.
September	Week 1	Sex determination:Definition, different type and scope.
	Week 2	Introduction to dental formula ,type and tooth development.
	Week 3	Anatomy and Physiology of Respiration in human .
	Week 4	Factors affecting change of gasses and diffusing capacities.
October	Week 1	Class tests and Assignments. Darwinism,species and population.
	Week 2	Concept of evolution and theories of Darwinism.
	Week 3	Diwali Holidays.
	Week 4	Neo - Darwinism, genetic drift and Hardy Weinberg Law.
November	Week 1	Class tests,Human evolution: Origin and evolution, adaptive radiation.
	Week 2	Revision
	Week 3	Revision

DEPARTMENT OF ZOOLOGY

LESSON PLAN (Third SEM.)

SESSION: 2025-26

Name: Preeti Sangwan (Extension Lecturer)

Class: B.Sc. 2nd Year (MEDICAL)

Paper: Microtomy (SEC)

Month	Week/ Days	Chapter/ Topic
August	Week 1	Microtomy: Introduction, definition, history and applications in Biological Science.
	Week 2	Rotary microtome, Sledge Microtomy and Cryomicrotome.
	Week 3	Collection and Transport of sample/ specimen for histological examination.
	Week 4	Basic concepts of fixation: Various types of fixative used in Microtomy.
September	Week 1	Process of fixation; Embedding -Block formation.
	Week 2	Section Cutting: Paraffin Section cutting.
	Week 3	Stretching: Spreading the Section and attachment to the glass slide.
	Week 4	Staining- Principle and procedure, Preparation of stains and solvents.
October	Week 1	Class tests and Assignments, General Staining procedure for Paraffin Embedded tissue, Nuclear stains.
	Week 2	Cytoplasmic stains: Haematoxylin and eosin Staining.
	Week 3	Diwali Holidays.
	Week 4	Mercury Bromophenyl Blue Staining.
November	Week 1	Class tests, Toulidine blue Staining and commonly used mountants in Microtomy.
	Week 2	Revision
	Week 3	Revision

DEPARTMENT OF ZOOLOGY

LESSON PLAN (FIRST SEM.)

SESSION: 2025-26

Name: Preeti Sangwan (Extension Lecturer)

Class: B.Sc. 1st Year

Paper: Basics of Zoology-I(MDC)

Month	Week/ Days	Chapter/ Topic
August	Week 1	Zoology: Introduction, scope and definition ,Introduction to animal kingdom, animal characters.
	Week 2	Non chordates and invertebrates with examples, invertebrate phyla ,Introduction to basic characters of animal with special reference to the non chordates.
	Week 3	Biodiversity "Introduction and scope, General characters of protozoa and porifera.
	Week 4	Study of Amoeba and porifera wuth special reference to its Structure and economic importance.
September	Week 1	General characters of Coelentrata and Annelida, Ecological importance of corals.
	Week 2	Morphology of earthworm and its ecological importance. Economic importance of leech.
	Week 3	General characters of Arthropods and Mollusca: Study of basic characters of insects and snail. Economic importance of honey bees.
	Week 4	Insects as pest : Grasshopper. Snail as pest in paddy fields.
October	Week 1	Class tests and Assignments, General characters of Echinoderms :Study of basic characters of star fish with special reference to its role in ecosystem.
	Week 2	Economic importance of star fish.
	Week 3	Diwali Holidays.
	Week 4	Revision
November	Week 1	Class tests.
	Week 2	Revision
	Week 3	Revision

DEPARTMENT OF ENVIRONMENTAL SCIENCE

LESSON PLAN - (1st Sem.)
2026

SESSION: 2025-

Name: Sunita Punia (Extension Lecturer)

Class: B.A. 1st (Sec.-D & E)

Paper: Environmental Studies

Month	Week/ Days	Chapter/ Topic
August	Week -1	Introduction of Environment: Meaning, Definition, Components, Importance/Need & Environmental Awareness, Multidisciplinary Nature of Environment, Scope of Environmental Studies People in Environment, Environmental days/Calendar. Introduction of Natural Resources: Meaning, Definition, Classification, Different types of Natural Resources
	Week -2	Forest Resources: - Importance & uses, Afforestation, Deforestation, Causes & Effects of Deforestation. Mineral Resources:- Definition, Classification, uses of different types of minerals.
	Week -3	Land resources:- Importance, Causes of land degradation. Water Resources:- sources of Water, Importance, Dams and its Benefits, Energy Resources:- Definition, Classification, Renewable and non-renewable energy sources.
	Week - 4	Food Resources:- Food problems, Diseases related to food Discussion on Different aspects of Environment like Drought, Floods, Dams & Climate Change, Role of Individual in Conservation of Natural Resources.
September	Week - 1	Ecosystem:- Meaning, Definition, Types, Importance ,Energy flow, Food chain & Food web with examples, Ecological pyramids, types , major Ecosystem. Ecological succession.
	Week - 2	Biodiversity:- Meaning & Definition of Biodiversity, Levels, Conservation methods, Threats, National Park & Sanctuaries, Ex-situ, In-situ Conservation, Biosphere Reserve, Red-data book, Wild life Projects, Hot-spot in India.
	Week - 3	Environmental Pollution:- Definition, Types of pollution, Air, Water, Soil, Thermal, Noise & Marine etc., Pollution Control & Preventive methods. Role of individual to prevent and control of different type of pollution.
	Week - 4	Social issues:- Global warming, Green- house effect, Ozone depletion, Nuclear accidents & general discussion.
October	Week - 1	Role of individual in disaster management. Solid Waste Management, Types. Assignments and test.
	Week - 2	Sustainable Development, Urban problem, Water conservation, Watershed management, Rain water harvesting. Environmental Ethics

Diwali – Break		
	Week – 4	Disaster management:- Floods, cyclone, anticyclone, landslide and earthquake, Tsunami and Typhoon
November	Week - 1	Waste land reclamation, Different acts & laws like forest Air, Water, Wildlife, Functions of CPCB & SPCB
	Week - 2	Awareness methods, Population, Natality & Mortality. Population Explosion, Environment & Human Health, HIV, Women & Child welfare, Role of Information Technology in Environment & Human health.
	Week - 3	Discussion on doubts and Revision

DEPARTMENT OF EVS

LESSON PLAN (ODD SEM.)

SESSION: 2025-26

Name of Assistant Professor: Mrs. Kusum Lata

Class: B.A-I, B.Com-I, B.Sc-I (Life Science , Physical Science), Maths Hons.-I, Physics Hons.-I,III

Paper Code: 24UN-BOT-VAC101 (Environmental Studies)

Month	Week/ Days	Chapter/ Topic
August	Week 1	Environment - Definition and scope
	Week 2	Importance of environmental studies and need of public awareness
	Week 3	Forest Resources, Water Resources, Food Resources
	Week 4	Mineral Resources, Land Resources, Energy Resources
September	Week 1	Role of individual in conservation of Energy Resources Ecosystem- Concept, Structure
	Week 2	Food chain, Food web, Ecological Pyramid
	Week 3	Air Pollution, Nuclear Pollution, Pollution - Water, Noise, Soil
	Week 4	Solid Waste Management, Role of individual in prevention of pollution.
October	Week 1	Disaster Management: floods, earthquake, cyclones, landslides and drought.
	Week 2	Social issues- Climate change, global warming, sustainable development, Environmental ethics
	Week 3	Diwali Vacation
	Week 4	Test and Assignment
November	Week 1	Acid Rain, Water Conservation, Ozone layer depletion Wasteland reclamation, Acts,
	Week 2	Acts: Population Introduction, HIV/AIDS
	Week 3	Women Welfare Programme, Role of Information Technology Human Rights and Child development programme
	Week 4	Role of individual to save environment, natural resources, water resources, forest resources and energy
December	Week 1	Revision
	Week 2	Revision