

Government P. G. College, Berinag

Department of Zoology

Vision

Our vision is to empower students to acquire, demonstrate, articulate and value knowledge and skills that will support them as life long learners.

Mission

Our mission is to ensure that students develop skills and the competences essential for success and leadership. Also, our mission is to skill and empower students to solve the problems in the realms of Zoological Sciences and its allied areas.

Course Outcome (CO) at UG Level

After the completion of this course in Zoology, students will be able to learn:

<u>B.Sc. Zoology</u>	<u>SEMESTER I</u>
Paper I	Non-Chordata
CO1	Salient features and classification of various Lower and Higher Non-Chordates
CO2	Life cycle, pathogenecity and control measures of parasites belonging to groups such as Protozoa, Helminths
CO3	Features with reference to locomotion, nutrition, excretion, reproduction of various phyla under Non-Chordates
Paper II	Taxonomy, Evolution and Elementary Palaeontology

CO1	Concepts of animal classification, systematics and nomenclature
CO2	Evolutionary biology of animals, concepts and evidences of evolution, variations and speciation
CO3	Evolutionary history of man and geological time scale
CO4	Fossils, their age determination, formation and importance
<u>B.Sc. Zoology</u>	<u>SEMESTER II</u>
Paper I	Cell Biology and Genetics
CO1	Structure and functions of cell and its organelles, different types of cells, cell division
CO2	Structure and function of various chromosomes
CO3	Life of G. J. Mendel - the father of genetics, his experiments and laws in genetics
CO4	Concepts of linkage, crossing over, mutation, sex-determination
CO5	Sex-linked inheritance and genetic disorders such as color blindness and haemophilia
Paper II	Molecular Biology, Elementary Biotechnology and Biological Techniques
CO1	Structure and functions of DNA and RNA
CO2	Expression of gene-protein synthesis
CO3	Biotechnology, its scope and importance

CO4	Various techniques used in the field of Biotechnology and DNA fingerprinting
CO5	Principles and applications of various biological techniques such as spectrophotometry, microscopy, PCR, chromatography and electrophoresis
<u>B.Sc. Zoology</u>	<u>SEMESTER III</u>
Paper I	Chordata
CO1	Salient features and classification of various Lower and Higher Chordates
CO2	External morphological differences of poisonous and non-poisonous snakes, Snake venom and anti-venom
CO3	Features with reference to morphology, locomotion, parental care, adaptations of various animals under Chordates
Paper II	Ecology and Environmental Biology
CO1	Concepts in ecology, its scope and various environmental factors and law governing life of organisms
CO2	Various realms of earth and bio-geochemical cycles
CO3	Definition and characteristics of population, growth and growth curves
CO4	Biodiversity, its conservation and management strategies
CO5	Pollution, its causes and control measures

CO6	IUCN and Red Data Book
<u>B.Sc. Zoology</u>	<u>SEMESTER IV</u>
Paper I	Developmental Biology
CO1	Gametogenesis: sperm and egg formation, their fertilization, pre and post embryological developments in frog and chick
CO2	Concepts of foetal membranes, metamorphosis and regeneration
CO3	Placentation in mammals
Paper II	Applied Zoology
CO1	Concepts in pisciculture, sericulture, apiculture, piggery, poultry lac and pearl culture, vermiculture
CO2	Bionomics and control measures of insect pests of fruits, vegetables, stored grains and polyphagous pests
CO3	Pest management and IPM concepts
<u>B.Sc. Zoology</u>	<u>SEMESTER V</u>
Paper I	Microbiology, Toxicology and Histology
CO1	Types and structure of different microbes, their role in bioremediation, industries and medicine
CO2	Pathogenic microbes and HIV
CO3	General concepts and principles of toxicology, kinds and sources of environmental toxins

CO4	Dose-response relationship, determination of TL_m values, margins of safety and threshold limits of various doses
CO5	Structure of various animal tissues and organs
Paper II	Animal Behavior, Bioinformatics and Biostatistics
CO1	Different patterns of behavior, taxes and reflexes, Instinctive and learned behavior
CO2	Song learning in birds and their migration behavior
CO3	Communication modes in different animal groups, biological clocks and socio-biology
CO4	Elementary knowledge of computers and its various parts, biological databases
CO5	Data collection, tabulation, presentation and calculation
<u>B.Sc. Zoology</u>	<u>SEMESTER VI</u>
Paper I	Animal Physiology, Endocrinology and Biological Chemistry
CO1	Concepts of nutrition, digestion, respiration, circulation, excretion, nervous system and muscle physiology
CO2	Structure and functions of various hormones and endocrine glands, endocrine disorders
CO3	Structure, classification and functions of various biomolecules related to carbohydrates, proteins and fats

CO4	Role and importance of enzymes, vitamins and minerals
Paper II	Elementary Entomology and Ichthyology
CO1	General characters and classification of class insecta and fishes
CO2	Characters of various insect orders such as Thysanura, Collembola, Orthoptera, Odonata, Isoptera, Heteroptera, Coleoptera, Lepidoptera, Hymenoptera and Diptera
CO3	Social life of insects and role of insects in pollination
CO4	Life cycle, pathogenecity and control measures of household insects, mosquitoes, housefly and bed-bug
CO5	Economic importance of insect as food medicine
CO6	Concepts of fish farming, ornamental and exotic fishes, hill stream fishes and their adaptations
CO7	Induced breeding and their application in fish farming, methods of fish collection, processing and preservation techniques