Detail Course Outcome : Zoology
Course Outcomes
Non-chordates

I: Protozoa to
Metazoa

Students will learn about the basic taxonomy, systematic and classification of Protozoa, Porifera, Cnidaria,Ctenophora and Helminths. They will also learn about the different aspects of life of those animals and their life cycles as well.

Principles of
Ecology

Students will understand different features and basic concepts of ecology, population, community, ecosystem and applied ecology. They will also learn application of GIS and remote sensing in wildlife biology.

Non-chordates
II: Coelomates

Student will learn about the classification of coelomate invertebrates, their structure and biology of these animals. Students will also study minor phyla and connecting links between two major phyla.

Cell Biology Students will learn about the Cell theory, discovery of cell and basic structure of cell in both prokaryotes and eukaryotes. They will understand the structure and functions of plasma membranes and other cell organelles in details. Cell division, Cellular functions and Cell signaling mechanism are also included.

Diversity of
Chordates

Students will learn about the classification, structure, function and biology of chordates of different classes. They will also learn some special topics like zoogeography, migration in fishes, parental care in amphibian and echolocation in bats.

Physiology:
Controlling and
Coordinating
Systems

Students will learn about the basics of histology and tissue staining. They will also understand the physiology of nerves, muscles, bones, cartilages and reproductive system. They will learn in detail about the histology, structure and functions of different endocrine glands, biosynthesis of hormones and mechanisms of hormone action.

Fundamentals
of Biochemistry

Students will understand the basic and fundamental biochemistry of carbohydrate, protein, lipids, nucleic acids. They will also learn the nomenclature and classification of enzyme, enzyme kinetics and regulation of enzyme action mechanism. Few techniques such as Paper chromatography, SDS-Gel electrophoresis, spectrophotometry etc will be learnt during the practical.

Comparative
Anatomy of
Vertebrates

Students will learn the comparative anatomy of different organ systems such as Integumentary, Skeletal, Digestive, Respiratory, Circulatory, and Urinogenital and Nervous system of all the vertebrate groups. They will also learn about different types of receptors present in vertebrates.

Physiology:
Life Sustaining
Systems

Students will acquire detail knowledge about the physiology of Digestion, Respiration and Excretion in mammalian group. They will also learn about the composition of blood, Haemostasis and Haemopoiesis, determination of blood groups, reading of blood pressure with sphyngomanometer and physiology of circulation through mammalian heart.

Biochemistry of Metabolic Processes

Students will learn the metabolism of Carbohydrates, lipids and proteins in detail. They will also learn about the integrated metabolism, oxidative phosphorylation and redox reactions in detail.

Molecular
Biology

Students will acquire knowledge about basics of nucleic acids, replication, transcription, translation, post transcriptional modifications, gene regulations. They will also learn about split genes and mechanisms related to it.

Principles of
Genetics

Students will learn the fundamental genetics like Mendelian and non Mendelian inheritances, linkages, mutations, sex determinations in different animals, extra chromosomal inheritances, transposable genetic elements etc. They will also understand the various aspects of biostatistics t-test, Chi-square test and their application to Genetics. They will study karyotyping of human chromosomes.

Developmental
Biology

Students will learn the different aspects of early, late and post embryonic developments. They will acquire knowledge about placenta, extra embryonic membranes and the implications of developmental biology in various fields, such as in teratogenesis, stem cell biology, in vitro fertilization, cryopreservation, cord blood transfusion etc.

Evolutionary
Biology

Students will learn about the basic concept of evolution, historical review of evolutionary concepts through Lamarckism Darwinism, and Neo Darwinism. They will learn palaeontological aspects, Molecular evolution, variations. population genetics, natural selection, genetic drift and migration. Students will have knowledge about the origin and evolution of man, construction of phylogenetic trees etc.

Animal
Behaviour and
Chronobiology

Students will know in details about patterns of behaviours, survival strategies, social and cooperative behaviours, design of signals and chronobiology. They will also learn about biological clock, biological rhythms and relevance of chronobiological studies in ethological researches.

Apiculture Students will acquire knowledge about the biology of honey bees, social system in the bee colony, rearing of bees and various techniques related to it, diseases and enemies of honey bees and also about the different products of apiculture. Students will have a clear knowledge of Entrepreneurship in Apiculture.

Medical
Diagnostics

Students will learn the various diagnostics methods used for analysis of blood and urine. They will also understand the concepts of infectious and non infectious diseases like Tuberculosis, Hepatitis, Diabetes,Hypertension etc. Students will acquire knowledge regarding different types of benign and malignant tumours, metastasis, techniques related to medical imaging, X-ray, MRI, CT Scan etc.

Immunology

Students will develop knowledge about structure and functions of immune cells, immunoglobulins, antigens and their interactions with antibodies. They will learn about MHC molecules, cytokines, complement systems, hypersensitivity reactions, autoimmune diseases, immunodeficiency and different types of vaccines. They will also learn the different immune diffusion techniques and ELISA.

Fish and
Fisheries

Students will learn in detail about the taxonomy, morphology and physiology of different fishes. They will have knowledge about different aspects of fisheries and aquaculture, fish diseases and fishery by-products. Students will acquire practical knowledge about crafts and gears used in fisheries, assessment of water quality for fisheries and of induced breeding.

Reproductive
Biology

Students will understand the physiology of human and rat reproduction through the endocrinology and hormonal regulation of reproductive cycles and functional anatomy of male and female reproduction. They will also learn in detail about infertility in both sexes and different assisted reproductive techniques used for treatment of the same.