

Programme Educational Objectives (semester):

PEO1 Higher Education: Empower students to pursue higher studies in various fields of Biology and Chemistry.

PEO2 Career: Enable students to pursue careers in Chemical, Biological and related fields as demonstrated by professional success at positions within industry, government or academics.

PEO3 Social responsibility: Enable students to exhibit professionalism, ethical attitude, communication skills and team work in their profession.

SEMESTER 1

Animal diversity- Biology of Nonchordates	CO1: Describe general taxonomic rules on animal classification.
	CO2: Classify Protozoa to Coelenterate with taxonomic keys.
	CO3: Classify Phylum Platy helminthes to Annelid phylum using examples from parasitic adaptation and vermin composing.
	CO4: Describe Phylum Arthropoda to Mollusca using examples and importance of insects and Molluscs.
	CO5: Describe Echinodermata to Hemi chordata with suitable examples and larval stages in relation to the phylogeny.

SEMESTER 2

Animal Diversity - Biology of Chordates	CO1- Describe general taxonomic rules on animal classification of chordates.
	CO2- Classify Protochordata to Mammalia with taxonomic keys.
	CO3- Understand Mammals with specific structural adaptations.
	CO4: Understand the significance of dentition and evolutionary significance.
	CO5: Understand the origin and evolutionary relationship of different phyla from Prochordata to mammalia.

SEMESTER 3

Cell Biology, Genetics, Molecular Biology and Evolution	CO1: To understand the basic unit of the living organisms and to differentiate the organisms by their cell structure
	CO2: Describe fine structure and function of plasma membrane and different cell organelles of eukaryotic cells.
	CO3: To understand the history of origin of branch of genetics ,gain knowledge on heredity, interaction of genes, various types of inheritance patterns existing in animals
	CO4: Acquiring in depth knowledge on various aspects of genetics involved in sex determination, human karyotyping and mutations of chromosomes resulting in various disorders.
	CO5: Understand the central dogma of molecular biology and flow of genetic information from DNA to proteins.
	CO6: Understand the principles and forces of evolution of life on earth, the process of evolution of new species and apply the same to develop new and advanced varieties of animals for the benefit of the society.

SEMESTER 4

Animal Physiology, Cellular Metabolism and Embryology:	CO1: Understand the functions of important animal physiological systems including digestion, cardio- respiratory and renal systems.
	CO2: Understand the muscular system and the neuro-endocrine regulation of animal growth, development and metabolism with a special knowledge of hormonal control of human reproduction.
	CO3: Describe the structure, classification and chemistry of biomolecules and enzymes responsible for sustenance of life in living organisms.
	CO4: Develop broad understanding of the basic metabolic activities pertaining to the catabolism and anabolism of various biomolecules.
	CO5: Describe the key events in early embryonic development starting from the formation of gametes upto gastrulation and formation of primary germ layers.

SEMESTER 5

Immunology and Animal Biotechnology:	CO1: To get knowledge of the organs of the Immune system, types of immunity , cells and organs of immunity.
	CO2: To describe immunological response as to how it is triggered (antigens) and regulated (antibodies)
	CO3: Understand the application of Biotechnology in the fields of industry and agriculture including animal cell/ tissue culture, stem cell technology and genetic engineering.
	CO4: Get familiar with the tools and techniques of animal biotechnology.