Name of the Department: ZOOLOGY System: CBCS

Programme Specific Outcome:

- Apply zoological knowledge in much more broader areas of life.
- Identify and analyze problems by applying the principles of natural science.
- Provide a comprehensive understanding of various animals fromtheir primitive forms to theirhighly evolved forms.
- Inculcate knowledge and prepare for a successful career in the field of zoology.
- Aims to emphasize the need for biodiversity conservation.

Course Outcome:

Semester	Course Type	Paper Description	Course Outcome
I	CC-1	Non Chordates I	• To understand the basics of animal kingdom. • To understand and recognize the life functions of Cnidaria. • To understand the characteristics, position in animal kingdom. • To gain knowledge about the morphological, physiological and evolutionary aspects of Non-chordates. • To understand the life functions of phylum Ctenophora, Platyhelminthes, and Nematoda.
	CC-2	Ecology	• Study of organisms in relation to environment. • To understand the living and non-living component of the environment. • To understand the interaction between living and non-living parts of the environment. • To understand the aquatic ecosystem components and the aspects of conservation of animals. • To acquire training for PowerPoint presentation of relevant work.
	GE-1	Animal Diversity	• To understand the existing diversity of the animal kingdom. • To be able to distinguish different species on the basis of their characteristic features. • To be able to understand the complexity of life forms easily. • To build a clear concept about chordates and non-chordates. • To gain knowledge about the morphological, physiological and evolutionary aspects of different subphyla. • Structural and anatomical peculiarities among different orders of vertebrates.
II	CC-3	Non Chordates II	• To build a clear concept about metamerism, the structure of coelom. • To be able to identify arthropods and gain knowledge about their diversity. • To understand the social behavior of termites and how they function in a colony. • To be familiar with mollusc diversity.

			• To be familiar with marine invertebrates and their life functions.
	CC-4	Cell Biology	• To understand the molecular mechanism of mitosis and meiosis. • To build concepts about the signaling events that control various life forms. • To understand the basic structure of the cell. • To understand the cytoskeleton of the cell. • To understand the nuclear structure and function of the cell. • To understand the basic principles of inheritance at the molecular, cellular, and organism levels.
	GE-2	Comparative Anatomy and Development Biology of Vertebrates	• To gain knowledge about the basic principles and process of early and late development processes of animals. • To understand the working of the urogenital system. • To understand the importance of the integumentary system with reference to bodily functions. • To be able to provide a comparative account of the brain and its functions. • To build a concept about the various events involved in embryonic development.
III	CC-5	Chordates	• To gain knowledge about classification of various chordates and their characteristics. • To identify various chordates through specimen study. • To build a clear concept about the origin of chordates. • To understand the aerodynamics of flight in birds. • To gain knowledge about the structural differences and life functions in terrestrial and aquatic mammals. • To gain knowledge about the zoogeographical realms, plate tectonics, and continental drift.
	CC-6	Animal Physiology	• To gain knowledge about the various metabolic and physiological mechanisms of the whole human body. • To gain fundamental knowledge about Animal Physiology. • To build clear ideas and concepts about the mechanisms that work to keep the human body alive and functioning. • To understand the important functions of tissues in maintaining overall body health. • To gain knowledge about the different signal transduction pathways of steroidal and non-steroidal hormones.
	CC-7	Fundamentals of Biochemistry	• To understand glucose metabolism in the human body. • To understand the structural and biological importance of carbohydrates. • To understand the physiological importance of essential and non-essential amino acids. • To build basic concepts about nucleotide metabolism. • To understand the mechanism of enzyme action.

			• To understand the basic structure, function, and importance, and metabolic pathways of Lipid and Protein.
	SEC-1	Sericulture	• To understand the history, types, races, and present status of sericulture. • To understand the prospect and employment potential of sericulture. • To gain knowledge about the detailed steps of mulberry cultivation, i.e., Moriculture, which is an integral part of Sericulture. • To gain knowledge about the various sericulture centers in India. • To have a basic concept about the various techniques involved in the rearing of silkworm.
	GE-3	Physiology and Biochemistry	• To gain knowledge about the various metabolic and physiological mechanisms of whole human body. • To gain fundamental knowledge about Animal Physiology. • To build clear ideas and concepts about the mechanisms that work to keep the human body alive and functioning. • To understand the mechanism of enzyme action. • To understand the biochemical activity of medicine.
	CC-8	Comparative Anatomy of Vertebrates	• To understand the anatomical peculiarities of different organs in vertebrates. • To understand functional activity of different organs. • To compare the structural and physiological differences between different vertebrates. • To build basic concepts about the importance of sense organs and the various receptors associated with it. • To gain knowledge about the different organ functions in reptiles, amphibians, mammals, and birds.
	CC-9	Animal Physiology	• To understand the structure and physiology of heart. • To understand the structure and function of kidney. • To build a concept about the various physiological processes that are important for normal body functioning. • To gain knowledge about the functioning of heart and apply this knowledge to prevent heart diseases. • To understand the components of blood and how haemoglobin level impacts our overall health.

IV	CC-10	Immunology	• To gain knowledge about the migration of immune cells through the body and the anatomy of lymphoid organs. • To gain knowledge about the therapeutic strategies to treat immunological diseases. • To be able to give an account on causes and consequences of deregulated immune response. • To build a basic concept about MHC molecules and its function.
	SEC-2	Aquarium Fish Keeping	• To gain knowledge about the morphology, behaviour, and importance of different ornamental fishes. • To identify and characterize the fishes important in aquarium fish keeping industry. • To gain knowledge about how fish keeping can be used to earn livelihood and open more employment opportunities. • To learn about the endemic and exotic fish species. • To gain knowledge about the maintenance of aquarium.
	GE-4	Genetics and Evolutionary Biology	• To understand the process of evolution. • To understand the formation of new species. • To gain knowledge about the genetic overview of evolution. • To understand the world at different age levels. • To build concept about the diversification of different species.
V	CC-11	Molecular Biology	• To build a clear concept about the genetic material DNA and RNA. • To understand the mechanism of DNA replication. • To gain knowledge about the mechanism of transcription in prokaryotes and eukaryotes. • To understand the process of DNA repair mechanism. • To know the different molecular techniques and its applications.
	CC-12	Genetics	• To build a clear concept about the principles of Mendelian genetics. • To understand the process of linkage, crossing over. • To understand chromosome mapping, recombination frequency, interference, coincidence andtobe able tosolve problem sumsrelatedto it. • To underst and how genetic concepts affect health and disease. • To understand the role of genetic mechanisms in evolution.
	DSE-1	Animal Biotechnology	• To understand the principle and procedure of various modern molecular techniques that are used to analyze cell functioning. • To build concept and idea about genome and its regulation. • To know how cloned and trans genic animal are produced. • To gain knowledge about DNA sequencing, PCR, DNA fingerprinting etc. • To learn about the molecular diagnosis of genetic diseases.

	DSE-2	Parasitology	• To gain knowledge about the morphology, life history, pathogenicity, and control measures of different protozoan and platyhelminthes parasites. • To identify and characterize different parasitic arthropods. • To understand host-parasite relationship. • To be able to know about the prophylaxis and treatment of platyhelminth parasitic infection. • To gain knowledge about different mechanical and biological vectors.
	DSE-1 (Gen)	Applied Zoology	• To gain basic knowledge about poultry farming. • To gain basic knowledge about animal husbandry. • To gain knowledge about the economically important and medically important insect pests with their prime role. • To be able to understand the epidemiology of diseases like tuberculosis and typhoid. • To be able to learn how poultry farming and fish technology can be used to earn a livelihood.
	SEC-3	Sericulture	• To understand the history, types, races, and present status of sericulture. • To understand the prospect and employment potential of sericulture. • To gain knowledge about the detailed steps of mulberry cultivation, i.e., Moriculture, which is an integral part of Sericulture. • To gain knowledge about the various sericulture centers in India. • To have a basic concept about the various techniques involved in the rearing of silkworm.
VI	CC-13	Developmental Biology	• To gain knowledge about the late developmental processes of animals. • To gain knowledge about the implementation of human embryo in the uterus.
			• To understand the basic concept about phases in development. • To understand gastrulation in chick and frog. • To know about teratogenesis and its effect on embryonic development. • To gain knowledge about in vitro fertilization, stem cell, and amniocentesis.
	CC-14	Evolutionary Biology	• To understand the chemical basis of evolution. • To get a historical review of evolutionary concepts like Lamarckism, Darwinism, and Neo-Darwinism. • To know about the various events in Geological Time Scale. • To build clear concepts about the origin and evolution of Man. • To be able to construct phylogenetic trees and interpret them.

	DSE-3	Animal Behaviour	• To get an historical overview on the origin and study of Ethology. • To be aware of the contributions made by Nikotinbergen, Karl von Frisch, Konrad Lorenz. • To know about the different forms of learning. • To gain knowledge about the various behavioral displays among different animal species. • To learn about data collection methods and experimental designs.
	DSE-4	Endocrinology	• To understand the structure and function of the Endocrine system. • To be able to classify and characterize different hormones. • To know about the structure of the pineal gland, hypothalamus, and pituitary gland. • To understand the mechanism of regulation of hormone action. • To build basic concepts about estrous cycle and menstrual cycle.
	DSE-2 (Gen)	Immunology	• To gain knowledge about the migration of immune cells through the body and the anatomy of lymphoid organs. • To gain knowledge about the migration of immune cells through the body and the anatomy of lymphoid organs. • To gain knowledge about the therapeutic strategies to treat immunological diseases. • To be able to give an account on causes and consequences of deregulated immune response. • To build a basic concept about MHC molecules and their function.
	SEC-4	Community nutrition and health statistics	• To build concepts about community and factors affecting the health of the community. • To get a basic idea about nutritional assessment of humans, nutritional anthropometry. • To build basic concepts about statistics and calculation of mean, median, mode from statistical data. • To know about analysis of variance and its application. • To understand the principles of epidemiology.