Programme/Courses

Under Graduate programme- Zoology

- F.Y.B.Sc.
- S.Y.B.Sc.
- T.Y.B.Sc.

Programme specific outcomes

PSO1: Gain the comprehensive knowledge and understanding of major concepts, theoretical

principles and experimental findings in Zoology and its different subfields

PSO2: Learn a wide range of approaches, from genetics to molecular and cellular biology, as well as physiological processes and anatomy, and diseases

PSO3: Spread awareness about wildlife and ecology as well as the environment and its conservation in the society

PSO4: Gain knowledge of Agro based Small Scale industries like sericulture, aquaculture and vermicomposting.

PSO5: Develop the interest and employability, program includes learning experiences which offer opportunities for higher studies and research at reputed laboratories

PSO6: Understand the concept of research and its type along with basic knowledge of qualitative research techniques, data collection and process of scientific documentation.

PSO7: Analyse the ethical aspects of research and evaluate the different methods of scientific writing and reporting by appropriate documentations and presentations.

Course outcomes

Course Outcomes

Class: F.Y.B. Sc. Zoology

Semester I

Course (Paper) Name and No.: Kingdom Animalia, Wonders of Animal World, Biodiversity and its Conservation

CO1	Curiosity will be ignited in the mind of learners, to know more about the fascinating world of animals which would enhance their interest and love for the subject of Zoology.
CO2	Learner would come to know about basic of systematic and the hierarchy in invertebrates. Learner would have knowledge about different phyla with their respective examples.
CO3	Learners would appreciate treasure of Biodiversity, its importance and hence would contribute their best for its conservation

Course (Paper) Name and No.: Laboratory safety units and measurement, Instrumentation and Animal biotechnology

CO1	Learners would work safely in the laboratory and avoid occurrence of accidents (mishaps) which will boost their scholastic performance and understanding of economy in use of materials/chemicals during practical sessions.
CO2	Learner would be able to select and operate suitable instruments for the studies of different components of Zoology. Further learner would be skilled in the area of research.
CO3	Learner would understand the recent advances in the subject, its applications for the betterment of mankind; and that the young minds would be tuned to think out of the box

Semester II

Course (Paper) Name and No.: Laboratory safety units and measurement, Instrumentation and Animal biotechnology

CO1	This lesson explores the classification system used to identify animals. This unit is specifically designed to move quickly beyond the knowledge level to high-level thinking.
CO2	Learners will grasp the concept of interdependence and interaction of physical, chemical and biological factors in the environment and will lead to better understanding about implications of loss of fauna specifically on human being.
CO3	Learners would be inspired to choose career options in the field of wild life conservation, research, photography and ecotourism.

Course (Paper) Name and No.: Laboratory safety units and measurement, Instrumentation and Animal biotechnology

CO1	Healthy dietary habits would be inculcated in the life style of learners in order to prevent risk of developing health hazards in younger generation due to faulty eating habits.
CO2	Learners will be able to promptly recognize stress related problems at initial stages and would be able to adopt relevant solutions which would lead to psychologically strong mind set promoting positive attitude important for academics and would be able to acquire knowledge of cause, symptoms and precautions of infectious diseases

Class: S.Y.B. Sc. Zoology

Semester III

Course (Paper) Name and No.: Fundamentals of Genetics, Chromosomes and Heredity, Nucleic acids

CO1	Learner shall comprehend and apply the principles of inheritance to study heredity. Learner will understand the concept of multiple alleles, linkage and crossing over
CO2	Learner will comprehend the structure of chromosomes and its types. Learner shall understand the mechanisms of sex determination. Learner would be able to correlate the disorders linked to a particular sex chromosome.
CO3	Learner will understand the importance of nucleic acids as genetic material. The learner shall comprehend and appreciate the regulation of gene expressions.

Course (Paper) Name and No.: Study of Nutrition and Excretion, Respiration and circulation, Control and coordination, Locomotion and Reproduction

CO1	Learner would understand the increasing complexity of nutritional, excretory and osmoregulatory physiology in evolutionary hierarchy.
CO2	Learner would be able to
CO3	Learner would understand the increasing complexity of respiratory and
CO4	Learner would be able to correlate the habit
CO5	Learner would understand the process of control and coordination by nervous and endocrine regulation.
CO6	Learner would be fascinated by various locomotory structures found in the animal kingdom.
CO7	Learner would be acquainted with various reproductive strategies present in animals.

Course (Paper) Name and No.: Ethology, Parasitology, Economic Zoology

CO1	Learners would gain an insight into different types of animal behavior and their role in biological adaptations. Learners would be sensitized to the feelings instrumental in social behavior.
CO2	Learners would understand the general epidemiological aspects of parasites that affect humans and apply simple preventive measures for the same. Learners would comprehend the life cycle of specific parasites, the symptoms of the disease and its treatment
CO3	Learners would gain knowledge on animals useful to mankind and the means to make the most of it. Learners would learn the modern techniques in animal husbandry. Learners would be pursuing entrepreneurship as careers

Semester IV

Course (Paper) Name and No.: Origin and Evolution of Life, Population and Evolutionary Genetics, Scientific Attitude, Methodology, Scientific Writing and Ethics in Scientific Research

CO1	Learner will gain insight about origin of life. Learner will ponder and critically view the different theories of evolution.
CO2	Learner would understand the forces that cause evolutionary changes in natural populations. Learner would comprehend the mechanisms of speciation. Learner will be able to distinguish between microevolution, macroevolution and megaevolution.
CO3	The learner shall develop qualities such as critical thinking and analysis.
CO4	The learner will imbibe the skills of scientific communication and he/she will understand the ethical aspects of research.

Course (Paper) Name and No.: Cell biology, endomembrane system and biomolecule

CO1	Learner would acquire insight of transport mechanisms for the maintenance and composition of cell.
CO2	Learner would appreciate the intricacy of endomembrane system. Learner would understand the interlinking of endomembrane system for functioning of cell
CO3	The learner will realize the importance of biomolecules and their clinical significance

Course (Paper) Name and No.: Comparative Embryology, Aspects of Human Reproduction, Pollution and its effect on organisms

CO1	Learner will be able to understand and compare the different pre- embryonic stages
CO2	Learner will be able to appreciate the functional aspects of extra embryonic membranes and classify the different types of placentae.
CO3	Learners will able to understand human reproductive physiology.
CO4	Learners will become familiar with advances in ART and related ethical issues
CO5	The learners will be sensitized about the adverse effects of pollution and measures to control it

Class: T.Y.B. Sc. Zoology

Semester V

Course (Paper) Name and No.: Course 11 Principles of Taxonomy, Modern Trends in Taxonomy and study of invertebrates

CO1	Learners will understand the basics concept of taxonomy and learn to classify animals on the basis of their relation to other animals by body structure, external characters and development
CO2	Learners will apply the International rules of Nomenclature to give a scientific name to animals which are found during research.
CO3	Learners will understand the gradual development and evolutionary history of different kinds of living organisms from earlier forms over several generations
CO4	Learners will understand and demonstrate the internal anatomy of various animals, biodiversity and related indices
CO5	Learners can learn about the historical development of systematic biology from 18th century to the present

Course (Paper) Name and No.: Course 12 Haematology and Immunology

CO1	Learners can achieve proficiency in the skills necessary for the study of haematology
CO2	Learners will be better equipped for taking any further pathological course or working in a diagnostic laboratory
CO3	Learners can identify the major cellular and tissue components which comprise the innate and adaptive immune system.
CO4	Learners would realize the significant role of immune system in giving resistance against diseases
CO5	Learners shall understand immune related pathologies and the principles and applications of vaccines

Course (Paper) Name and No.: Course 13 Histology, Toxicology, Enzymology and Biostatistics

CO1	The students can learn about various aspects of enzymological assays and their applications in industries
CO2	The students can study basics histological techniques
CO3	The learners will gain a broad understanding of different areas of toxicology
CO4	Present course will also develop critical thinking and assist students in preparation for employment in pharmaceutical industry and related areas.
CO5	Learners will know basic concepts of probability and statistics which help them to describe statistical methods and probability distributions relevant for biological data analysis.

Course (Paper) Name and No.: Course 14 Integumentary system, Human Osteology and Endocrinology

CO1	Learners can understand the basic concepts of Integumentary system, Human osteology and Endocrinology.
CO2	Learners will be able to understand the importance of epidermal and dermal derivatives and their functions.
CO3	Learners will be able to understand the structure, types and functions of human skeleton.
CO4	Learners can understand the basic concepts of endocrinology and learn about the hypothalamus and hypophysial axis, endocrine glands and mechanism of hormone action.
CO5	Learners shall be able to understand the types & secretions of endocrine glands and their functions

Course (Paper) Name and No.: Applied Component: Oceanography, Aquaculture Practices, Marketing and Finance

CO1	Learner shall understand and learn about the use of sea safety, navigational equipment's and oceanographic instruments
CO2	Learner shall comprehend boat building techniques and design of engines used in mechanized

	boats
CO3	Learner will gain knowledge about how to breed and rear ornamental fishes and commercially viable fish species
CO4	Learner shall comprehend the value of maintaining and taking sanitary precautions during the processing and packaging operations
CO5	Learner shall acquire knowledge about traditional marketing practices and role of cooperatives in selling fish

Semester VI

Course (Paper) Name and No.: Course 15 Phylum Chordata, Group Euchordata- I, Group Euchordata II and Type study - Shark

CO1	Learners will get an idea of origin of Chordates, its taxonomy up to class with reference to phylogeny and their special features
CO2	Learners will understand the characteristic features and examples of class of Reptilia, Aves and Mammalia.
CO3	Learners will get an idea of vertebrate animal life after studying one representative animal Shark.

Course (Paper) Name and No.: Course 16 Molecular Biology, Genetic Engineering, Human Genetics and Bioinformatics

CO1	Learner shall get an insight into the intricacies of chemical and molecular processes that affect genetic material
CO2	The course shall prepare learner to recognize the significance of molecular biology as a basis for the study of other areas of biology and biochemistry
CO3	Learner shall also understand related areas in relatively new fields of genetic engineering and biotechnology
CO4	Learners shall understand the concepts, mechanisms, evolutionary significance and relevance of molecular biology in the current scenario

CO5	Learners will know the theory behind fundamental bioinformatics analysis methods and acquire knowledge of various databases of proteins, nucleic acids, primary, secondary and composite databases like BLAST, FASTA etc.

Course (Paper) Name and No.: Course 17 Developmental biology

CO1	Learners can familiarize with early and later stages of development.
CO2	Learners can understand embryo development by studying the important process of cell differentiation, stages of development and morphogenesis
CO3	Learners get acquainted with process of early and late embryonic development in animals.
CO4	Learners get acquainted with post Embryonic Development and Implications of Developmental Biology.
CO5	Learners will be able to understand the processes involved in embryonic development and its application.

Course (Paper) Name and No.: Course 18 Environment and Wildlife management, Bioprospecting,Zoopharmacognosy and Zoogeography

CO1	Learners will understand about environment and Wildlife management
CO2	Learners will understand the basic concepts of bioprospecting, zoopharmacognosy and Zoogeography
CO3	Learners will understand the different factors affecting environment, itsimpact and environment management laws
CO4	Learners will be able to understand the wildlife habitat projects for animal protection.
CO5	Learners will understand the paradigms of discovery and commercialization of biological resources and knowledge gained by self-medication by animals.

Course (Paper) Name and No.: Applied Component: (Fishery Biology) Marine resources, Post-harvest and Farm Engineering

CO1	Learner shall understand and learn about the use of sea safety, navigational equipments and oceanographic instruments

CO2	Learner will understand breeding techniques and skills for culture of major carps and l comprehend hatchery and nursery management of major carps
CO3	Learner will be equipped to carry out entrepreneurial operations or gain confidence to work in freshwater prawn unit and also gain knowledge about how to breed and rear ornamental fishes and commercially viable fish species
CO4	Learner shall understand deep sea and coastal fishes, crustacean and molluscan fisheries and its commercial potential.
CO5	Learners will acquire the knowledge and would put in to practice the preservation and processing techniques for commercial ventures
CO6	Learner will gain sound knowledge about the fish by-products and value-added products as well as explore good manufacturing practices while manufacturing these products.