Department of ZOOLOGY - Course Outcomes 2020-2021

S.No.	Semester	Course Code	Course Title	
	I	**1003ZOO20**	**ANIMAL DIVERSITY – BIOLOGY OF NONCHORDATES**	**By the completion of the course the graduate should able to –**
				CO 1 Describe general taxonomic rules on animal classification
				CO 2 Classify Protozoa to Coelenterata with taxonomic keys
				CO 3 Classify Phylum Platyhelminthes to Annelida phylum using examples from parasitic adaptation and vermicomposting
				CO 4 Describe Phylum Arthropoda to Mollusca using examples and importance of insects and Molluscans
				CO 5 Describe Echinodermata to Hemichordate with suitable examples and larval stages in relation to the phylogeny
	I	**1003ZOO20P**	**ANIMAL DIVERSITY – BIOLOGY OF NONCHORDATES LAB**	**By the completion of the course the graduate should able to –**
				CO I To understand the importance of preservation of museum specimens
				CO 2 To identify animals based on special identifying characters
				CO 3 To understand different organ systems through demo or virtual dissections
				CO 4 To maintain a neat, labeled record of identified museum specimens
	II	**2003ZOO20**	**ANIMAL DIVERSITY – BIOLOGY OF CHORDATES**	**By the completion of the course the graduate should able to –**

				CO 1 Describe general taxonomic rules on animal classification of chordates
				CO 2 Classify Protochordata to Mammalia with taxonomic keys
				CO 3 Understand Mammals with specific structural adaptations
				CO 4 Understand the significance of dentition and evolutionary significance
				CO 5 Understand the origin and evolutionary relationship of different phyla from Prochordata to Mammalia.
	II	**2003ZOO20P**	**ANIMAL DIVERSITY – BIOLOGY OF CHORDATES LAB**	**By the completion of the course the graduate should able to –**
				CO 1 To understand the Taxidermic and other methods of preservation of chordates
				CO 2 To identify chordates based on special identifying characters
				CO 3 To understand internal anatomy of animals through demo or virtual dissections, thus directing the student for "empathy towards the fellow living beings"
				CO 4 To maintain a neat, labelled record of identified museum specimens
	III	**3003ZOO20**	**CELL BIOLOGY, GENETICS, MOLECULAR BIOLOGY AND EVOLUTION**	**By the completion of the course the graduate should able to –**
				CO 1 To understand the basic unit of the living organisms and to differentiate the organisms by their cell structure.
				CO 2 Describe fine structure and function of plasma membrane and different cell organelles of Eukaryotic cell.
				CO 3 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

				CO 4 Acquiring in-depth knowledge on various of aspects of genetics involved in sex determination, human karyotyping and mutations of chromosomes resulting in various disorders
				CO 5 Understand the central dogma of molecular biology and flow of genetic information from DNA to proteins.
				CO 6 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.
	III	**3003ZOO20P**	**CELL BIOLOGY, GENETICS, MOLECULAR BIOLOGY AND EVOLUTION**	**By the completion of the course the graduate should able to –**
				CO 1 Acquainting and skill enhancement in the usage of laboratory microscope
				CO 2 Hands-on experience of different phases of cell division by experimentation
				CO 3 Develop skills on human Karyo typing and identification of chromosomal
				CO 4 To apply the basic concept of inheritance for applied research
				CO 5 To get familiar with phylogeny ad geological history of origin & evolution of
	IV	**4003ZOO20-A**	**ANIMAL PHYSIOLOGY, CELLULAR METABOLISM AND EMBRYOLOGY**	**This course will provide students with a deep knowledge in Physiology, Cellular metabolism and Molecular Biology and by the completion of the course the graduate shall able to –**
				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 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 up to gastrulation and formation of primary germ layers.
	IV	**4003ZOO20-AP**	**ANIMAL PHYSIOLOGY, CELLULAR METABOLISM AND EMBRYOLOGY LAB**	**By the completion of the course the graduate should able to –**
				CO1 Identification of an organ system with histological structure
				CO 2 Deducing human health based on the information of composition of blood cells
				CO 3 Demonstration of enzyme activity invitro
				CO 4 Identification of various Biomolecules of tissues by simple colorimetric methods and also quantitative methods
				CO 5 Identification of different stages of earl embryonic development in animals
	V	**4003ZOO20-B**	**Immunology and Animal Biotechnology**	**This course will provide students with a deep knowledge in immunology, genetics, embryology and ecology and by the completion of the course the graduate shall able to –**
				CO1 To gain knowledge of the organs of 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 applications 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.
	V	**4003ZOO20-BP**	**Immunology and Animal Biotechnology Lab**	**By the completion of the course the graduate should able to –**
				CO 1 Acquainting student with immunological techniques vis-à-vis theory taught in the classroom
				CO 2 Interconnect the theoretical and practical knowledge of immunity with the outer world for the development of a healthier life.
				CO 3 Demonstrate basic laboratory skills necessary for Biotechnology research
				CO 4 Promoting application of the lab techniques for taking up research in higher studies
	VI	**5003ZOO206A**	**Sustainable Aquaculture Management**	**Students at the successful completion of this course will be able to**
				CO 1 Evaluate the present status of aquaculture at the Global level and National level
				CO 2 Classify different types of ponds used in aquaculture
				CO3 Demonstrate induced breeding of carps
				CO 4 Acquire critical knowledge on commercial importance of shrimps
				CO 5 Identify fin and shell fish diseases
14	**VI**	**5003ZOO206AP**	**Sustainable Aquaculture Management Lab**	**On successful completion of this practical course, student shall be able to:**
				CO 1 Identify the characaters of Fresh water cultivable species
				CO 2 Etimatephysico chemical characateristics of water used for aquaculture
				CO 3 Examine the diseases of fin and shell fish
				CO 4 Suggest measures to prevent diseases in aquaculture

		5003ZOO207A	**Postharvest Technology of Fish and Fisheries**	**On successful completion of this practical course, student shall beable to**
				CO 1 Identify the types of preservation methods employed in aquaculture
				CO 2 Choose the suitable Processing methods in aquaculture
				CO 3 Maintain the standard quality control protocols laid down in aqua industry
				CO 4 Identify the best Seafood quality assurance system
16	**VI**	**5003ZOO207AP**	**Postharvest Technology of Fish and Fisheries Lab**	**Students at the successful completion of this course will be able to**
				CO 1 Identify the quality of aqua processed products.
				CO 2 Determine the quality of fishery by products by observation
				CO 3 Analyze the protocols of aqua processing methods