Course Outcomes (CBCS)
Department of Zoology
S. B. Deorah College

Course Outcomes	
Paper Code and Name	**Outcomes**
ZOO-HC-1016 NON-CHORDATES I: PROTISTS TO PSEUDOCOELOMATES	• To gain knowledge about the systematic position, structure and evolution of Non-Chordates animal from Protista to Nemathelminthes. • To gain knowledge on life cycle stages; host; pathogenicity and preventive measures from the specific species. • To study on any related topic on life cycles and submit report.
ZOO-HC-1026 PRINCIPLES OF ECOLOGY	• To gain knowledge of population, community, ecosystem, wildlife conservation and management. • To gain knowledge about the method of determination of population density; life of aquatic ecosystem, physico-chemical analysis of water etc. • The students can learn to identify different animals and bird species and their habitat. • To visit a National Park/Biodiversity Park/Wild life sanctuary and submit report.
ZOO-HG/RC-1016 ANIMAL DIVERSITY	• To gain knowledge about the systematic position, structure and evolution of Non-Chordates animal from Annelida to Echinodermata
ZOO-HC-2016 NON-CHORDATES II: COELOMATES	• To gain knowledge about the systematic position, structure and evolution of Non-Chordate and Chordate animal from Annelida to Echinodermata. • To submit a Project Report on any related topic to larval forms (crustacean, mollusc and echinoderm)
ZOO-HC-2026 CELL BIOLOGY	• To gain knowledge about cells, its membrane, organelles, cell division and signaling. • To gain knowledge about methods to study of mitosis

	and meiosis practically; Barr body and preparation of permanent slide of DNA, Mucopolysaccharides and Proteins.
ZOO-HG/RC-2016 COMPARATIVE ANATOMY AND DEVELOPMENTAL BIOLOGY OF VERTEBRATES	• To gain knowledge about structure and functions of all the system of vertebrates such as Integumentary; Skeletal; Digestive; Respiratory; Circulatory; Urinogenital; Nervous system and Sense organs. • To gain knowledge about Early Embryonic Development; Late Embryonic Development and Control of Development.
ZOO-HC-3016 DIVERSITY OF CHORDATA	• To gain knowledge about the systematic position of chordates animals in animal kingdom from Protochordates to Mammals. • To gain knowledge about loss and gain of characteristics; link between one chordate to another; the pattern of migration in birds, parental care in amphibians, biting mechanism of snakes etc.. • To gain knowledge about distribution of chordates animals in different realms of earth. • To gain knowledge of chordates animal from preserved museum specimen. • To prepare power point presentation on study of any two animals from two different classes
CODE: ZOO-HC-3026 ANIMAL PHYSIOLOGY: CONTROLLING AND COORDINATING SYSTEMS	• To gain knowledge about Structure, types and functions of tissues, Bone, Cartilage, Muscle, Nervous system, Reproductive System and Endocrine System. • To learn the preparation of temporary slide, and permanent slide (Microtomy). • To gain knowledge about tissues and organs from the permanent slide study.
CODE: ZOO-HC-3036 FUNDAMENTALS OF BIOCHEMISTRY	• To gain knowledge about structure, classification and functions of Nutrients such as Carbohydrates, Lipids & Proteins. • To understand about the Enzymes: their nomenclature and classification; Factors affecting the enzyme activity; their regulation.

	• To gain knowledge about the Derivation of Michaelis-Menten Equation and Lineweaver-Burk plot. • To gain knowledge of the methods to determine qualitative test of functional groups in Carbohydrates, Proteins and Lipids; and effect of action of salivary amylase under pH and temperature.
ZOO-HG/RC-3016 PHYSIOLOGY AND BIOCHEMISTRY	• To understand the process of digestion and absorption of nutrients such as carbohydrates, Proteins, Lipids etc. • To understand the role of hormones and enzymes in digestion. • To know about compositions, groups and functions of blood. • To know the structure and working of Heart and Kidney. • To gain knowledge about methods to preparation of haemin crystals; examination of sections of mammalian organs and estimation of carbohydrate, protein etc.
ZOO-HC-4016 COMPARATIVE ANATOMY OF VERTEBRATES	• To gain knowledge about structure and functions of all the system of vertebrates such as Integumentary; Skeletal; Digestive; Respiratory; Circulatory; Urinogenital; Nervous system and Sense organs. • To gain the knowledge about different types of scales of fish through permanent slides; Skeleton of Frog, Fowl and Rabbit; Carapace and plastron of turtle/tortoise; Mammalian skulls: One herbivorous and one carnivorous animal; and structure of any two organs from video recording
ZOO-HC-4026 ANIMAL PHYSIOLOGY: LIFE SUSTAINING SYSTEMS	• To understand the process of digestion and absorption of nutrients such as carbohydrates, Proteins, Lipids etc. • To understand the role of hormones and enzymes in digestion. • To know about the structure and function of kidney and heart. • To know about compositions, groups and functions

	of blood. • To gain knowledge about the methods to determine ABO blood group; RBCs & WBCs; estimation of Hb, preparation of haemin crystals; recording of blood pressure using a sphygmomanometer; and examination of sections of mammalian organs.
ZOO-HC-4036 BIOCHEMISTRY OF METABOLIC PROCESSES	• To understand the metabolic process of nutrients such as Carbohydrate, Protein and Lipid. • To gain the knowledge on method for estimation of total protein; Detection of SGOT and SGPT in serum/tissue; enzymatic activity of Trypsin and Lipase; Study of biological oxidation (SDH); and acid and alkaline phosphatase assay from serum/tissue.
ZOO-HG/RC-4016 GENETICS AND EVOLUTIONARY BIOLOGY	• To gain the knowledge of Genetics; Linkage; Mutation; and Sex determination. • To gain the knowledge of Major events in History of life; Lamarckism; Darwinism; Evidences of Evolution and processes of Evolutionary Change. • To gain the knowledge of Species concept, Macro-evolution and Extinction. • To know about the method of determination of Mendelian Inheritance and gene inheritance; Linkage, recombination, gene mapping using the data, Human karyotype. • To know about the method of study of fossil evidences from plaster cast models and pictures, Phylogeny of horse, Darwin's finches etc. • To visit to a Natural History Museum and submit report.
ZOO-HC-5016 MOLECULAR BIOLOGY	• To study about Nucleic Acids, DNA Replication, Transcription, Translation, Post Transcriptional Modifications of Eukaryotic DNA, Gene Regulation, DNA Repair Mechanisms, Regulatory RNAs etc. • To practically learn about polytene chromosomes, estimation of DNA, RNA and study DNA replication, Transcription and Split genes.

ZOO-HC-5026 PRINCIPLES OF GENETICS	• To study Mendelian Genetics and its extension, linkage, crossing over and chromosomal mapping, mutation, sex determination, extra chromosomal inheritance, polygenic inheritance, transposable genetic elements etc. • To practically learn about Mendelian laws using seeds, prepare linkage maps, human karyotypes, pedigree analysis etc.
ZOO-HE-5016 COMPUTATIONAL BIOLOGY and BIOSTATICS	• To gain knowledge about bioinformatics, biological databases, data generation and data retrieval, sequence alignment and applications. • To gain knowledge about biostatistics- its calculations and applications in biology.
ZOO-HE-5026 ANIMAL BIOTECHNOLOGY	• To gain knowledge about biotechnology, molecular techniques in gene manipulation, genetically modified organisms, culture techniques and applications. • To isolate genomic DNA and Plasmid DNA from organisms, study different techniques like southern, northern, western blotting, DNA finger printing, PCR, DNA sequencing etc. • To study on animal cell culture and prepare a project report.
ZOO-RE-5016 ANIMAL BIOTECHNOLOGY	• To gain knowledge about biotechnology, molecular techniques in gene manipulation, genetically modified organisms, culture techniques and applications. • To isolate genomic DNA and Plasmid DNA from organisms, study different techniques like southern, northern, western blotting, DNA finger printing, PCR, DNA sequencing etc. • To study on animal cell culture and prepare a project report.
ZOO-HC-6016 DEVELOPMENTAL BIOLOGY	• To gain knowledge about Early Embryonic Development; Late Embryonic Development and Control of Development. • To gain knowledge of method of study of developmental stages of frog through permanent slides; different types of placenta through permanent slides/photomicrographs; and examination of gametes of frog/rat through

	permanent slides or photomicrographs.
ZOO-HC-6026 EVOLUTIONARY BIOLOGY	• To gain knowledge about the origin of life forms on earth, review different evolutionary concept, evidences of evolution, molecular clock, sources of variation, population genetics, natural selection, micro and macro evolution, speciation, extinction, evolution of horse and man, phylogenetics etc.
ZOO-HE-6026 FISH AND FISHERIES	• To gain knowledge about identifications and classifications of fishes, their morphology, physiology etc. • To learn about fisheries, aquaculture and fish researches. • To study about different crafts and gears used in fisheries, induced breeding etc. • To visit a fishfarm/ pisciculture unit/Zebra fish rearing Lab and submit report.
ZOO-HE-6056 DISSERTATION	• To gain knowledge about how to do research and write a thesis. • To practically do a research and present the findings.
ZOO-RE-6016 AQUATIC BIOLOGY	• To learn about aquatic biomes, ecosystems, freshwater and marine biology, water pollution and the management of aquatic resources. • To practically find the dissolve oxygen, carbon dioxide, turbidity content in water and study different instruments. • To visit to a fishery institute and submit report.