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PROGRAMME & COURSE OUTCOME
DEPARTMENT OF ZOOLOGY
BEHALI DEGREE COLLEGE, BORGANG, BISWANATH-784167

Programme Outcome	**Bachelor in Zoology** (B.Sc.) is one of the fundamental branches of Biological Science studied at the undergraduate level. Under this program, students learnabout a biological system and the living world around them. Students learn about the interaction between living and non-living things. The program syllabus is designed as such that one can understand the journey of the most complex biological system of humans and other animals from a simple single-cell organism (Monera). The fusion ofmodern technology and knowledge of biology has revolutionized the field of Life Science and has expanded the scope by giving rise to many different fields of Life Sciences such as Molecular Biology, Biotechnology, Ecology & Environmental Science, Wildlife Biology, Microbiology etc. Under CBCS (Choice Based Credit System) the program syllabus has been so well designed that students will gain excellent blended mode of education(both theory and practical) to understand the phenomenon of life. Holding a Bachelor Degree in Zoology will help studentsto opt for a Master Degree in a different field of Life Sciences he/she is interested. Students may also get himselfor herself engaged in integrated M.Sc. and Ph.D. programs.As graduation is the basic criterion for an individual to apply for civil services and other administrative jobs, one may choose those fields after graduation in Zoology. Also, if an individual is interested in professional education, he/she is free to engage oneself and achieve the excellence.

Course Outcome

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ZOO-HC-1016 (Non-Chordates I: Protists toPseudocoelomates)	In this paper students will learn about the origin and evolution of an animal kingdom. Students will learn about taxonomy, general characters and classification of non- chordates. Students will learn about the evolution from cellular to tissue and to organ system body organisation. Students will learn about life-cycle and parasitology of different microorganisms. Host and parasite interaction of microorganisms.
ZOO-HC-1026 (Principles of Ecology)	In this paper students will understand about the biological species concept. Students will understand the basic conceptof population, community ecology. Students will learn about the ecosystem and its types. Its interaction with the living world. Paper emphasises on the need of wildlife its conservation and management.
ZOO-HC-2016 (Non-Chordates II: Coelomates)	In this paper students will learn how coelomates evolved and developed its body structure according to their nutrition and adaptation to their surrounding environment. Every phylum has their specific identity, therefore, students learn about the fundamental characters of the animals based on their respective phylum.
ZOO-HC-2026 (Cell Biology)	In this paper students learn about the cell as the basic building block and functional unit of an organism. Students will learn about the character and function of the different cell organelles present in animal cell. Students will learn about role of nucleus and nuclear components. Students learn about the types of cell-to-cell communication.
ZOO-HC-3016 (Diversity of Chordata)	In this paper students will learn about the origin and evolution of different class of chordate, general characters and classification of the same. Students will learn about the parental care in pisces, amphibians and reptiles. Poison apparatus and biting mechanism of snakes. Missing and connecting link between different classes, bird migration and flight adaptation in birds. Knowledge on adaptive radiation. Zoogeography, continental drift and its relation to zoological species distribution.
ZOO-HC-3026 (Animal Physiology: Controlling and Coordinating systems)	In this paper students will learn about tissue, bone and cartilage. Biochemical (Hormonal) and electrical (nervous) communication in animal body. Muscle and nervous system, their function and secretion. Reproductive and endocrine system and their function.

ZOO-HC-3036 (Fundamentals of Biochemistry)	In this paper students will learn about the biochemistry of carbohydrate, lipids and proteins. Basics of immune system. Nucleic acid as building blocks of genetic material. Enzyme action and enzyme kinetics.
ZOO-HE-3024 (Apiculture)	In this paper a student learn in detail about the biology of honey bee, social organisation and interaction among themselves and environment, different types of prevailing diseases and their prevention. Students acquires knowledge on different rearing techniques of honey bee and to production of good quality honey along with other useful products from bee hive. Students learn to be an entrepreneur.
ZOO-HC-4016 (Comparative Anatomy of Vertebrates)	In this paper students will learn in details about the integumentary, skeletal, digestive, respiratory, circulatory, urinogenital, nervous, sensory system in vertebrates.
ZOO-HC-4026 (Animal Physiology: Life Sustaining Systems)	In this paper students learn about the physiological functional mechanism of digestion, respiration, blood circulation, urine formation in vertebrates. Students learn about blood grouping, composition of blood and their clotting mechanism. Students learn about heart, its structure and function
ZOO-HC-4036 (Biochemistry of Metabolic Processes)	In this paper students learn about different types of metabolic process in biological system. Students learn about the biochemical metabolism of carbohydrate, lipid and protein. Students will also have an idea on redoxreaction and electron transport system.
ZOO-HE-4034 (Research Methodology)	In this paper students learn basic frame work of research design. Students understand about different methods and methodologies required to consider before writing a synopsis. Students learn the necessity of data collection, data generation and their proper analysis and interpretation. Students learn how to write a paper, article and thesis. Students also learn the importance of ethics in research and its application.
ZOO-HC-5016 (Molecular Biology)	In this paper students learn about the basic building blocks of life (DNA & RNA). Students learn about the molecular mechanism of biomolecules formation. Students will learn about molecular mechanism like DNA replication, transcription and translation (Central Dogma). Students learn about post transcriptional modification, DNA repair mechanism, genetic code, gene expression and about regulatory RNAs.

ZOO-HC-5026 (Principles of Genetics)	In this paper students will learn about fundamental genetics (Mendelian law and gene interaction). Students learn about linkage, crossing over and chromosomal mapping; Gene and chromosomal mutation; sex-determination in Drosophila and Man; recombinant DNA technology; transposons in Bacteria and Man; polygenic and extrachromosomal inheritance.
ZOO-HE-5016 (Computational Biology and Biostatics)	In this paper students will learn about the bioinformatics and biostatics tools used in biological science. In bioinformatics, students will discover about ample of computerised databases (DNA sequence, mRNA sequence, protein sequence) available in internet and learn to use computer software tools to study molecular docking. Students will also learn the use of statistical tools to analyse and interpret biological data.
ZOO-HE-5036 (Endocrinology)	In this paper students learn about the biochemical signalling and coordination in an animal body due to hormone released by endocrine glands. Students learns about the hormone action at cellular and molecular level. Students also learn about molecular and genetic control of hormone action.
ZOO-HC-6016 (Developmental Biology)	In this paper students learn about cell-to-cell interaction and different developmental stages of an embryo after gametogenesis and fertilization; late and post embryonic development. Students learn about teratogenic agents and their effect on embryo.
ZOO-HC-6026 (Evolutionary Biology)	In this paper students learn about the origin of species and their extinction. Students will learn about the evolutionary concepts by Lamarck and Darwin. Students will learn about population genetics and role of natural selection for adaptive radiation; different reasons for speciation; Species extinction. Students will understand about the evolution of man (*Homo sapiens*).
ZOO-HE-6026 (Fish and Fisheries)	In this paper students learn about the classification, morphology and physiology of different class of Pisces. Students learn about schooling, parental care and migration in fishes. Students learn about different aquaculture techniques. Diseases and infections in fishes and their prevention. Students learn in details about transgenic fish and Zebra fish as a model organism for research.

Co-ordinator
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