

B.L.D.E.ASSOCIATION'S
SB ARTS AND K.C.P. SCIENCE COLLEGE, VIJAYAPUR
RE-ACCREDITED AT THE 'B⁺⁺' LEVEL

Bachelor of Science
DEPARTMENT OF ZOOLOGY
PROGRAM OUTCOMES (2023-24)

POs	DESCRIPTIONS
PO1:	The Programme offers both classical as well as modern concepts of Zoology in higher education.
PO2:	It enables the students to study animal diversity in both local and global environments.
PO3:	To make the study of animals more interesting and relevant to human studies more emphasis is given to branches like behavioural biology, evolutionary biology and economic zoology.
PO4:	More of upcoming areas in cell biology, genetics, molecular biology, biochemistry, genetic engineering and bioinformatics have been also included.
PO5:	Equal importance is given to practical learning and presentation skills of students.
PO6:	The lab courses provide the students necessary skills required for their employability.
PO7:	Skill enhancement courses in classical and applied branches of Zoology enhance enterprising skills of students.
PO8:	The global practices in terms of academic standards and evaluation strategies.
PO9:	Provides opportunity for the mobility of the student both within and across the world.
PO10:	The uniform grading system will benefit the students to move across institutions within India to begin with and across countries.
PO11	It will also enable potential employers in assessing the performance of the candidates across the world.

Course outcomes

CLASS	PAPER	COURSE OUTCOMES	DESCREPTIONS	
B. SC. I SEM	Theory Cytology, Genetics and Infectious Diseases	CO1	To study the structure and function of cell and its organelles	
		CO2	To solve genetically related problems and role of chromosome in its expression	
		CO3	To identify different types of infectious diseases and its preventive measures	
	Practical Cell Biology & Cytogenetics	CO1	To use simple and compound microscopes.	
		CO2	To prepare stained slides to observe the cell organelles.	
		CO3	To be familiar with the basic principle of life, how a cell divides leading to the growth of an organism and also reproduces to form new organisms.	
		CO4	The chromosomal aberrations by preparing karyotypes.	
		CO5	How chromosomal aberrations are inherited in humans by pedigree analysis in families. The antigen-antibody reaction	
		Theory Biochemistry and Physiology	CO1	To study the structure and function of different types of biomolecules

B. SC. II SEM		CO2	Identification, differentiate and classification between carbohydrates, proteins and lipids
		CO3	To study different types of physiological systems like respiration, excretion, digestion, circulation, nervous and muscular in humans
		CO4	To study endocrine organelles, hormones secretion and their functional role
	Practical Biochemistry and Physiology	CO1	At the end of the course the student should be able to understand: Basic structure of biomolecules through model making.
		CO2	Develop the skills to identify different types of blood cells.
		CO3	Enhance basic laboratory skill like keen observation, analysis and discussion. Learn the functional attributes of biomolecules in animal body.
		CO4	Know uniqueness of enzymes in animal body and their importance through enzyme kinetics.
B. SC. III SEM	Theory Molecular Biology, Bioinstrumentation & Techniques in Biology	CO1	After successful accomplishment of the course, the learners will be able to acquire better understanding and comprehensive knowledge regarding most of the essential aspects of Molecular Biology subject which in turn will provide a fantastic opportunity to develop professional skill related to the field of molecular biology.

		CO2	The course will mainly focus on the study of principal molecular events of cell incorporating DNA Replication, Transcription and Translation in prokaryotic as well as eukaryotic organisms.
		CO3	Acquiring knowledge on instrumentation and techniques in biology.
	Practical Molecular Biology, Bioinstrumentation and Techniques in Biology	CO1	At the end of the course, students will be able to understand the applications of biophysics and principle involved in bio-instruments
		CO2	Understand the methodology involved in biotechniques.
		CO3	Students can demonstrate knowledge and practical skills of using instruments in biology and medical field.
		CO4	They can perform techniques involved in molecular biology and diagnosis of diseases.
	B. SC. III SEM	OEC Theory Endocrinology	CO1
CO2			Identify the glands, organs, tissues and cells that synthesize and secrete hormones, hormone precursors and associated compounds.
CO3			Identify and discuss the integration of the endocrine system in general with focus on specific interactions.
CO4			Explain the consequences of under-and overproduction of hormones.

B. SC. IV SEM	Theory Gene Technology, Immunology and Computational Biology	CO1	Acquaint knowledge on versatile tools and techniques employed in genetic engineering and recombinant DNA technology.
		CO2	An understanding on application of genetic engineering techniques in basic and applied experimental biology.
		CO3	To acquire a fundamental working knowledge of the basic principles of immunology.
		CO4	To understand how these principles, apply to the process of immune function.
		CO5	Use, and interpret results of, the principal methods of statistical inference and design; helps to communicate the results of statistical analyses accurately and effectively; helps in usage of appropriate tool of statistical software.
	Practical Gene Technology, Immunology and Computational Biology	CO1	Accurately, safely and appropriately use all the equipment regularly used in Molecular Biology (DNA manipulation, including balances, pipettes, electrophoresis and centrifuges).
		CO2	Prepare chemical solution and reagents to the precision appropriate to the task.
		CO3	Demonstrate knowledge of the biochemical basis underpinning the molecular biology techniques.


B. SC. V SEM	Theory Paper – I Non-Chordates and Economic Zoology	CO1	Understand the evolutionary history and diversity of non-chordates
		CO2	Study the external and internal characters of non-chordates
		CO3	Expose type, structural and functional organization of non-chordates
		CO4	Group the animals on the basis of their morphological characteristics.
		CO5	Understand the economic importance of non-chordates
	Practical Non-Chordates and Economic Zoology	CO1	Understand basics of classification of non-chordates.
		CO2	Learn and understand the internal systems of non-chordates.
		CO3	Develop the skills to identify different classes and species of animals.
		CO4	Know uniqueness of a particular animal and economic importance of non-chordates.
		CO5	Enhancement of basic laboratory skill like keen observation and drawing.
CO6		Study the useful and harmful non-chordates	
B. SC. V SEM	Theory	CO1	Understand the basic concept, diversity and classification of Chordates
		CO2	Demonstrate comprehensive identification abilities of

	Paper – II Chordates and Comparative Anatomy		chordate diversity
		CO3	Understand evolutionary relationship amongst all chordates
		CO4	Understand the external morphology and sexual dimorphism in chordates.
		CO5	Understand arrangement of endoskeleton of vertebrates.
		CO6	Know the comparative anatomy of various systems, adaptations, physiological mechanisms of vertebrates.
B. SC. V SEM	Practical Chordates and Comparative Anatomy	CO1	Understand the external morphology of proto-chordates and chordates
		CO2	Study the cartilaginous, bony and ornamental fishes
		CO3	Understand the systematic position and classification of Chordates
		CO4	Study the comparative anatomy and internal systems of vertebrates
		CO5	Understand the beak and foot modifications in birds.
	Theory Paper – I	CO1	Understand that by biological evolution we mean that many of the organisms that inhabit the earth today are different from those that inhabited it in the past
		CO2	Understand that natural selection is one of several

B. SC. VI SEM	Evolutionary and Developmental Biology		processes that can bring about evolution, although it can also promote stability rather than change.
		CO3	Understand how the single cell formed at fertilization forms an embryo and then a full adult organism.
		CO4	Integrate genetics, molecular biology, biochemistry, cell biology, anatomy and physiology during embryonic development.
		CO5	Understand a variety of interacting processes, which generate an organism's heterogeneous shapes, size, and structural features.
		CO1	Explain core features of evolutionary theory and their applications to biological systems.
B. SC. VI SEM	Practical Evolutionary and Developmental Biology	CO2	Explain how evolutionary patterns and processes can be inferred using sequence data, the biology of extant organisms, and fossils.
		CO3	Study the process by which organisms grow and develop.
		CO4	Understand the development of multicellular organisms from a single cell zygote.
		CO5	Learn interesting and unique post-embryonic development in other animals.
		CO6	Understand the concept of aging and the relevance of this knowledge in several medical applications.

B. SC. VI SEM	Theory	CO1	Develop an understanding of how animals interact with each other and their natural environment
		CO2	Get knowledge about all types of ecosystems, food chains, webs and energy models
	Paper – II Environmental Biology, Wildlife Management and Conservation	CO3	Study various types of environmental pollutions
		CO4	Develop the ability to use the fundamental principles of wildlife ecology to solve local, regional and national conservation and management issues.
		CO5	Gain an appreciation for the modern scope of scientific inquiry in the field of wildlife conservation management.
		CO6	Develop an ability to analyze, present and interpret wildlife conservation management information.
B. SC. VI SEM	Practical Environmental Biology, Wildlife Management and Conservation	CO1	Understand the basic concepts of environmental sciences, ecosystems, natural resources, population, environment and society
		CO2	Understand the basic concepts of toxicology, their impact on human health and remedial measures
		CO3	Provide understanding and knowledge on modern concepts in wildlife management and relevant conservation policies and legislation and their enforcement mechanism at Global and Local Level
		CO4	Understand the scientific approach to wildlife management and planning.
		CO5	Develop scientific skills for resolving human wildlife conflict including capture, handling, care and management of wild animals.

B. SC. VI SEM	Internship/ project	CO1	Explore career alternatives prior to graduation and Integrate theory and practice
		CO2	Assess interests and abilities in their field of study/ research.
		CO3	Develop work habits and attitudes necessary for job success
		CO4	Build a record of work experience
		CO5	Identify, write down, and carry out performance objectives related to the job assignment


Head of the Department
 Head of the
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Principal
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