



Bhiwapur Mahavidyalaya
Academic session-2026-2027

B.Sc. Zoology
Course Outcome

Sr. No.	Subject	Paper	Course Outcomes (COs)
Semester-III			
1	Zoology	DSC- BZO3T05: Life and Diversity of Animals - Chordates (Protochordata to Amphibia)	After completing this course satisfactorily, a student will be able to: CO 1. Describe classes and orders of phylum Chordata. CO 2. Identify, Classify various animals of the Phylum Chordata. CO 3. Differentiate between Protochordate and higher Chordates up to Amphibia based on their characters. CO 4. Analyze the anatomy and physiology of Protochordates, Agnathans, Pisces and Amphibians. CO 5. Create interlinking and mapping between various chordate groups.
2	Zoology	DSC- BZO3T06: Genetics	After completing this course satisfactorily, a student will be able to: CO 1. Understand the Fundamental Principles of Genetics: Explain Mendelian inheritance, the Chromosome Theory of Inheritance, mitochondrial DNA and plasmids, and genetic variation and mutation, distinguish various chromosomal aberrations, recognize types of mutations (point mutations, frameshift), and evaluate their roles in genetic diversity and disease. CO 2. Comprehend the Mechanisms of Genetic Inheritance and Gene Structure: Explore genetic inheritance mechanisms, gene structure, chromosomal mapping concepts, and cytoplasmic inheritance. Analyze pedigree analysis for autosomal and X-linked traits to identify inheritance patterns. CO 3. Analyze Genetic Variation and Evolutionary Dynamics: Apply the Hardy-Weinberg principle to

			study genetic equilibrium and the impact of factors such as mutation, selection, and genetic drift on population genetics, Explain the genetic basis of speciation, adaptation, and evolutionary processes, use quantitative genetics to explore polygenic traits, heritability, and their role in natural selection and evolution. CO 4. Examine Human Genetics and Genetic Disorders: Interpret human karyotypes and identify chromosomal and genetic disorders, Understand the inheritance patterns of single-gene and multifactorial disorders, Discuss the ethical considerations in genetic counselling, genetic testing, and biotechnology, especially in the context of human health. CO 5. Explore Advanced Topics in Genetics and Their Applications: Analyze the genetic basis of cancer, oncogenes, and tumor suppressor genes, and the role of mutations and environmental factors in cancer development, Discuss the role of epigenetics and environmental influences on gene expression and development, Evaluate the applications of gene therapy, agriculture, and biotechnology, addressing ethical and societal implications.
3	Zoology	Generic Elective/ Open elective BGO3T05: Animal Husbandry	After completing this course satisfactorily, a student will be able to: CO 1. Understand the basic concepts and classifications in poultry, including the systematic position, habitat, and morphology of Gallus gallus domesticus. CO 2. Identify and differentiate among various poultry breeds, such as American, Mediterranean, English, Asiatic, and Indian breeds. CO 3. Demonstrate knowledge of brooding and rearing techniques, including housing systems, nutritional needs, and equipment for poultry. CO 4. Recognize common poultry diseases, understand their causative agents, symptoms, and implement prevention and control measures.

			CO 5. Analyze the composition, nutritive value, and economic importance of poultry products, including eggs and meat. CO 6. Gain insights into the economic aspects of poultry farming and its role in sustainable agricultural practices.
4	Zoology	Vocational Skill Course (VSC) BVS3P05: Aquarium Preparation and Maintenance	After completing this course satisfactorily, a student will be able to: CO 1. Aware of the vast potential and vocational opportunities involved in aquarium fabrication and management. CO 2. The learner gains the scientific method of fabricating and maintaining an aquarium. CO 3. Learner can learn the common troubleshooting mechanisms in aquarium management. CO 4. Students can analyse the optimum physical and chemical condition of water required for aquarium. CO 5. Learner also acquainted with fish food.
5	Zoology	Minor 1: BZO1T01 Life and Diversity of Animals – Non-chordates (Protozoa to Annelida)	After completing this course satisfactorily, a student will be able to: CO1. Students will able to understand about early phyla viz., Protozoa, Porifera, Coelenterata, Platyhelminthes, Aschelminthes and Annelida. CO 2. Students could able to identify, classify and analyze different animals belonging to phylum Protozoa to Annelida on the basis of levels or grades of organization, symmetry, coelom etc. upto class. CO 3. Students will learn, analyze, describe a representative animal belonging to phylum Protozoa to Annelida CO 4. Students could elucidate and explain uniqueness of phylum Protozoa to Annelida and they could able to demonstrate peculiar tissues, organs of animals belonging to these phyla.
6	Zoology	Minor 2: BZO1T02 Environmental Biology	After completing this course satisfactorily, a student will be able to:

			CO 1. Students will able to describe and explain atmosphere, hydrosphere, lithosphere and energy resources. CO 2. Students could describe, elucidate different types and components of ecosystems. They could identify, describe and explain different biotic components and could explain and analyze their role in ecosystem. CO 3. Students will describe, explain and aware about the significance and need of biodiversity conservation. They also understand, describe and explain legislations passed to conserve the biodiversity and acquainted themselves to nearby National Parks and Wildlife Sanctuaries. CO 4. They will elucidate and differentiate causes of different types and hazards of pollution. CO 4. Students will estimate the different physico-chemical parameters of water to analyze.
Semester-IV			
7	Zoology	DSC- BZO4T07: Life and Diversity of Animals- Chordates (Reptilia to Mammalia)	After completing this course satisfactorily, a student will be able to: CO 1. Describe, explain characters, classification of Reptile. Could analyze general pattern of different system of reptile. CO 2. Describe, explain characters, classification of Aves. Could analyze general pattern of different system of Aves. CO 3. Describe, explain characters, classification of Mammalia. Could analyze general pattern of different system of Mammalia. CO 4. Compare integuments, urinogenital systems, heart and aortic arches in Reptilia, Aves and Mammalia. Also describe and analyze autonomous nervous system in Mammalia.
8	Zoology	DSC-BZO4T08: Developmental Biology	After completing this course satisfactorily, a student will be able to: CO 1. Describe, explain and differentiate various stages, pattern of development in protostomes and deuterostomes. They could also able to differentiate different types of development in insects, different

			types and stages of gametogenesis and different types of eggs. CO 2. Describe, explain and differentiate various phases of fertilization, cleavage. They could also describe, explain different stages of development in Amphioxus and Frog. CO 3. Describe, explain and differentiate different stages of development in Chick up to gastrulation. They could also understand, describe, explain and differentiate structure and function of extra embryonic membranes in Chick CO 4. Describe, explain and differentiate different types of placenta. Also analyse development of Mammalia up to Gastrulation. They will ably differentiate totipotency and pluripotency and analyse axis formation in Mammals.
9	Zoology	Generic/ Open Elective BGO4T06: Communicable Diseases	After completing this course satisfactorily, a student will be able to: CO 1 Describe, explain about WHO and NCDC and could analyse Influenza and Covid 19. CO 2 Describe, explain about Bacterial diseases like Tuberculosis, Pertusis, Typhoid. CO 3 Describe, explain fungal diseases like Ring worm and Athlets foot as well as protozoan caused disease like Giardiasis. CO 4 Describe, explain vector borne diseases like Malaria, sleeping sickness and filariasis.
10	Zoology	Generic/ Open Elective BGO4T06: Biostatistics	After completing this course satisfactorily, a student will be able to: CO 1. Describe, explain and analyse data and sample as well as data collection and data presentation. CO 2. Describe, explain, analyse data diagrammatic presentation and mean and median as measure of central tendency. CO 3. Describe, explain mode as measure of central tendency as well as measure of dispersion along with correlation and regression.

			CO 4. Describe, explain probability, concept of test of hypothesis and biostatistical software.
11	Zoology	Skill Enhancement Course (SEC) BVS4P06: Clinical pathology	After completing this course satisfactorily, a student will be able to: CO 1. Develop proficiency in sample collection, handling, and processing techniques. CO 2. Demonstrate competency in basic laboratory tests to assess cellular components and biochemical markers. CO 3. Analyse and interpret common clinical test results, aiding in disease diagnosis. CO 4. Acquire skills in urine, stool, and blood examination for diagnostic purposes. CO 5. Apply knowledge of safety and ethical considerations in clinical pathology practice.
12	Zoology	Minor 3: BZO2T03 Life and Diversity of Animals – Non-Chordates (Arthropoda to Hemichordata)	After completing this course satisfactorily, a student will be able to: CO 1. Students will learn, identify, explain and analyze the taxonomic position of animals belonging to phylum Arthropoda to Hemichordata CO 2. They could describe, explain and analyze phylogeny to understand the course of evolution in animals from phylum Arthropoda to Hemichordata CO 3. They will be able to describe, explain and differentiate various morphological, anatomical structures and functions of animals of phyla from Arthropoda to Hemichordata. CO 4. Students will be able to understand, describe, explain and differentiate the larval forms and development of the invertebrates from phylum Arthropoda to Hemichordata CO 5. Students will be able to describe, explain and analyze the ecological and economic importance of invertebrates. CO 6. Students will understand, be able to describe, explain and analyze the ecological role of invertebrates in the biodiversity.

13	Zoology	Minor 4: BZO2T04 Cell Biology	After completing this course satisfactorily, a student will be able to: CO1. Students will able to describe, sketch, analyze, and explain the structure and function of the cell organelles. CO2. Students could describe, sketch, analyze, and explain the structure and function of nucleus and chromatin structure, its location. CO 3. Students will able to describe, sketch, analyze, and explain the basic principle of life. They could also demonstrate and explain how a cell divides leading to the growth of an organism. CO 4. Students could describe, sketch, analyze, and explain how a cell communicates with its neighbouring cells. CO 5. Students will able to describe, sketch, analyze, and explain the abnormality in structural and functional aspects of cells. CO 6. Students will able handle and use microscopes and oculometer to elucidate and measure and explain the minor details of tissues. CO 7. Students will able to demonstrate osmosis. They could also demonstrate and explain mitochondria, salivary gland chromosome and Barr body in cells.
----	---------	--	--