



Program Outcomes (PO'S) and Course Outcomes (CO'S)

ZOOLOGY



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845401

ZOOLOGY

Upon successful completion of the undergraduate course in Zoology, encompassing a diverse syllabus including Diversity of Chordates, Non-Chordates, Physiology, Cell Biology, Ecology, Biochemistry, Animal Behaviour, Genetics, Molecular Biology, Immunology, and Microbiology, students can expect to achieve the following learning outcomes:

1. **Diversity of Chordates and Non-Chordates Mastery:** Develop a comprehensive understanding of the diversity of both chordate and non-chordate animals. Explore the classification, anatomy, and evolutionary relationships among different animal groups.
2. **Physiology Competence:** Acquire a deep understanding of animal physiology, including the study of organ systems, homeostasis, and physiological processes in animals. Analyse how animals' function at the cellular and systemic levels.
3. **Cell Biology Proficiency:** Gain expertise in cell biology, including the structure and function of cells, organelles, and cellular processes. Understand the cellular basis of physiological functions and adaptations in animals.
4. **Ecology Knowledge:** Explore ecological principles and concepts, including population ecology, community ecology, ecosystem dynamics, and conservation biology. Understand the interactions between animals and their environments.
5. **Biochemistry Understanding:** Acquire a foundational understanding of biochemistry, including the study of biomolecules, enzymatic reactions, and metabolic pathways. Relate biochemical processes to the physiological functions of animals.
6. **Animal Behaviour Expertise:** Understand the principles of animal behaviour, including ethology, communication, mating behaviours, and social structures. Analyse how environmental factors influence animal behaviour.
7. **Genetics Mastery:** Develop a deep understanding of genetics in animals, including inheritance patterns, genetic variation, and the role of genetics in evolution. Explore the genetic basis of traits and diseases in animal populations.
8. **Molecular Biology Knowledge:** Acquire knowledge in molecular biology, including the structure and function of nucleic acids, gene expression, and molecular processes that regulate cellular activities in animals.
9. **Immunology Competence:** Understand the principles of immunology, including the immune system's structure and function, immune responses, and the mechanisms of defence against pathogens in animals.
10. **Microbiology Understanding:** Explore microbiological concepts relevant to animals, including the study of microorganisms, their roles in symbiosis and pathogenesis, and the impact of microbes on animal health.
11. **Laboratory Techniques:** Develop practical skills in laboratory techniques specific to zoology, including microscopy, dissection, DNA analysis, and physiological experiments. Apply these skills to conduct research and analyse data.
12. **Data Analysis and Interpretation Skills:** Acquire skills in collecting, analysing, and interpreting scientific data. Apply statistical methods to draw conclusions from experimental results and field observations.
13. **Communication Skills:** Enhance written and oral communication skills to effectively convey scientific concepts, research findings, and experimental results to both specialized and non-specialized audiences.
14. **Research and Problem-Solving Skills:** Develop research skills in zoological sciences, including the ability to design experiments, conduct fieldwork, and contribute to the scientific literature. Apply critical thinking to address complex zoological problems.

15. **Ethical and Responsible Conduct:** Understand and adhere to ethical standards in animal research, conservation efforts, and the treatment of animals in scientific studies. Cultivate a sense of responsibility and integrity in zoological practices.
16. **Preparation for Further Studies and Careers:** Prepare for advanced studies in zoology or related fields, or enter the workforce with a solid foundation in zoological sciences applicable to careers in research, conservation, education, and environmental management.

These learning outcomes aim to provide students with a comprehensive education in zoology, covering a wide range of topics and preparing them for both advanced studies and diverse career opportunities in the field.