

B.Sc. (H) Zoology

Program Outcomes

A. Graduate Attributes in B.Sc. Zoology (Hons.)

After completing this programme (under CBCS), the students will be able to prepare a progressive mindset by developing following attributes, qualities and skills:

Disciplinary knowledge: Capable of demonstrating (i) comprehensive knowledge of major concepts, theoretical principles and experimental findings in Zoology and its different subfields including biodiversity, anatomy, physiology, biochemistry, biotechnology, ecology, evolutionary biology, cell biology, molecular biology, immunology and genetics, and some of the other applied areas of study such as wildlife conservation and management, apiculture, sericulture, neurosciences, aquatic biology, fish and fisheries sciences, bioinformatics and research methods; (ii) Interdisciplinary knowledge of allied biological sciences, environmental science and chemical science; (iii) learning of the various techniques, instruments, computational software used for analysis of animal's forms and functions.

Effective communicator: Capability to convey the intricate zoological information effectively and efficiently.

Critical thinker and problem solver: Ability to rationally analyze and solve the problems related to animal sciences without relying on assumptions and guess work.

Logical thinking and reasoning: Capability of seeking solutions and logically solving them by experimentation and data processing either manually or through software.

Team spirit: Ability to work effectively in a heterogeneous team.

Leadership quality: Ability to recognise and mobilise relevant resources essential for a project, and manage the project in a responsible way by following ethical scientific conduct and bio-safety protocols.

Digitally literate: Capable of using computers for biological simulation, computation and appropriate software for biostatistics, and employing search tools to locate, retrieve, and evaluate zoology-related data.

Ethical awareness: Avoiding unethical behaviour such as fabrication, falsification or misrepresentation of data or committing plagiarism, as well as appreciate environmental and sustainability issues.

Lifelong learners: Capable of self-paced and self-directed learning aimed at personal and social development.

Program Specific Outcomes

B. Aims of Bachelor Degree Programme in B.Sc. Zoology (Hons.)

- The major objective is to elevate the subject knowledge of the students, making them critical thinkers and able to solve problems and issues related to Zoology logically and efficiently.
- Overall, this course has been modified to upgrade skills related to biological science and provide our students a competitive edge in securing a career in academia, industry, pharmaceutical research and development in private as well as public sectors.

Programme Learning outcomes for B.Sc. Zoology (Hons.)

Students enrolled in B.Sc. (Hons.) degree program in Zoology will study and acquire complete knowledge of disciplinary as well as allied biological sciences. At the end of graduation, they should possess expertise which will provide them competitive advantage in pursuing higher studies from India or abroad; and seek jobs in academia, research or industries.

Students will be able to identify, classify and differentiate diverse chordates and non- chordates based on their morphological, anatomical and systemic organization. They will also be able to describe economic, ecological and medical significance of various animals in human life. This will create a curiosity and awareness among them to explore the animal diversity and take up wild life photography or wild life exploration as a career option. The procedural knowledge about identifying and classifying animals will provide students professional advantages in teaching, research and taxonomist jobs in various government organizations; including Zoological Survey of India and National Parks/Sanctuaries.

Acquired practical skills in biotechnology, biostatistics, bioinformatics and molecular biology can be used to pursue career as a scientist in drug development industry in India or abroad. Our students will be acquiring basic experimental skills in various techniques in the fields of genetics; molecular biology; biotechnology; qualitative and quantitative microscopy; enzymology and analytical biochemistry. These methodologies will provide an extra edge to our students, who wish to undertake higher studies. In-depth knowledge and understanding about comparative anatomy and developmental biology of various biological systems; and learning about the organisation, functions, strength and weaknesses of various systems will let students critically analyse the way evolution has shaped these traits in the human body.

Students undertaking skill enhancement courses like aquaculture, sericulture and apiculture will inculcate skills involved in rearing fish, bees and silk moth which would help them in starting their own ventures and generating self-employment making them successful entrepreneurs. Acquired skills

in diagnostic testings, haematology, histopathology, staining procedures etc. used in clinical and research laboratories will provide them opportunity to work in diagnostic or research laboratory. Deep understanding of different physiological systems and methods available to measure vital physiological parameters and to comprehend the mechanism behind occurrence of different life threatening disease *via* laboratory examination, assessment of basic physiological functions by interpreting physiological charts will help to find their career options.

Students undertaking wild life management courses would gain expertise in identifying key factors of wild life management and be aware about different techniques of estimating, remote sensing and Global positioning of wild life. This course will motivate students to pursue a career in the field of wildlife conservation and management.