



चौधरी महादेव प्रसाद महाविद्यालय
C. M. P. DEGREE COLLEGE
(A Constituent P.G. College, University of Allahabad)

DBT STAR COLLEGE
NAAC Accredited B



Course Structure (Three Year Annual Program)

Course Outcomes B.Sc. Zoology

S. N.	Program	Course	Course Title
1.	B.Sc. I Year	paper- I. Paper II. Paper III.	Non-Chordata I and Physiology Non-Chordata II and Biochemistry Non-Chordata III, and Evolution and Taxonomy
2.	B.Sc. II Year	paper- I. Paper II. Paper III.	Protochordate, Animal Distribution and Ecology Vertebrata Genetics and Cell Biology
3.	B.Sc. III Year	paper- I. Paper II. Paper III.	Molecular biology and Genetic engineering Economic Zoology and Environmental Biology Developmental Biology and Ethology

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Course Outcomes (CO) B.Sc. I Year Zoology

Course: Non-Chordata I and Physiology

CO1: Develop an understanding of the diversity of life about non-chordates and will be able to build concepts about the General classification of the non-Chordata phyla up to classes.

CO2: Develop a critical understanding of how animals changed from primitive cells to collections of simple cells to form a complex body plan.

CO3: Able to understand Physiological processes in mammals with special reference to humans.

CO4: The course content also provides the basis for understanding their abnormal function in animal and human diseases and new methods for treating those diseases.

Course: Non-Chordata II and Biochemistry

CO1: Students will be able to understand and build concepts of General classification of the non-chordate phyla Platyhelminthes, Aschelminths, and Annelida up to classes.

CO2: Develop a critical understanding of how animals changed from simple forms to complex body forms.

CO3: To develop a deep understanding of the structure and chemical composition of biomolecules like proteins, lipids, and carbohydrates.

CO4: To understand the thermodynamics of enzyme-catalyzed reactions and Mechanisms of energy production at the cellular and molecular levels.

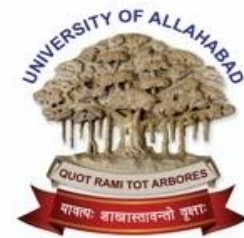
CO5: The students will also be able to correlate the pathways and chemicals that are responsible for the energy production in our body

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Course: Non-Chordata III Evolution and Biochemistry

CO1: Students will get knowledge about the General classification of the non-chordates phyla up to classes with special reference to specific features of Arthropoda, Mollusca, Echinodermata, and Hemichordates.

CO2: Deeply understand the concept of Protostomia and Deuterostomia and able to understand the Deuterostomia line of evolution.

CO3: Understand the International rules of nomenclature and classification and opportunities and difficulties of taxonomy.

CO4: Students will be able to understand the Origin of life, natural selection, and various theories and concepts related to evolution.

CO5: Understand how morphological change due to changes in the environment helps drive evolution over a long period.

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Course Outcomes (CO) B.Sc. II Year Zoology

Course: Protochordate, Animal Distribution and Ecology

CO1: Students will be able to attain knowledge about Protochordates, their general characters, and classification up to order.

CO2: Able to understand and explain the anatomy, history, and post-embryonic development of different groups of Protochordates.

CO3: understand the Complexities and interconnectedness of various environmental levels and their functioning. Global environmental issues, their causes, and consequences.

CO4: Students will be able to build and relate the concepts regarding ecology, ecosystem, and ecological environmental factors.

Course: Vertebrata

CO1: Understand General characters and the classification of Vertebrates and demonstrate comprehensive identification abilities of chordate diversity.

CO2: Able to understand deeply, the comparative anatomy of different systems of vertebrates and explain the structural and functional diversity and evolutionary relationship of chordates

CO3: Able to explain special characters and features of vertebrates like parental care, adaptations for flight.

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Course: Genetics and Cell Biology

CO1: Understand the basic principles of microscopy, working of different types of microscopes and

CO2 : Understand the structure and function of all the cell organelles.

CO3: How one cell communicates with its neighboring cells.

CO4: Understand the basic principles of genetics and how genes (earlier called factors) are inherited from one generation to another.

CO5: Understand Mendel's laws and the deviations from conventional patterns of inheritance. Comprehend how the environment plays an important role by interacting with genetic factors.

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Course: Molecular biology and Genetic engineering

- CO1:** A detailed and conceptual understanding of molecular processes *viz.* DNA to trait.
- CO2:** A clear understanding of the processes of central dogma *viz.* transcription, translation *etc.* **CO3:** Underlying survival and propagation of life at the molecular level.
- CO4:** How genes are regulated differently at different times and places in prokaryotes and eukaryotes.
- CO5:** In-depth understanding of the Immune System & its mechanisms.
- CO6:** Know the applications of biotechnology in various fields like agriculture, industry and human health, DNA testing and the utility of genetic engineering in forensic sciences.

Course: Economic Zoology and Environmental Biology

- CO1:** Understand the Complexities and interconnectedness of various environmental levels and their functioning. Global environmental issues, their causes, consequences, and amelioration.
- CO2:** Able To interpret the cause and effect of Toxicants and industrial effluents and their undesirable effects,
- CO3:** Understand the concept of Protozoan parasitic diseases of man and domestic animals.
- CO4:** Understand the cultural techniques of prawns, pearls, and fish and the basic concepts, of Aquaculture management, and economics.
- CO5:** Be aware of a broad array of career options and activities in human medicine, biomedical research, and allied health professions. Students can start their own business *i.e.*, self-employment.

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Course: Developmental Biology and Ethology

CO1: Develop a critical understanding of how a single-celled fertilized egg becomes an embryo and then a fully formed adult by going through three important processes of cell division, cell differentiation, and morphogenesis.

CO2: Understand the concepts of Gametogenesis, Parthenogenesis, Metamorphosis, and Regeneration,

CO3: Understand a variety of interacting processes, which generate an organism's heterogeneous shapes, sizes, and structural features.

CO4: Understand how a cell behaves in response to an autonomous determinant or an external signal, and the scientific reasoning exhibited in experimental life science.

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