

Dr. Ambedkar College
Deekshabhoomi Nagpur
Department of Zoology

Program : Graduation in Science (B Sc)

Program Specific : B Sc (CBZ)

Course : B Sc Zoology

Program Specific Outcome (PO) :

PSO1	Program imparts the knowledge with facts related to various subjects in pure sciences such as Physics, Chemistry, Botany, Zoology, Mathematics and so on along with an understanding of basic concepts, fundamental principles , and scientific theories for various scientific phenomena and their implications in everyday life
PSO2	The program also imparts the skills in handling scientific instruments and performing laboratory experiments subsequently letting them know the skills of observations and drawing logical inferences from the scientific experiments with a touch of critical analysis of observations and systematic scientific data handling.
PSO3	The faculty handling this program tries to inculcate the creative and innovative ways of learning and ideas related to overall development of students and a distinct inclination towards research at large.
PSO4	And with no less, the program finesse students with social values by participating in different co-curricular and extra-curricular activities and ethical understanding with attending fine deliberations by experts from various academic and research areas. It also helps in molding students with better competence and more employable after completion of the program. (170 words)
PSO5	A broad understanding of animal diversity, including scientific classification and evolutionary relationships of major phyla/groups of animals is the prime objective. The structural and functional relationships at different levels of biological organization (e.g., molecular-, cellular-, tissue-, organ-, organismal-, population-, and species-level organizations) with respect to major phyla/groups of animals is conceptualized in order to understand the life and its prevalence. To study the interactions of biological, chemical, and physical features of environment or the habitat (e.g., terrestrial, freshwater, marine, host) among living organisms is also emphasized upon. To get aware of the animal growth n development, metabolism and propagation of pre-existing life forms is predominantly included.
PSO6	A latest elementary understanding of genetics and inheritance; molecular concepts; micro-techniques; biotechnical procedures; immunological interactions; bio-statistics and bio-informatics related to the living forms and their progression is not left out.
PSO7	Further, the students are made aware of the application of zoology in different facets of mankind environment under the banner of economic zoology such as seri-culture, api-culture, lac-culture, aquaculture, Industrial microbiology, rDNA technology , medicines n vaccines of different nature/origin and of course a voluntary effort of briefing of the related career opportunities . (188 words)

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Course Outcome (CO): Zoology (Semester-wise)

Semester 01

The prime objective of paper I and Paper II is to provide fundamental knowledge of animal (without cord), diversity and to provide a much needed environmental awareness and conservation instincts among the students.

Paper – I : Life and Diversity of Animals-Nonchordates (Protozoa to Annelida)

CO1	To familiar students with unicellular animals starting from protozoans
CO2	To familiar students with animals including poriferans and coelenterates
CO3	To familiar students with animals including platyhelminth their parasitic adaptations
CO4	To familiar students with animals including annelids & their applied aspect

Paper -II : Environment Biology

CO1	To understand the different spheres of environment and energy resources
CO2	To understand the ecology interaction including biotic & abiotic factors
CO3	To understand the biodiversity & ecological conservational aspects
CO4	To understand the different environmental pollutions and control

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Semester 02

The prime objective of paper III and Paper IV is to provide fundamental knowledge of remaining animals (without cord), diversity and to provide a basic know-how of the structural & functional unit of life, the cell.

Paper - III : Life and Diversity of Animals- Non-chordates (Arthropoda to Hemichordata)

CO1	To familiar students with animals starting from arthropodans & their larvae
CO2	To familiar students with animals including molluscs and their larvae
CO3	To familiar students with animals including echnidermata their larvae
CO4	To familiar students with animals including primitive half-cord animals

Paper - IV : Cell Biology

CO1	To understand the different aspects cell andf its organelles (membrane)
CO2	To understand the different aspects cell andf its organelles (metabolic cycle)
CO3	To understand the different aspects cell andf its organelles (hereditary aspects)
CO4	To understand the cell propogation and ageing

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Semester 03

The prime objective of paper V and Paper VI is to provide fundamental knowledge of animal with cord diversity and to provide with a basic set of doctrines of genetics and its components.

Paper - V : Life and Diversity of Animals-Chordates (Protochordata to Amphibia)

CO1	To familiar students with animals having noto cord
CO2	To familiar students with animals including fishes and amphibians with parental care
CO3	To familiar students with developmental aspects of fish
CO4	To familiar students with developmental aspects of amphibian (frog)

Paper - VI : Genetics

CO1	To familiar students with mendelian inheritance
CO2	To familiar students with non-mendellian inheritance
CO3	To familiar students with chromosomal aberrations & anomolies
CO4	To familiar students with applied aspects genetics such as couselling

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Semester 04

The prime objective of paper VII and Paper VIII is to provide fundamental knowledge of remaining animals (with cord) diversity and to provide with a basic know-how of molecular biology and immunology and techniques involved to inculcate the research interest/inclination.

Paper - VII : Life and Diversity of Animals-Chordates (Reptilia, Aves and Mammals)

CO1	To familiar students with reptiles, birds and mammals
CO2	To familiar students with animal evolution aspects
CO3	To familiar students with comparative studies of reptiles, birds and mammals
CO4	To familiar students with stem cell concept & animal behaviour

Paper - VIII : Molecular Biology and Immunology

CO1	To familiar students with molecules of life, DNA & RNA
CO2	To understand the gene concept and its regulation
CO3	To understand the concept of immunity
CO4	To understand the responses and defeciencies in immunity

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Semester 05

The prime objective of paper IX and Paper X is to provide fundamental knowledge of comparative physiology of different systems in the living body and to provide an idea of applied aspects of zoology.

Paper - IX :General Mammalian Physiology I

CO1	To familiar students with enzymes and their role in physiology
CO2	To understand and remember digestive physiology and their enzymes
CO3	To know about the respiratory physiology
CO4	To understand and know about cardiac cycle and haematological aspects

Paper - X : Applied Zoology I (Aquaculture and Economic Entomology)

CO1	To aware students with fundamentals commercial fisheries
CO2	To familiar students with different aquacultural practices & disease control
CO3	To understand the economics of crop & animal pests
CO4	To aware students with industrial entomological practices

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Semester 06

The prime objective of paper XI and Paper XII is to provide fundamental knowledge of comparative physiology of remaining systems in the living body and to provide an idea of applied techniques used to elevate enthusiasm towards higher education and research in zoology.

Paper - XI : General Mammalian Physiology II

CO1	To familiar students with nerve and muscle coordination
CO2	To remember normal & abnormal excretory physiology
CO3	To understand the endocrine control on body
CO4	To know about the reproduction and its control through various tools

Paper - XII : Applied Zoology II (Biotechniques, Microtechnique, Biotechnology, Bioinformatics and Biostatistics)

CO1	To familiar students with bio-molecular separation technologies
CO2	To remember the microtechniques studies in animal tissue
CO3	To make students aware of fundamental biotechnological applications
CO4	To understand and to enable statistical application & bioinformatics approach