



OFFICE, PRINCIPAL GOVERNMENT TULSI COLLEGE, ANUPPUR

Affiliated to Awadhesh Pratap Singh University Rewa (MP)

Registered Under Section 2 (F) & 12 (B) of UGC Act

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9893076404

M.Sc. Zoology Program & Course Outcome

Program Outcome and course outcome

Department of zoology

Govt Tulsi College Anuppur (M.P)

M.Sc Zoology

Program outcome-

- Equip students with recent advances in zoology from organismic to reductionist biology
- Understand realms of zoology such as Aquaculture, Reproductive biology, behavior and Environmental studies.
- Provide job opportunities in the education, environment, agriculture based and applied zoology related sectors.

M.Sc First Semester

Course Outcome

First Paper-Biosystematics, Taxonomy and classification

- Classify animals on the basis of their relation to other animals by body structure, external characters, development and DNA.
- Identify animals and give them scientific names on the basis of International rules of nomenclature.
- Understand the gradual development and evolutionary history of different kinds of living organisms.
- Evaluation of biodiversity and related indices.

Paper Two-Structure and functions of invertebrates

- Understand the origin and physiology of invertebrate animals
- Discuss the evolutionary significance of larval forms of invertebrates.
- Understand structure affinities and history of minor non coelomate phyla

Paper 3 Quantitative biology, biodiversity and wildlife


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- To understand basics of quantitative biology involved in research.
- To understand biodiversity and its conservation
- To understand value of wildlife and its conservation.

Paper 4 Biomolecules and structural biology

- Explain chemical foundation of biology
- To understand structure of proteins, carbohydrate, fats, nucleic acid and their metabolism
- Understand Basic concepts of metabolism
- Develop knowledge of enzymes and mechanism of their action.

M.Sc Second Semester Zoology-

Paper 1 General and comparative animal physiology and Endocrinology

- Understand mechanism of all physiological processes in vertebrates
- Compare and contrast the physiological processes that occur in different animal groups, governing day to day function.
- Conduct basic physiological research and effectively communicate the findings;
- Compare and contrast mechanisms of mechanoreception, chemoreception, photoreception, phonoreception and vestibular perception among different animals lineages
- Communicate classes and function of endocrine and neuroendocrine system.
- Discuss phylogeny of endocrine glands

Paper 2 Population ecology and environmental physiology

- Understand population its characters and regulation
- Discuss ecophysiological adaptations in different animal groups.

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- Help students to understand the concerns related to Sustainable Development .
- Ability to understand consequences of environmental pollution on human health
- Demonstrate method of relaxation of stress and body by yoga , asana ,pranayama and meditation.

Paper 3 Tools and techniques in Biology

- Explain Microscopy,Colorimetry,Chromatography principle,process applications and working of related instruments.
- Explain immunological surgical immunodetection and Cell Culture Techniques.
- Understand cryopreservation,Radioisotope and Isotope techniques and applications.

Paper 4 Molecular Biology and Genetics

Describe the structure and organization of biological membrane

- Explain how a cell communicate with the extracellular environment
- Understand process of Sex determination
- Explain some of the current genomics technologies and illustrate how these can be used to study gene function

M.Sc Third Semester -

Paper 1 Comparative anatomy of vertebrates

- Knowledge of comparative anatomy and its phylogeny in vertebrates
- Knowledge of flight and aquatic adaptations in birds and mammals

Paper 2 Limnology

- Knowledge of morphometry,physicochemical and biological characteristics of fresh water bodies
- Explain significance of aquatic flora,insects,birds and macrophytes in water bodies


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- Knowledge of pollution of rivers, causes and control measures
- Knowledge of legislation and regulation of discharge of industrial effluents and domestic wastes in rivers and reservoirs

Paper 3 Ecotoxicology

- Understand environment productivity and pollution
- Develop basic knowledge of toxicology
- Know public hazards due to natural disasters and occupation
- Understand basic concepts and applications of remote sensing

Paper 4 Aquaculture

- Develop a knowledge of farming of aquatic organisms for increasing food production and animals beneficial to human
- Observe culture techniques farm management and hatchery operations
- Analyse harvesting and marketing strategies
- Understand the techniques of fish preservation and water quality monitoring techniques.

M.Sc Fourth Semester -

Paper 1. Animal behaviour and neurophysiology

- Understand neurophysiology of perception memory and domestic animal human behaviour
- Classify behavioral patterns communication learning and memory.

Paper 2 Genetic Biology Development and Differentiation in mammals

- Understand comparative reproductive biology and development in mammals
- Understand role of hormones in regulation of reproductive cycle
- Understand process of differentiation of eggs and sperms before fertilization.
- Describe foundational concepts in stem cells and its disorder.


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Paper 3. Ichthyology (Fish) structure and Function

- Know functional anatomy of all organ systems in fish
- Understand migration and adaptations in fishes
- Observe the phenomenon of Parental care in various fishes and importance of electric organs in fishes
- Understand significance of colouration, luminous and poisonous organs in fishes

Paper 4. Pisciculture and Economic Importance of Fishes (Ichthyology)

- Knowledge of advanced techniques in Pisciculture
- Knowledge of Prawn culture and pearl industries in India
- Comprehend economic importance of Pisciculture.

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