

**BHARATHIAR UNIVERSITY : COIMBATORE – 641 046**

Allied Zoology Paper –I

**ANIMAL DIVERSITY AND ORGANIZATION**

Total Hours : 60  
Per Week : 4

**Objective :** To acquire a basic knowledge of animal diversity and its organization

**Unit – I** Diversity of Invertebrates –I

General characters of protozoa, coelenterate, Helminthes and Annelida.  
Type Study – Paramecium  
General Essay – Parasitic Adaptation of Helminthes

**Unit – II** Diversity of Invertebrates –I

General Characters of Arthropoda, Mollusca and Echinodermata.  
Type Study – Cockroach  
General Essay – Economic importance of Mollusca

**Unit – III** Diversity of Chordates – I

General characters of Prochordates, Pisces & Amphibia.  
Type Study – Frog (except endoskeletal system)

**Unit – IV** Diversity of Chordates – I

General Characters of Reptilia & Aves.  
Type Study – Calotes (except endoskeletal system)

**Unit – V** Diversity of Chordates – I

General characters of Mammalia  
Type Study – Rabbit (except endoskeletal system)

**Books for study :**

1. Ekambaranatha Ayyer “ Out lives of Zoology” S.Viswanathan, Chennai.

**Books for reference :**

1. Jorden EH & P.S.Verma Invertebrate Zoology, S.Chand & Co.

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Allied Zoology Paper –II

**GENERAL PRINCIPLES OF ZOOLOGY**

- Unit – I** Carbohydrates – Classification & Structure  
Protein – Classification and Structure  
Fat – Classification and structure  
Classification of enzymes – Mechanism of enzyme action
- Unit – II** Respiration – Respiratory pigments and transport of gases mechanism of Blood Clotting, Types of excretory products – Ornithine cycle, Conduction of Nerve impulse.
- Unit – III** Types of Verbrate eggs, cleavage, pattern, Blastulation and gastrulation in frog.
- Unit – IV** Structure of animal cell – DNA as a genetic material, structure – application of DNA Genetic Code – Protein synthesis – Molecular basis of Mutation - Tautamarization & base Analog method.
- Unit – V** Structure classification and culture of virus – Viral disease AIDS – structure of Bacteria, Classification – Bacterial disease – Cholera – Typhoid – Recombinant DNA technology.

**Books for study :**

1. N.Arumugan Physiology Gen. Comparative, Saras Publication., Nagarcoil.
2. Hoar S.William . Physiology
3. Ambika Shanmugam Biochemistry
4. N.Arumugam Microbiology, Saras Publication.
5. Verma.P.S.Agawal – Developmental Biology S.Chand & Co.,

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**ALLIED ZOOLOGY PRACTICAL**

**Dissection Practical to be completely removed as it is unethical and against conservation rules to kill animals.**

**Hence, virtual dissections using computer aided programmes to be introduced.**

**DISSECTION**

Fish : Digestive system

Mounting : Scales of Fishes

Cockroach : Mouth Parts, Digestive systems, Nervous systems and Reproductive system

**SPOTTERS**

Paramecium entire, Conjugation, Obelia Colony.  
Medusa, Liver fluke, Ascarais, Earthworm, Pila  
Starfish, Amphioxus, Shark, Skeleton of frog  
Quill feather, Mitosis stages, Frog  
Egg – Blastula – Gastrula.