



Semester - II

BRANCH	Subject Title	Subject Code
B.Sc. (Zoology – Minor/GE)	ANIMAL DIVERSITY: NON-CHORDATA	ZOM2/ZO-121

Course learning outcomes:

1. Learn about the importance of systemic, taxonomy and phylogeny to get a concrete idea of evolution of non-chordate phyla.
2. Understand the various morphological, anatomical structures and functions of animals of different phyla.
3. Get the knowledge about economic, ecological and medical significance of various animals in human welfare.
4. Understand the important parasites and their control measures.

CONTENT

Unit - 1

Taxonomy, Phylogeny and Protozoa

1. Taxonomy

- 1.1 Elementary knowledge of Zoological Nomenclature and International Code
- 1.2 Classification of Animal Kingdom upto Phylum of acoelomate and coelomate non-chordates according to Parker and Haswell 7th edition

2. Phylogeny

- 2.1 Definition and Examples

3. Protozoa

- 3.1 Phylum Protozoa: General characters of the phylum and outline classification up to classes with distinctive characters and suitable examples
- 3.2 Structure, life history and pathogenicity of malarial parasite (Plasmodium vivax)
- 3.3 Protozoa and disease



Unit - 2

Porifera, Coelenterata

1. Porifera

1.1 Phylum Porifera: General characters of the phylum and outline classification up to classes with distinctive characters and suitable examples

1.2 Type study of Sycon

1.3 Canal system of Sponges

2. Coelenterata

2.1 Phylum Coelenterata: General characters of the phylum and outline classification up to classes with distinctive characters and suitable examples

2.2 Type Study of Obelia

2.3 Corals and Coral reef formation

Unit - 3

Platyhelminthes, Nematelminthes, annelida

1. Platyhelminthes

1.1 Phylum Platyhelminthes: General characters of the phylum and outline classification up to classes with distinctive characters and suitable examples

1.2 External morphology and life history of Liver fluke

2. Nematelminthes

2.1 Phylum Nematelminthes: General characters of the phylum and outline classification up to classes with distinctive characters and suitable examples

2.2 Pathogenic symptoms of Nematodes and diseases

3. Annelida

3.1 Phylum Annelida: General Characters of the phylum and outline classification up to classes with distinctive characters and suitable examples



3.2 Type study of Earthworm (Pheretima)

3.3 Structure and significance of Trochophore larva

Unit - 4

Arthropoda, Mollusca

1. Arthropoda

1.1 Phylum Arthropoda: General Characters of the phylum and outline

classification up to classes with distinctive characters and suitable examples

1.2 Type study of Prawn

1.3 Larval forms of crustacea

1.4 Insects as a vector of human disease

2. Mollusca

2.1 Phylum Mollusca: General characters of the phylum and outline classification up to classes with distinctive characters and suitable examples

2.2 Type study of Pila

2.3 Structure and Significance of Glochidium larva

Unit - 5

Echinodermata, Hemichordata

1. Echinodermata

1.1 Phylum Echinodermata: General characters of the phylum and outline classification up to classes with distinctive characters and suitable examples

1.2 External features and water vascular system of Starfish (Asterias)

1.3 Larval forms of Echinodermata

2. Hemichordata

2.1 Phylum Hemichordata: General characters of the phylum hemichordate and relationship with non-chordates and chordates



2.2. Balanoglossus - External morphology

2.3 Structure and significance of Tornaria larva

PRACTICALS:-

Topics

1. Study of museum specimens and slides relevant to the invertebrates.
2. Dissection (Demonstration Only -Through You Tube Video or Models)
 - a. Earthworm-Digestive system, Nervous system, Reproductive system or Charts)
 - b. Prawn-Nervous system and appendages
 - c. Pila-Nervous System
 - d. Cockroach-Digestive System, Nervous System (Easily available animal in residential areas which can be used for dissection and mounting)
3. Mounting
 - a. Locally available small non-chordates, their larvae
 - b. Mouth Parts of Insects
4. Examination of pond water for study of different kinds of microscopic non-chordate organisms
5. Economic Importance of any two Insects
6. Parasitic Adaptation of any one parasite.