Course Code	Course Name	Credits
26ZY001	INVERTEBRATE ZOOLOGY	04

Course Objectives

- To introduce the basic principles of animal classification and binomial nomenclature.
- To provide knowledge on the general characteristics and classification of major invertebrate phyla.
- To understand the structural organization and life cycles of selected invertebrate organisms.
- To explain the evolutionary significance and adaptive features of different invertebrate groups.
- To develop an understanding of the ecological and economic importance of selected invertebrates.

Learning Outcomes

- To classify invertebrates based on their distinguishing characteristics.
- Acquire knowledge of the morphology, anatomy, and life cycles of representative invertebrates.
- Able to explain important biological concepts such as canal system, polymorphism, and water vascular system.
- Understand the evolutionary relationships and diversity among major animal phyla.
- Recognize the ecological and economic importance of organisms.

Unit 1 - Introduction to Animal Kingdom (12 Hrs.)

Binomial Nomenclature. General characteristics and outline classification of Invertebrates upto classes with examples. Phylum: Protozoa - General characters and classification upto classes with examples. Type study: Paramecium. Life cycle of Plasmodium vivax

Unit 2 - Porifera & Coelenterata (12 Hrs.)

General characters and classification upto classes with examples. Type study: Sycon. Canal system in Sponges. Phylum: Coelenterata - General characters and classification upto classes with examples. Type study: Obelia geniculate. Polymorphism in Coelenterates.

Unit 3 - Phylum: Platyhelminthes (12 Hrs.)

General characters and classification upto classes with examples. Type study – Taenia solium. Phylum: Aschelminthes. General characters and classification upto classes with examples. Type study – Ascaris lumbricoides.

Unit 4 - Annelida & Arthropoda (12 Hrs.)

Phylum: Annelida - General characters and classification upto classes with examples. Type study – Nereis. Metamerism in annelids. Phylum: Arthropoda-General characters and classification upto classes with examples. Type study: Penaeus. Economic importance of Honeybee.

Unit 5 - Mollusca & Echinodermata (12 Hrs.)

Phylum: Mollusca-General characters and classification upto classes with examples. Type study: Pila globose. Phylum: Echinodermata. General characters and classification upto classes with examples. Type study: Sea star; Water vascular system, Echinoderm larvae and their significance.

Reference Books:

1. Jordan, E.L and P.S. Verma. 1995, Invertebrate Zoology and elements of animal physiology, S. Chand and Co. Ltd. New Delhi.
2. Invertebrate Zoology – Ruppert, E.E., Fox, R.S. & Barnes, R.D. (2020). Invertebrate Zoology: A Functional Evolutionary Approach. Latest modern reference covering taxonomy, morphology, physiology, and evolution of invertebrates.
3. Integrated Principles of Zoology – Hickman, C.P. et al. (2022). Includes updated chapters on invertebrate diversity, phylogeny, and ecological importance.
4. Biology of the Invertebrates – Pechenik, J.A. (2021). Widely used advanced textbook emphasizing functional biology and evolutionary relationships.
5. Invertebrates – Brusca, R.C., Moore, W. & Shuster, S.M. (2023). Comprehensive and updated reference on classification, anatomy, and ecology of invertebrates.

Websites and eLearning Sources:

https://en.wikibooks.org/wiki/Invertebrate_Zoology
https://biologyjunction.com/invertebrate-notes/
https://en.wikibooks.org/wiki/Intro_to_Zoology/Invertebrate_Zoology