

OBJECTIVES:

1. To develop awareness of Biosystematics.
2. To study the diverse forms of invertebrate
3. To acquire knowledge about the causes, symptoms, and prevention of some human protozoan & helminth diseases.
4. To understand the interaction of man with other animals.

UNIT – I: PROTOZOA

- 1 .General characters
- 2 .Classification of Protozoa upto classes with examples.
- 3 .*Elphidium*(type study)

PORIFERA

- 1 General characters
- 2 Classification of Porifera upto classes with examples.
- 3 *Sycon*– External Characters, Types of cells.
- 4 Skeleton in Sponges.
- 5 Canal system in sponges.

UNIT – II: COELENTERATA

- 1 General characters
- 2 Classification of Coelenterata upto classes with examples
- 3 *Obelia* - External Characters, Structure of Polyp and Medusa
- 4 Polymorphism in coelenterates
- 5 Corals and coral reefs formation

PLATYHELMINTHES

- 1 General characters & classification upto classes with examples.
2. *Fasciola hepatica* - External Characters, Excretory system, Reproductive System, Life History and pathogenicity.
3. Parasitic adaptations of flat worms

UNIT – III: NEMATHELMINTHES

- 1 .General characters
2. Classification of Nematelminthes upto classes with examples
3. Brief account of some common nematode parasites (*Ancylostoma*, *Enterobius*, *Trichinella*, *Dracunculus*).

ANNELIDA

- 1 .General characters
- 2 .Classification of Annelida upto classes with examples
- 3 .*Hirudinaria granulosa* - External Characters, Digestive System, Excretory System Nervous system and Reproductive System.
- 4 . Coelom and Coelomoducts
- 5 .Vermiculture - Scope, significance, earthworm species, processing, Vermicompost, economic importance of vermicompost

UNIT – IV: ARTHROPODA

1. General characters
2. Classification of Arthropoda upto classes with examples.
3. Prawn - External Characters, Appendages, Respiratory system, Circulatory System, Nervous system and Sense organs (Statocyst and Eye).
4. *Peripatus* - Structure and affinities.
5. Larval forms of Crustacea (*Nauplius*, *Zoea*, *Mysis*, *Megalopa*, *Alima*).

MOLLUSCA

1. General characters
2. Classification of Mollusca upto classes with examples
3. Pilaglobosa- Structure of radula, Respiratory system.
4. Pearl formation in Pelecypoda
5. Torsion in gastropods

UNIT – V: ECHINODERMATA

1. General characters&
2. Classification of Echinodermata upto classes with examples.
3. Water vascular system in star fish.

HEMICHORDATA

1. General characters
2. Classification of Hemichordata upto classes with examples.
3. *Balanoglossus* - Structure, organization and affinities.

NON – CHORDATE LARVAL FORMS

- 1 . Amphiblastula (porifera)
- 2 . Ephyra (Aurelia)
3. Trochophore (nereis)
4. Glochidium (unio)
- 5 .Bipinnaria (echino)
6. Ophiopluteus (echino)
7. Echinopluteus (echino)
8. Tornaria (hemichordata).

TEXT BOOKS:

1. “Modern Text Book of Zoology” Invertebrates by R.L.Kotpal; S.K. Agarwal, R.P.Khetrapal- Rastogi Publications, Meerut -25002, Edition: 1996.
2. “A Manual of Zoology” Vol.I by Prof. M.Ekambaranathlyer& S. Viswanthan – Printers & Publishers – V.Subramanian, Madras, Edition 1982 .
3. “Unified Course in Zoology” by DR. Ramesh chand – Jain prakashNath publications, Meerut, Edition : 1991.
4. Zoology - Dr. BillaMadanmohan ; Telugu Akademi, Himayatnagar, Hyderabad.

REFERENCES:

1. “Text Book of Zoology” by T.Jeferey Parker & William A. Haswell. Edited by C.B.S publishers, BholaNath Nagar, New Delhi – 110032, Edition:1992.
2. “Invertebrate Zoology” by T.C.Majuria – pradeep publications, Jalandhar Edition :1985.
3. “Invertebrate Zoology” by R.L.Kotpal – Rastogi publications, Meerut – 35002 Edition:199

Major Dissections: (Demonstration only)

Leech: 1. Reproductive system **Prawn:** Nervous system
2. Nervous system **PILA :** Digestive system
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Minor dissections / Mounting: (Demonstration only)

Sponge: Spicules.

Leech: 1. Jaw mounting
2. Nephridium

Nereis: 1. Parapodium

PRAWN: Appendages, statocyst. **PILA :** Radula.

Spotters: Study of prepared slides & specimens pertaining to theory .

Protozoa: Paramecium (W.M); Paramecium. Binary fission, Paramecium – conjugation,
Polystomella, Radiolaria, Vorticella .

Porifera : Scypha, Cliona, Euplectella, Hyalonema, Euspongia, Gemmule,

Coelenterata : Obelia colony, Medusa, , Physalia, Velella, scyphistoma larva, Ephyra Larva,
Adamsia, Meandrina, Corallium, Gorgonia, Pennatula.

Helminths : Planaria, Fasciola, Redia, Cercaria, Dracunculus, Taenia solium, Cysticercus,
Ascaris, Trichurus.

Annelida : Nereis, Hetero nereis, Aphrodite, leech, Tubifex , Hirudo , Trochophore.

Arthropoda : Peripatus, Sacculina, Clibanarius, Albunea, Ocypoda, Squilla , Lepisma,
Poecilocera, Dragon fly, Mantis, Dytiscus, Limulus, Scorpion, Julus,
Scutigera..

Larval forms: Nauplius, Zoea, Megalopa, Alima.

Mollusca: Cypraea, Aplysia, Chiton, Glochidium larva, Lamellidens, Pinctada vulgaris,
Dentalium, sepia, Octopus, Nautilus , Loligo.

Echinodermata: Palmipes, Ophiothrix, Stomopneustes, Clypeaster, Molpadia ,
Antedon, Cucumaria.

Larval forms : Bipinnaria, Ophiopluteus, Echinopluteus.

Hemichordata: Balanoglossus , tornaria larva.