

ZOOLOGY SYLLABUS FOR I SEMESTER

PAPER – I: ANIMAL DIVERSITY – BIOLOGY OF NONCHORDATES

HOURS:60 (5X12)

Max. Marks: 100

UNIT I

Principles of Taxonomy – Binomial nomenclature – Rules of nomenclature
Whittaker's five kingdom concept and classification of Animal Kingdom.

Phylum Protozoa

General Characters and classification of protozoa up to classes with suitable examples

Locomotion, nutrition and reproduction in Protozoans replaced with

Mode of infection, Pathogenesis, prophylaxis and treatment in the case of
Entamoeba histolytica, *Plasmodium vivax*, *Trypanosoma gambiense* and
Leishmania donovani

Elphidium (type study)

UNIT –II

Phylum Porifera

2.1 General characters and classification up to classes with suitable examples

2.2 Skelton in Sponges Deleted

Canal system in sponges

Phylum Coelenterata

General characters and classification up to classes with suitable examples

Metagenesis in *Obelia*

Polymorphism in coelenterates

Corals and coral reefs

Phylum Ctenophora :

General Characters and Evolutionary significance (affinities)

Unit – III

Phylum Platyhelminthes

General characters and classification up to classes with suitable examples

Life cycle and pathogenicity of *Fasciola hepatica*

Parasitic Adaptations in helminthes

Phylum Nematelminthes

General characters and classification up to classes with suitable examples

Life cycle and pathogenecity of *Ascarislumbricoides*

Mode of infection, Pathogenesity, prophylaxis and treatment in the case of *Schistosoma haematobium*, *taenia solium*, *Enterobius vermicularis* and *Anchylostoma duodenale* **Added**

Unit – IV

Phylum Annelida

4.1 General characters and classification up to classes with suitable examples

4.2 Evolution of Coelom and Coelomoducts **Deleted**

Vermiculture - Scope, significance, earthworm species, processing,

Vermicompost, economic importance of vermicompost

Phylum Arthropoda

General characters and classification up to classes with suitable examples

4.5 Vision and respiration in Arthropoda **Deleted**

Metamorphosis in Insects

Peripatus - Structure and affinities

Social Life in Bees and Termites **Replaced with**

Economic importance of useful insects and Harmful insects (Useful insects - Honey bee, silk worm and Lac insect

Harmful insects- Mosquitoes, House fly and Termites)

Unit – V

Phylum Mollusca

General characters and classification up to classes with suitable examples

Pearl formation in Pelecypoda

Sense organs in Mollusca **Replaced with**

Economic importance of Molluscans

Phylum Echinodermata

General characters and classification up to classes with suitable examples

Water vascular system in star fish

Larval forms of Echinodermata

Phylum Hemichordata

General characters and classification up to classes with suitable examples

Balanoglossus - Structure and affinities

Co-curricular activities (suggested)

- Preparation of chart/model of phylogenic tree of life, 5-kingdom classification, *Elphidium* life cycle etc.
- Visit to Zoology museum or Coral island as part of Zoological tour
- Charts on life cycle of *Obelia*, polymorphism, sponge spicules
- Clay models of canal system in sponges
- Preparation of charts on life cycles of *Fasciola* and *Ascaris*
- Visit to adopted village and conducting awareness campaign on diseases, to people as part of Social Responsibility.
- Plaster-of-paris or Thermocol model of *Peripatus*
- Construction of a vermicompost in each college, manufacture of manure by students and donating to local farmers
- Models of compound eye, bee hive and terminarium (termitaria) by students
- Visit to apiculture centre and short-term training as part of apprenticeship programme of the govt. Of Andhra Pradesh
- Chart on pearl forming layers using clay or Thermocol
- Visit to a pearl culture rearing industry/institute
- Live model of water vascular system
- Phylogeny chart on echinoderm larvae and their evolutionary significance
- Preparation of charts depicting the feeding mechanism, 3 coeloms, tornaria larva etc., of *Balanoglossus*

REFERENCE BOOKS

1. **L.H. Hyman** '*The Invertebrates*' Vol I, II and V. – M.C. Graw Hill Company Ltd.
2. **Kotpal, R.L. 1988 - 1992** Protozoa, Porifera, Coelenterata, Helminthes, Arthropoda, Mollusca, Echinodermata. Rastogi Publications, Meerut.
3. **E.L. Jordan and P.S. Verma** '*Invertebrate Zoology*' S. Chand and Company.
4. **R.D. Barnes** '*Invertebrate Zoology*' by: W.B. Saunders CO., 1986.
5. **Barrington. E.J.W.**, '*Invertebrate structure and Function*' by ELBS.
- 6 **P.S. Dhami and J.K. Dhami.** Invertebrate Zoology. S. Chand and Co. New Delhi.
7. **Parker, T.J. and Haswell** '*A text book of Zoology*' by, W.A., Mac Millan Co. London.
8. **Barnes, R.D. (1982).** *Invertebrate Zoology*, V Edition