

B.Sc. ZOOLOGY SYLLABUS UNDER CBCS

(With effect from 2016-2017)

I - SEMESTER

DSC-1A (Theory)

Animal Diversity – Invertebrates

Max. Marks: 80

UNIT – I

- 1.1 Kingdom Animalia, Brief history of Invertebrates.
- 1.2 Protozoa General characters and Classification up to classes with examples.
- 1.3 Type study of *Elphidium*, Life cycle of *Plasmodium*. Locomotion, Reproduction and Diseases of protozoans.
- 1.4 Porifera General characters, Classification of up to classes with examples.
- 1.5 Type study of *Sycon*; Canal system in sponges and Spicules.

UNIT – II

- 2.1 General characters and Classification of Cnidaria up to classes with examples.
- 2.2 Type study of *Obelia*, Polymorphism in hydrozoa; Corals and coral reef formation.
- 2.3 General characters and Classification of Platyhelminthes up to classes with examples.
- 2.4 Type study- *Schistosoma*; Parasitic Adaptations in Helminthes.
- 2.5 Nematelminthes General characters, Classification of Nematelminthes up to classes with examples; Type study of *Dracunculus*.

UNIT – III

- 3.1 Annelida General characters and Classification up to classes with examples.
- 3.2 Type study of *Hirudinaria granulosa*.
- 3.3 Evolutionary significance of Coelome and Coelomoducts and metamerism.
- 3.4 Arthropoda General characters and Classification of Arthropoda up to classes with examples.
- 3.5 Type study of Prawn; Mouth parts of Insects; Insect metamorphosis; *Peripatus* - Structure and affinities.

UNIT – IV

- 4.1 Mollusca General characters and Classification up to classes with examples.
- 4.2 Type study – *Pila*; Pearl formation; Torsion and detorsion in gastropods.
- 4.3 Echinodermata General characters and Classification of Echinodermata up to classes with examples.
- 4.4 Water vascular system in star fish; Echinoderm larvae and their significance.
- 4.5 Hemichordata General characters and Classification up to classes with examples; *Balanoglossus* - Structure and affinities.

Suggested Readings

- 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. Dhama and J.K. Dhama.** 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*"

ZOOLOGY PRACTICAL SYLLABUS FOR I SEMESTER
ZOOLOGY - PAPER - I
ANIMAL DIVERSITY - INVERTEBRATES

Max. Marks: 50

1. Study of museum slides / specimens / models (Classification of animals up to orders)

- i. **Protozoa:** *Amoeba, Paramecium, Paramecium Binary fission and Conjugation, Vorticella, Entamoeba histolytica, Plasmodium vivax*
- ii. **Porifera:** *Sycon, Spongilla, Euspongia, Sycon - T.S & L.S, Spicules, Gemmule*
- iii. **Coelenterata:** *Obelia – Colony & Medusa, Aurelia, Physalia, Velella, Corallium, Gorgonia, Pennatula*
- iv. **Platyhelminthes:** *Planaria, Fasciola hepatica, Fasciola larval forms – Miracidium, Redia, Cercaria, Echinococcus granulosus, Taenia solium, Schistosoma haematobium*
- v. **Nemathelminthes:** *Ascaris (Male & Female), Dracunculus, Ancylostoma, Wuchereria*
- vi. **Annelida:** *Nereis, Aphrodite, Chaetopterus, Hirudinaria, Trochophore larva*
- vii. **Arthropoda:** *Cancer, Palaemon, Scorpion, Scolopendra, Sacculina, Limulus, Peripatus, Larvae - Nauplius, Mysis, Zoea, Mouth parts of male & female Anopheles and Culex, Mouthparts of Housefly and Butterfly.*
- viii. **Mollusca:** *Chiton, Pila, Unio, Pteredo, Murex, Sepia, Loligo, Octopus, Nautilus, Glochidium larva*
- ix. **Echinodermata:** *Asterias, Ophiothrix, Echinus, Clypeaster, Cucumaria, Antedon, Bipinnaria larva*
- x. **Hemichordata:** *Balanoglossus, Tornaria larva*

2. Dissections:

Prawn: Appendages, Digestive system, Nervous system, Mounting of Statocyst
Insect Mouth Parts

3. Laboratory Record work shall be submitted at the time of practical examination

4. An “**Animal album**” containing photographs, cut outs, with appropriate write up about the above mentioned taxa. Different taxa/ topics may be given to different sets of students for this purpose.

5. Computer aided techniques should be adopted – show virtual dissections

Suggested manuals:

1. Practical Zoology- Invertebrates S.S. Lal
2. Practical Zoology - Invertebrates P.S. Verma
3. Practical Zoology - Invertebrates K.P. Kurl