

KAKATIYA UNIVERSITY
Under Graduate Courses (Under CBCS 2019 - 2022)
B.Sc. ZOOLOGY I Year
SEMESTER – I

ANIMAL DIVERSITY – INVERTEBRATES
(Core Paper –I)

Theory	4 Hours/Week	4 Credit	Internal marks = 20
Practical	3 Hours/Week	1 Credit	External Marks = 80

UNIT – I

1.1 Protozoa

- 1.1.1 General Characters and Classification of Protozoa up to Orders with examples
- 1.1.2 Type Study – *Elphidium*
- 1.1.3 Locomotion and Reproduction
- 1.1.4 Epidemiology of Protozoan diseases – Amoebiasis, Giardiasis, Leishmaniasis, Malaria

1.2 Porifera

- 1.2.1 General characters and Classification of Porifera up to Orders with examples
- 1.2.2 Type study - *Sycon*
- 1.2.3 Canal system in Sponges
- 1.2.4 Types of Cells and Spicules in Porifera.

UNIT – II

2.1 Cnidaria

- 2.1.1 General characters and Classification of Cnidaria up to classes with examples
- 2.1.2 Type study - *Obelia*
- 2.1.3 Polymorphism in Cnidarians with examples
- 2.1.4 Corals and Coral Reef formation

2.2 Helminthes


- 2.2.1 General characters and Classification of **Platyhelminthes** up to classes with examples
- 2.2.2 Type study - *Schistosoma*
- 2.2.3 General characters and Classification of **Nemathelminthes** up to classes with examples
- 2.2.4 Type study – *Dracanculus*; Parasitic Adaptations in Helminthes

UNIT– III

3.1 Annelida

- 3.1.1 General characters and Classification of Annelida up to classes with examples
- 3.1.2 Type study – *Hirudinaria granulosa*
- 3.1.3 Evolutionary significance of Coelome and Coelomoducts and Metamerism
- 3.1.4 Economic Importance of Annelida (Polychaeta, Oligochaeta and Hirudinea)


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3.2 Arthropoda

- 3.2.1 General characters; Classification of Arthropoda upto classes with examples
- 3.2.2 Type study – *Palaemon* (Prawn)
- 3.2.3 Crustacean Larvae; Insect metamorphosis; Useful and Harmful Insects
- 3.2.4 *Peripatus*- Structure and affinities

UNIT – IV

4.1 Mollusca

- 4.1.1 General characters; Classification of Mollusca upto classes with examples
- 4.1.2 Type study - *Pila* (Snail)
- 4.1.3 Pearl formation; Torsion and Detorsion in Gastropods
- 4.1.4 Molluscs as Bio-indicators, Vectors and Pests; Economic importance

4.2 Echinodermata

- 4.2.1 General characters and Classification of Echinodermata upto classes with examples
- 4.2.2 Type study- *Star Fish*
- 4.2.3 Echinoderm larvae and their evolutionary significance
- 4.2.4 Autotomy, Regeneration and Symmetry of Echinoderms

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”



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ANIMAL DIVERSITY - INVERTEBRATES
(PRACTICAL)

Instruction: 3 hrs per week
No. of Credits: 1

- 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, Pterodo, Murex, Sepia, Loligo, Octopus, Nautilus, Glochidium larva*
 - ix) **Echinodermata:** *Asterias, Ophiothrix, Echinus, Clypeaster, Cucumaria, Antedon, Bipinnaria larva*
- 2. Demonstration of dissection / dissected / virtual dissection:**
Prawn: Appendages, Digestive system, Nervous system, Mounting of Statocyst
- 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 abovementioned taxa. Different taxa/ topics may be given to different sets of students for this purpose.
- 5. Computer aided techniques should be adopted as per UGC guide lines.**

Suggested manuals:

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


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