



Course Title: ANIMAL SCIENCEES – I

Course Code: LS103

Credit Units: 04

| L | T | P/ S | SW/F W | TOTAL CREDIT UNITS |
|---|---|---------|-----------|--------------------------|
| 3 | 0 | 2 | 0 | 04 |

Course Objectives:

Theory: The object of the present course is to learn about characteristics and variation among different phyla of Invertebrates.

Practical: To train students in knowing about morphology and anatomy of Invertebrates.

Pre-requisites: Basic knowledge of Life Sciences

Student Learning Outcomes:

The students will be able to:

- create understanding of various types of invertebrates
- classify different types of invertebrates
- describe basic and applied importance of invertebrates
- develop understanding for economic value of invertebrates
- demonstrate laboratory practices and skills with regard to structure of Invertebrates.

Course Contents/Syllabus- Theory:

| | Weightage (%) |
|---|---------------|
| Module I | 10 |
| General introduction to Invertebrates Binomial classification of invertebrates and salient features of each phylum. | |

| | |
|---|-----------|
| Module II | 10 |
| Protozoa: General characteristics of Protozoa. Amoeba as a model to study protozoan characters. Parasitic Protozoan. | |
| Module III | 10 |
| Porifera: General characteristics of Porifera. Study of canal system and spicule formation among sponges. | |
| Module IV | 10 |
| Coelentrata: General characteristics of Coelentrata. Hydra: locomotion, nematocysts and reproduction. Polymorphism in siphonophora | |
| Module V | 20 |
| Helminthes: General characteristics of Helminthes. Reproduction, life-cycle and parasitism of Taenia (Tape worm) . | |
| Module VI | |
| Annelida: General characteristics of Annelida. Earth worm: Morphology, anatomy, nervous system, locomotion, reproduction. | 10 |
| Module VII | |
| Arthropoda: General characteristics of Arthropoda. Cockroach : appendages, respiration, nervous system, circulation. Economic importance of arthropods. | 10 |
| Module VIII | |
| Mollusca: General characteristics of Mollusca. Pila: Nervous System and Torsion and de-torsion . Economic importance of Mollusca. | 10 |
| Module IX: | |
| Echinodermata: General characteristics of Echinodermata. Starfish: Water vascular system, Regeneration. | 10 |

Pedagogy for Course Delivery:

Lectures: 39

Tutorial: 0

Quiz: 1

Class Test: 2

Home assignment: 3

Total: 45

Lab/ Practical details, if applicable:

Tutorial: 02

Practical: 26

Class test: 02

Total: 30

List of Experiments: (NEW SYLLABUS)

- 1) Introduction to general laboratory techniques.
- 2) Preparation of slides of amoeba.
- 3) Specimen study of phylum porifera.
- 4) Dissection of earth worm and study of digestive system of earth worm.
- 5) Dissection of earth worm and study of Nervous system of earth worm.
- 6) Collection and Dissection of cockroach and study of digestive system.
- 7) Collection and Dissection of cockroach and study of Nervous system.
- 8) Dissection of cockroach and glycerin preparation of mouth appendages, salivary gland and trachea.
- 9) Mouth part of Mosquito and house fly Differentiation in male and female Mosquito.
- 10) Specimen study of Pila.
- 11) Specimen Preservation

Assessment/ Examination Scheme:

| Theory L/T (%) | Lab/Practical/Studio (%) | End Term Examination |
|-----------------------|---------------------------------|-----------------------------|
| 70 | 25 | 70 |

Theory Assessment (L&T):

| Continuous Assessment/Internal Assessment | | | | | | End Term Examination |
|--|-------------|---------------------|------------------------|------------------------------|-------------------|-----------------------------|
| Components (Drop down) | Quiz | Class Test 2 | Home Assignment | Presentation/ Seminar | Attendance | |
| Weightage (%) | 5 | 10 | 10 | 0 | 5 | 70 |

Lab/ Practical/ Studio Assessment:

| | Continuous Assessment/Internal Assessment | | | | End Term Examination | | | |
|------------------------|---|------------|------|------------|----------------------|-------------|------|-------|
| Components (Drop down) | Performance | Lab record | viva | Attendance | Lab record | Performance | Viva | Total |
| Weightage (%) | 10 | 10 | 5 | 5 | 10 | 30 | 30 | 100 |

Text & References:

- Jordan, E.K. and Verma, P.S., Invertebrate Zoology. S. Chand & Co. New Delhi.
- Kotpal, R.L., Refer to the series on Protozoa, porifera, Coelentrta, Annelida, Arthropoda, Mollusca, Echinodermata. Rastogi Publication, Merrut.
- Parker, T.J. and Haswell, W.A., Text Book of Zoology Vol 1. AZT BS Publisher, New Delhi.
- Borradile, L.A. and Potts, F.A., Invertebrate Zoology, Cambridge Press, UK.
- Dhami, P.S. and Dhami, J.K., Invertebrate Zoology, S Chand & Co. New Delhi.
- Barnes, R.D. Invertebrate Zoology (1982) VI Edition. Holt Saunders International Edition.
- Barnes, R.S.K., Calow, P., Olive, P.J.W., Golding, D.W. & J.I., Spicer (2002) The Invertebrates: A NewSynthesis. III Edition. Blackwell Science.
- Barrington, E.J.W. (1979) Invertebrate Structure and Functions. II Edition. E.L.B.S. and Nelson.

Any other Study Material:

- Research Papers
- Case studies