

B.Sc. SEM – II
(Effective from Oct-Nov 2016)
ZOOLOGY PAPER – I (Z – 201)

UNIT – 1

Earthworm:

Systematic position, Habit and Habitat, External features, body wall and its function, Coelom – composition and function, food and feeding mechanism, Digestive system, and digestion, Circulatory system, Excretory system-and excretion, Nervous system-(central, peripheral and sympathetic), Sense organs-epidermal receptors, buccal and photoreceptors, Reproductive system-copulation, cocoon formation and development.

UNIT – 2

Life Processes: Nutrition/ Digestion in Human –

- i. Buccal digestion: Salivary secretion and digestion.
- ii. Gastric digestion: Gastric secretion and digestion
- iii. Intestinal digestion: Pancreatic secretion, bile secretion, digestion in small intestine, digestion and absorption in large intestine.
- iv. Reproduction and its types. Role of hormones in sexual reproduction.

UNIT – 3

- i. Human diseases: causes, symptoms, prevention and cure: AIDS, tuberculosis, Filaria and Malaria.
- ii. Applied Zoology: Importance of poultry farming-Breeds of poultry, Egg As food, Care of egg laying hen, poultry appliances. Excreta as manure

UNIT-4

Biotechnology: Introduction and Scope, Basic idea of cell, tissue and organ culture in-vitro. Recombinant DNA, gene cloning, gene therapy, application of recombinant DNA technology, basic idea of human genome project.



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ZOOLOGY PRACTICAL – I (Based on paper -I)

The following practicals of **Earthworm** to be taught/studied **only** with the help of charts, models, videos, photographs, permanent slides, working models, simulators etc.

- (1) Earthworm: External features, Digestive System, Mounting of blood gland, Spermatheca.
- (2) Earthworm: Reproductive system, Mounting of setae and septal nephridia
- (3) Earthworm: Nervous system
- (4) Permanent Slides of earthworm: testis, ovary, pharyngeal nephridia, integumentary nephridia, T.S. passing through pharynx, T.S. passing through gizzard and T.S. passing through typhlosolar region.
- (5) To study the control of food ingestion in animals and T.S. of intestine of mammals to show villi for absorption with help of charts/ slides/models.
- (6) To study Different types of reproduction and role of sexual hormones (charts/slides/photographs/models etc.).
- (7) Human Diseases – AIDS, Filariasis, Malaria, Tuberculosis
- (8) Poultry appliances: Brooder, feeder, water appliances and candling instrument.



B.Sc. SEM – II
ZOOLOGY PAPER – II (Z – 202)

UNIT – 1

Taenia solium : Systematic position, Life cycle, Pathogenicity (effect on host) and parasitic adaptation

UNIT - 2

Biological Chemistry: Definition of Ph. Buffers in Biological Systems.

Introduction to constituents of balanced diet – sources, functions and deficiency status.

UNIT - 3

Wild life biology: Definition of national park, sanctuary and wild life

- i. Concept, importance and perspective – Introduction of need for wildlife conservation and management in India, causes of depletion of wild life in India.
- ii. Study of Gir national park, marine national park and Nal sarovar bird sanctuary.
- iii. Wildlife Protection Act (1972) and its amendments.

UNIT – 4

- i. **Fisheries:** Study of following different fishes with reference to its fisheries:
Bombay duck,
Pearl oyster,
Prawn
- ii. **Adaptations in animals:** Arboreal, aquatic, Volant and desert.



B.Sc. SEM – II
ZOOLOGY PRACTICAL – II (Based on paper - II)

- (1) Life cycle of *Taenia solium* (Charts/models/slides etc.).
- (2) Feedback control and regulation of hormones (charts/models/photographs).
- (3) **Wild life Biology:** Gir national park, Marine national park and Nalsarovar bird sanctuary of Gujarat.
- (4) **Ecological adaptations:** (With the help of charts/ Photographs/models)
 - i. Arboreal: Chameleon, Squirrel
 - ii. Aquatic: Sucker fish, Flat fish
 - iii. Volant: Draco, Exocoetus
 - iv. Desert: *Phrynosoma*, *Uromastix*.
- (5) **Fisheries:** Pearl oyster, Bombay duck, Prawn.

