

B.sc. Part-I Zoology Theory

PAPER-I

A: PROTOZOA, PORIFERA, COELENTERATA

General classification of the non-chordate phyla upto classes. The structure, habits and post embryonic development including larval forms of the non-chordate types and special topics against each phylum mentioned below:

Protozoa- *Monocystis, Leishmania*

- Protozoa and human diseases

Porifera- Sycon

- Canal system in Porifera

Coelenterata- *Obelia*

General characters and affinities of Ctenophora;

Coral reef formation.

B: PHYSIOLOGY

Physiology of processes in animals with special reference to man

Physiology of

- Circulation,
- Digestion,
- Respiration,
- Excretion

Endocrine system:

Functions of various glands and their secretions.

PAPER II

A: PLATYHELMINTHES, ASCHELMINTHES AND ANNELIDA

Platyhelminthes – *Schistosoma*

Host- parasite relationship

Parasitic adaptations in Platyhelminthes

Aschelminthes - *Wuchereria bancrofti*

Annelida- *Nereis, Hirudinaria*;

Segmental organs

B: BIOCHEMISTRY

Characteristics, classification and nature of proteins, carbohydrates and lipids.

Glycolysis, Krebs` s cycle, oxidative phosphorylation, gluconeogenesis, Cori Cycle

Enzymes-nature, properties, classification, co-enzymes, Prosthetic group, mode of action of enzymes with special reference to induced fit theory.

Vitamins, classification, importance and sources of vitamins.

PAPER III

A: ARTHROPODA, MOLLUSCA, ECHINODERMATA AND HEMICHORDATA

Arthropoda- *Palaemon*

General character and affinities of *Peripatus*

Mollusca- *Pila*

- Torsion and detorsion

Echinodermata- *Asterias*

- Water vascular system in Echinodermata

Hemichordata – *Balanoglossus*

- Affinities of Hemichordata

B: TAXONOMY AND EVOLUTION

TAXONOMY

Principles of systematics and taxonomy

Evolutionary history of taxonomy

Objectives of classification

- Theories of classification, grouping and ranking, Diversity of individuals
- Principles of hierarchy

Definition, use and application of International code of Zoological Nomenclature

EVOLUTION

Synthetic theory of evolution

- Selection, Mutation
- Migration, Genetic drift
- Isolation, Speciation