

SUBJECT : ZOOLOGY

Full Marks : 100

Time : 1 Hour 30 Minutes

Section – I :

1. Classification of Protozoa up to Phyla.
2. Structural organization and reproduction in Paramoecium.
3. Classification upto subclass ; Porifera to Echinoderm.
4. Coral reef : Types and formation.
5. Locomotion in Protozoa.
6. Canal system in Porifera.
7. Nervous system in Mollusca
8. Respiration in Arthropoda.
9. Affinities in Onychophora, Balanoglossus.
10. Classification of Chordata upto order.
11. Structural organization of Lates.
12. Axolotl Larva and its importance.
13. Difference between poisonous and non-poisonous snakes.
14. Migration of birds.
15. Dentition in mammals.
16. Comparative anatomy of Heart, Aortic arches, and Kidney in Vertebrates.

Section – II :

1. Principles of optical and electron microscopes.
2. Ultra structure and functions of Plasma membrane, Mitochondria, golgi complex, Endoplasmic reticulum and Lysosome.
3. Physico-chemical properties of DNA and RNA, Nucleosome concept.
4. Sex determination in Drosophila and Man.
5. Replication, Transcription and Translation.
6. 3-point gene mapping in diploid.
7. Inborn metabolic errors : Albinism, Haemophilia, thalassaemia.
8. Gametogenesis.
9. Fertilization.

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Section – III :

1. Geological time scale.
2. Origin of life.
3. Origin and Evolution of Horse.
4. Theories of Evolution : Darwinism & Neo Darwinism.
5. Hardy-Weinberg principles (application in autosomal alleles).

Section – IV :

1. Taxonomy, Systematics and classification.
2. Mode of speciation.
3. Biological species concept.
4. Concept of Energy flow, Food chain and food Web.
5. Ecological succession.
6. Concept of biodiversity : Types of biodiversity, biodiversity and human welfare.
7. Life cycle, Pathogenesis, clinical features and control of : Taenia, Ascaris, Plasmodium, Leishmania and Wuchereria bancrofti.

Section – V :

1. Structure of mammalian nephron and mechanism of Urine formation.
2. Propagation of nerve impulse.
3. Transport of CO₂ and O₂ in mammals.
4. Structure of eye and mechanism of vision in mammals. Structure of ear and mechanism of hearing in mammals.
5. Aquaculture : Induced breeding in carp culture. Fresh water and brackish water prawn culture, Pearl culture.
6. Sericulture : Mulberry silk worm culture; diseases of silk worm and their control.
7. Apiculture : Apiculture technique; diseases of honey bees and their control.