
ZOOLOGY

1. **Cell structure and function** : Structure of an animal cell, nature and function of cell organelles, mitosis and Meiosis, Chromosomes and genes, law of inheritance, mutation.

2. General survey and classification of non-chordates (upto sub classes) and chordates (upto orders) of following protozoa, porifera, coelenterate. Platyhelminthes, Ascheminthes, Annelida, Anthoropoda, Mollusca, Echinodermata and Chordata.

3. Structure, reproduction and life history of following types Amoeba, Monocystis, Plasmodium, Paramecium, Sycon, Hydra, Obelia, Fasciola, Tania, Ascaris, Neries, Pheretima, Leach, Prawn, Scorpion, Cockroach, a bivalve, a snail Balanoglossus, an Ascidian Amphoxus.

4. **Comparative anatomy of vertebrates** : Integument endoskeleton, locomotory organs, digestive system, respiratory system, heart and circulatory system, urino-genital and sense organs.

5. **Physiology** : Chemical composition of protoplasm, nature and function of enzymes, colloids and hydrogen ion concentration, biological oxidation, elementary physiology of digestion, excretion, respiration blood, mechanism of circulation with special reference to man nerve impulse, conduction and transmission across synaptic junction.

6. **Embryology** : Gametogenesis, Fertilization, Cleavage, gastrulation, early development and metamorphogenesis of frog. Ascidian and retrogressive metamorphosis neoteny development of foetal membrane in chick and mammals.

7. **Evolution** : Origin of life, principles and evidences of evolution, speciation, mutation and isolation.

8. **Ecology** : Biotic and abiotic factors, concept of eco-system, food chain and energy flow, adaptation of aquatic and desert fauna, parasitism and symbiosis. Factors causing environmental population and its prevention endangered species, Chronobiology and Circadium rhythm.

9. **Economic Zoology** : Beneficial and harmful insects.

10. **Genetics**: Mendelian laws of inheritance, recombination linkage and linkage maps, multiple, alleles, mutation (natural and inducted), mutation and evolution, meiosis, chromosome.