

ZOOLOGY

UNIT-I

Biology of Non-Chordates and Chordates

Protozoan parasites of man, Helminth parasites of man and parasitic adaptations, Larval forms in Echinoderms, Comparative study of the excretory organs and excretion in invertebrates, affinity of Protochordates, Parental care in Pisces and Amphibians, Origin of Tetrapoda, Flight adaptation in birds, Adaptive radiation in mammals, Aquatic mammals and their adaptations.

UNIT-II

Cell Biology, Genetics, Molecular Biology, Microbiology

Transport across cell membrane, Cell cycle and Cell division, Programmed Cell death, Gene interaction, human Genome Project, Chromosomal aberrations and their genetic consequences, Synthesis and processing of MRNA, Regulation of gene expression in prokaryotes, Genetic Code, Bacteriophage and its replication, Bacterial recombination.

UNIT-III

Physiology, Biochemistry, Endocrinology, Immunology

Blood Coagulation, Mechanism of Urine Formation in Man, Conduction of nerve impulses and synaptic transmission, three dimensional structures of Protein, Electron Transport Chain and ATP Synthesis, –Oxidation of fatty acids, Biological actions of Pituitary Hormones, Mechanism of Hormone Action, Immunity, Immunoglobulin.

UNIT-IV

Evolution, Ecology, Economic Zoology, Developmental Biology, Animal Taxonomy

Isolation, Natural selection, Environmental Pollution (Air, Water, Soil, Noise, Thermal, Nuclear), Biodiversity and its Conservation, Induced breeding in Carps, Pearl Culture, fertilization, Regeneration in Vertebrates, Stem-Cell Biology, Species Concept, Modern trends in Taxonomy, Rules of Biological Nomenclature.

UNIT-V

Bio-Technology, Instrumentation And Techniques, Biostatistics, Ethology

Recombinant DNA technology and Gene Cloning, Principles and Techniques of Polymerase Chain Reaction, Interferons, Transgenic animals, Spectrophotometry, Electrophoresis, Electron Microscopy, Tissue Fixation and Micrometry, Blotting Techniques, Tests of significance (t and Chi – Square tests), Correlation and Regression, Pheromones, Biological Clock.