

Syllabus for 2021

ZOOLOGY

UNIT-I

Biology of Non-Chordates and Chordates

Protozoan and Helminth parasites of man and parasitic adaptations, Comparative study of respiration and excretion in invertebrates, Affinity of Protochordates, Parental care in Amphibians, Origin of Tetrapoda, Flight adaptation in birds, Aquatic mammals and their adaptations, Comparative study of blood Vascular System and Urinogenital System of Vertebrates.

UNIT-II

Cell Biology, Genetics, Molecular Biology, Microbiology

Ultrastructure and functions of cell organelles, Cell cycle and Cell division, Programmed Cell death, Human Genome Project, Gene mutation, Chromosomal aberrations and their genetic consequences, DNA and RNA, Synthesis and processing of mRNA, Regulation of gene expression, Genetic Code, Bacteriophage, structure and Reproduction of a Typical Bacterium.

UNIT-III

Physiology, Biochemistry, Endocrinology, Immunology

Transport of respiratory gases, Blood Coagulation, Mechanism of Urine formation in Man, Conduction of nerve impulses and synaptic transmission, Structure and classification of Proteins, Metabolism of Proteins, Carbohydrates and Nucleic Acids, Hormones and Mechanism of Hormone Action in Man. Structure, function and diversity of antibodies, antibody- antigen reaction, Types of immunity, Vaccines.

UNIT-IV

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

Modern synthetic theory of evolution, Environmental Pollution (Air, Water, Soil, Noise, Thermal, Nuclear), Biodiversity and its Conservation, Induced breeding in Carps, Fresh water Pearl Culture, Gametogenesis, Fertilization and embryonic development up to three germ layers, Organizer concept and Embryonic induction, Regeneration, 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, Animal cloning, Transgenic animals, Spectrophotometry, Electrophoresis, Electron Microscopy, Tissue Fixation, Blotting Techniques, Tests of significance ('t' and Chi – Square tests), Correlation and Regression, Pheromones, Biological Clock, Instinct and learning.