

Syllabus: Zoology

UNIT 1 Cell and its structural organization and function of intracellular organelles: Cell membrane/wall, nucleus, mitochondria, Golgi bodies, lysosomes, endoplasmic reticulum.

Cell division and cell cycle: Mitosis and meiosis, their regulation, step in cell cycle. Biomolecules: structure, functions, properties and their significance (protein, carbohydrate, lipids, nucleic acids and vitamins)

UNIT 2 Mendelian Principle: Dominance, Segregation, independent assortment, deviation from Mendelian inheritance and genetic variation. Concept of gene and Genetic engineering, Cloning and Transgenics.

UNIT 3 Principles and methods of Taxonomy: Concepts of species and hierarchical taxa, biological nomenclature, classical and quantitative methods of taxonomy, animals and microorganisms.

UNIT 4 Level of structural organization: Unicellular, colonial and multicellular forms: levels of organisms of tissues, organs and systems, comparative anatomy of living animals.

Emergence of evolutionary thought: Lamarckism; Darwin-concepts of variation, adaptation, mutation struggle, fitness and evolutionary synthesis

UNIT 5 Ecological: Physical condition of environment: temperature, light and water, Biogeochemical cycles: Ecosystem, concept structure and function, food chain and food web: Energy flow; succession.

Aquaculture & Biodiversity: Culturable animals.

Fisheries Biology

Brief account of major fisheries in India and Madhya Pradesh. Freshwater and Marine fisheries. Insect pest and control, culture of beneficial insects. Harmful Insects.