

**Intermediate II YEAR - ZOOLOGY
(EFFECTIVE FROM 2004-2005)**

UNIT – I - PHYLUM: CHORDATA (6 Periods)

- a) General characters and out line classification of Chordata upto classes with typical examples.
- b) Fishes : Distinctive features of cartilaginous and Bony fishes with typical examples.
- c) Amphibia : Distinctive features of Urodela, Anura and Apoda with typical examples.

UNIT –II - REPTILIA, AVES AND MAMMALIA (6 Periods)

- a) Reptilia: Distinctive characters of Squamata, Rhynchocephalia, Crocodilia and Chelonia with typical examples.
- b) Identification of Poisonous and Non- Poisonous Snakes, Poison apparatus, toxicity of Snake venom and treatment of snake bite including the first aid.
- c) Aves: Distinctive features of Carinatae and Ratitae with typical examples.
- d) Mammalia: Distinctive features of Prototheria , Metatheria and Eutheria.

UNIT –III - FUNCTIONAL ANATOMY OF RABBIT – DIGESTIVE SYSTEM, RESPIRATORY SYSTEM AND CIRCULATORY SYSTEM (10 Periods)

- a) Digestive system of Rabbit
- b) Nutrition and Digestion
 - i) Role of Vitamins and minerals in nutrition.
 - ii) Digestion: The sequence of digestion and absorption
- c) Respiratory system of Rabbit –Mechanism of Respiration and Transport of respiratory gases.
- d) Circulatory system of Rabbit
 - i) Structure of Heart, Arterial and Venous systems
 - ii) Working of the heart of Rabbit
 - iii) Coagulation of blood.

UNIT- IV - FUNCTIONAL ANATOMY OF RABBIT –EXCRETORY, MUSCULO SKELETAL AND REPRODUCTIVE SYSTEM (10 Periods)

- a) Excretory system of Rabbit
 - i) Structure and function of Nephron
 - ii) Urine formation and its composition
- b) Musculoskeletal system.
 - i) Ultra structure and contraction of muscle-sliding filament theory only.
 - ii) Types of joints
- c) Reproductive system of Rabbit
 - i) Fertilization
 - ii) Development of Rabbit upto gastrulation-gestation and viviparity.

UNIT – V - FUNCTIONAL ANATOMY OF RABBIT NERVOUS AND ENDOCRINE SYSTEM (8 Periods)

- a) Central, Peripheral and autonomous Nervous systems in brief.
- b) Production and propagation of nerve impulse and reflex action.
- c) Endocrine system- Endocrine glands and the role of their hormones.

UNIT – VI - GENETICS (14 Periods)

- a) Mendel's laws
- b) Sex determination
- c) Sex linked inheritance
- d) Regulation of gene expression
- e) Blood group inheritance
- f) Basic concepts of Animal Breeding

UNIT –VII - ORGANIC EVOLUTION (10 Periods)

- a) Origin of Life
- b) Theories of Organic evolution
- c) Evidences of Organic evolution
- d) Hardy -Weinberg law
- e) Synthetic theory evolution (NeoDarwinism)

UNIT –VIII - APPLIED BIOLOGY (12 Periods)

a) Aquaculture

- i) List of animals of aquacultural importance in Tabular form only
- ii) Fisheries - Fish culture and rearing methods

b) Poultry

- i) Poultry farming methods
- ii) Layers and Broilers
- iii) Poultry diseases (Bacterial, Viral and Fungal – Three each)
- c) Immunity – AIDS, Hepatitis and Allergic reactions
- d) Biotechnology (Elementary aspects)(Transferred from First Year)
- e) Regulation of Cell cycle, Cancer biology, Stem cells (Elementary aspects) (Newly introduced)