

# **SYLLABUS**

## **CHORDATE : ZO (N) 201 and ZO (N) 201L**

### **BLOCK I (PRIMITIVE CHORDATES)**

#### **Unit 1: Origin of chordates**

Introduction and characters of chordates. Classification of chordates up to order level.

#### **Unit 2: Hemichordata**

General characters and classification up to order level. Study of *Balanoglossus* and its affinities.

#### **Unit 3: Urochordata**

General characters and classification up to order level. Study of *Herdmania* and its affinities.

#### **Unit 4: Cephalochordata**

General characters and classification up to order level. Study of *Branchiostoma* (*Amphioxus*) and its affinities.

#### **Unit 5: Cyclostomata (Agnatha)**

General characters and classification up to order level. Study of *Petromyzon* and its affinities.

### **Block II (Lower chordates)**

#### **Unit 6: Fishes**

General characters and classification up to order level. Types of scales and fins of fishes, *Scoliodon* as type study, migration and parental care in fishes.

#### **Unit 7: Amphibia**

General characters and classification up to order level, *Rana tigrina* as type study, parental care, neoteny and paedogenesis.

## **Unit 8: Reptilia**

General characters and classification up to order level, extinct reptiles. Uromastix as type study. Identification of poisonous and non-poisonous snakes and biting mechanism of snakes.

## **Block III (Higher chordates)**

### **Unit 9: Aves**

General characters and classification up to order level. Study of Columba (Pigeon) and Characters of Archaeopteryx. Flight adaptations bird migration

### **Unit 10: Mammalia**

General characters and classification upto order level, affinities of Prototheria, Metatheria and Eutheria. Study of rabbit (Oryctolagus) and dentition in mammals. Economic importance of mammals.

## **UNIT WISE CONTENT ZO (N) 201L**

A complete record of laboratory work will be maintained by every student. The practical work will be consists of following:

### **Block I: Chordate**

#### **Unit1: Protochordata (study of Permanent slides & Museum specimens)**

- 1.1 Study of Permanent slides: Amphioxus and Balanoglossus passing through different body regions, Doliolum, Salpa, Oikopleura
- 1.2 Museum specimens of Herdmania, Ciona and Balanoglossus.
- 1.3 Cyclostomata: Museum specimens of Petromyzon and Myxine

#### **Unit 2: Pisces (Fishes)**

- 2.1 Model on general anatomy, afferent and efferent branchial arteries, carnial nerves and internal ear of Scoliodon
- 2.2 Study of permanent slides of shark T.S. Passing through different body regions and different kinds of scales of fish.

2.3 Study of Museum specimens of following: Sphyrna, Pristis, Torpedo, Trygon, Acipenser, Polypterus, Hippocampus, Exocoetus, Anguilla, Echeneis, Diodon, Protopterus, Synaptura and Chimera

### **Unit 3: Amphibia**

3.1 Model on cranial nerves, hyoid apparatus, brain and columella of frog.

3.2 Study of skeleton of frog and permanent histological slides of amphibia.

3.3 Study of museum specimens of Salamandra, Proteus, Amphiuma, Nectures, Siren, Ambyostoma, Axototal larva, Rhacophorus, Alytes and Hyla, Pipid and Bufo.

### **Unit 4: Reptilia**

4.1 Study of skeleton of Varanus.

4.2 Study of museum specimens of following: Varanus, Heloderma, Hemidactylus, Phrynosoma, Chaemelon, Draco, Calotes, Cobra, Pit-viper, Pitless viper, Rattle snake, Krait, Dhaman, Typhlops and marine snake, Alligator, Crocodile, Gavialis, Turtle and Tortoise.

### **Unit 5: Aves**

5.1. Study of the skeleton of fowl.

5.2. Study of museum specimens of following: Psittacula, Corvus, Pavo, Bubo, and model/chart of Archaeopteryx.

### **Unit 6: Mammalia**

6.1 Study of permanent slides of mammals.

6.2 Study of the skeleton of rabbit

6.3 Study of the museum specimens of Tachyglossus and Ornithorhynchus (models), Pangolin, Funambulus, Pteropus and Loris.