

# VERTEBRATES (MSCZO-601)

## Block I: Biology of chordates

### Unit 1: Taxonomy and Origin of chordates

- 1.1 Objectives
- 1.2 Introduction
- 1.3 Classification of the Chordates up to order level
- 1.4 Habit & Habitats
- 1.5 Characteristic features
- 1.6 Origin, evolution and Adaptive Radiation of Chordates
- 1.7 Summary
- 1.8 Terminal Questions and Answers

### Unit 2: Protochordates

- 2.1 Objectives
- 2.2 Introduction
- 2.3 Salient features of Protochordates
  - 2.3.1 Hemichordata
  - 2.3.2 Urochordata
  - 2.3.3 Cephalochordata
- 2.4 Affinities and Interrelations
- 2.5 Summary
- 2.6 Terminal Questions and Answers

### Unit 3: Agnatha & Gnathostomes

- 3.1 Objectives
- 3.2 Introduction
- 3.3 Origin and evolution of Agnatha: Ostracoderms and Cyclostomes
  - 3.3.1 General characters of Agnatha
- 3.4 The early Gnathostomes (Placoderms)
- 3.5 Summary
- 3.6 Terminal Questions and Answers

### Unit 4: Pisces

- 4.1 Objectives
- 4.2 Introduction
- 4.3 A general account of the Elasmobranchii, Holocephali, Dipnoi and Crossoptergii
- 4.4 Adaptive radiation in bony fishes
- 4.5 Summary
- 4.6 Terminal Questions and Answers

## Block II

### Unit 5: Amphibia:

- 5.1 Objectives
- 5.2 Introduction
- 5.3 Origin, evolution and adaptive radiation of Amphibia
- 5.4 Axolotl larva and its evolutionary significance
- 5.5 Affinities of Pisces and Amphibia
- 5.6 Summary
- 5.7 Terminal Questions and Answers

### Unit 6: Reptilia

- 6.1 Objectives
- 6.2 Introduction
- 6.3 Origin, Evolution and Adaptive Radiation of Reptiles: Seymouria and Cotylosauri
  - 6.3.1 General account and affinities
- 6.4 Skull of Reptiles
- 6.5 Venom in Ophidians
- 6.6 Dinosaurs
- 6.7 Living Reptiles a brief account of
  - 6.7.1 Rhynchocephalia
  - 6.7.2 Chelonia
  - 6.7.3 Crocodilia
  - 6.7.4 Squamata
- 6.8 Summary
- 6.9 Terminal Questions and Answer

**Unit 7: Aves**

- 7.1 Objectives
- 7.2 Introduction
- 7.3 Origin and Evolution of birds
- 7.4 Origin of flight: Flight adaptations
- 7.5 Ratitae (Flightless Birds)
- 7.6 Modifications of Beak, Feet and Palate in Birds
- 7.7 Affinities of birds
- 7.8 Birds migration
- 7.9 Summary
- 7.10 Terminal Questions and Answers

**Unit 8: Mammalia**

- 8.1 Objectives
- 8.2 Introduction
- 8.3 Origin of Mammals
- 8.4 Organisation, Distribution and Affinities of Primitive Mammals (Prototheria and Metatheria)
- 8.5 General account on Adaptive Radiations in Mammals
- 8.6 Dentition in Mammals
- 8.8 Summary
- 8.9 Terminal Questions and Answers