

**Course V: Laboratory Exercise (MSZO -505 L) Practical Zoology**

Candidates must produce at the time of practical examination their preparations, collection and practical record books containing a complete record of the laboratory work done during the session. The practical work shall comprise:

**Unit Schedule:**

**Block I**

Unit 1: Study of permanent prepared slides of different Phyla.

Unit 2: Study of the museum specimens belonging to the different invertebrate phyla.

Unit 3: Permanent slide preparations of the material available/provided.

Unit 4: Parasitology: Study of life-cycle of some parasites through charts, models or live materials.

**Block II**

Unit 5: Evolution

Unit 6: Systematics

Unit 7: Physiology Experiments

Unit 8: Bio-chemistry Experiments

## **Course V: Laboratory Exercise (MSCZO -505 L) Practical Zoology**

### **Unit Wise Contents**

Candidates must produce at the time of practical examination their preparations, collection and practical record books containing a complete record of the laboratory work done during the session. The practical work shall comprise:

#### **Unit 1: Study of permanent prepared slides of different Phyla**

- 1.1 Objectives
- 1.2 Introduction
- 1.3 Prepared slides study of Invertebrate Phyla
- 1.4 Summary
- 1.5 Terminal questions & Answers

#### **Unit 2: Study of the Museum Specimens Belonging to the Following Invertebrate Phyla**

- 2.1 Objectives
- 2.2 Introduction
- 2.3 Museum specimens of Invertebrate Phyla
  - 2.3.1 Protozoa
  - 2.3.2 Porifera
  - 2.3.3 Coelentrata
  - 2.3.4 Platyhelmenthis
  - 2.3.5 Nematoda
  - 2.3.6 Annelida
  - 2.3.7 Arthropoda
  - 2.3.8 Mollusca
  - 2.3.9 Echinodermata
- 2.4 Summary
- 2.5 Terminal Questions and Answers

#### **Unit 3: Permanent slide preparations of the material available/provided**

- 3.1 Objectives
- 3.2 Introduction
- 3.3 Permanent preparations of the material provided
- 3.4 Summary
- 3.5 Terminal Questions and Answers

#### **Unit 4: Parasitology: Study of life-cycle of some parasites through charts, models or live materials**

- 4.1 Objectives
- 4.2 Introduction
- 4.3 Parasitology: Life cycle study of parasites
- 4.4 Summary
- 4.5 Terminal Questions and Answers

## **Unit 5: Evolution**

- 5.1 Objectives
- 5.2 Introduction
- 5.3 Study of evolution of Horse, Elephant, and Man (through charts/ models.)
- 5.4 Adaptive modification in feet of Birds/mouthparts of Insects (through charts/ slides).
- 5.5 Embryological evidences of Evolution (through chart).
- 5.6 Analogy and Homology (wings of Birds and Insects, forelimbs of Bats and Rabbits through charts.)
- 5.7 Summary
- 5.8 Terminal Questions and Answers

## **Unit 6: Systematic**

- 6.1 Objectives
- 6.2 Introduction
- 6.3 Identification of local fauna on the basis of their morphological characters (5 each)
- 6.4 Construction of a dichotomous key
- 6.5 Zoological names of some local fauna (Mammals and Birds)
- 6.6 Summary
- 6.7 Terminal Questions and Answers

## **Unit 7: Physiology Experiments**

- 7.1 Objectives
- 7.2 Introduction
- 7.3 Estimation of total Leucocytes number per cubic mm
- 7.4 Differential count of Leucocytes
- 7.5 Estimation of total Erythrocyte count per cubic mm of blood
- 7.6 Summary
- 7.7 Terminal Questions and Answers

## **Unit 8: Bio-chemistry Experiments**

- 9.1 Objectives
- 9.2 Introduction
- 9.3 Chemical test of Urine for the presence of Urea, Sugar, Proteins and Ketone Bodies
- 9.4 Tests for Carbohydrates, Proteins and Lipids
- 9.5 Determination of Hemoglobin (%) in human blood; also calculation of color index and the mean corpuscular hemoglobin concentration
- 9.6 Summary
- 9.7 Terminal Questions and Answers