COURSE V: LABORATORY EXERCISE (MSCZO -605 L) PRACTICAL ZOOLOGY

Block I: Vertebrates, Developmental Biology, Biostatistics and Microbiology

Unit 1: Microtome of vertebrate tissues

1.1 Objectives
1.2 Introduction
1.3 Material and methods
1.4 Observation
1.5 Results/ Exercise

Unit 2: Study of the skeleton

2.1 Objectives
2.2 Introduction
2.3 Skeleton study of Frog, *Varanus, Chelonia*, crocodile, snake, rabbit
2.4 Vertebrae and skull of poisonous and non-poisonous snake
2.5 Gallos and various types of palate
2.6 Skull of bat, dog, hedgehog, monkey, sheep, rodent and other mammal
2.7 Summary
2.8 Terminal Questions and Answers

Unit 3: Study of permanent slides of Protochordates and chordates

3.1 Objectives
3.2 Introduction
3.3 Study of permanent slides
3.3.1 Protochordates
3.3.2 Chordates
3.4 Summary
3.5 Terminal Questions and Answers

Unit 4: Study of the museum specimens of Protochordata and of the different classes of vertebrates

4.1 Objective
4.2 Introduction
4.3 Study of Muséum spécimens
4.3.1 Protochordata
4.3.2 Chordata
4.4 Summary
4.5 Terminal Questions and Answers

Block II:

Unit 5: Exercices on Developmental Biology & Endocrinology

5.1 Objectives
5.2 Introduction
5.3 Study of eggs from collected / preserved material
5.4 Study of development of frog, chick through models/charts/slides
5.5 Study of chick embryos from 16-18 hrs, 24-28 hrs 33-36 hrs, 42-72 hrs of development (Whole mount models, charts)
5.6 Study of development of chick by window preparation
5.7 Endocrine glands of rat, insect (Location through models, Charts)
5.8 Endocrine disorders (Photographs)
5.9 Summary
5.10 Terminal Questions and Answers

Unit 6: Instrumentation

6.1 Objective
6.2 Introduction
6.3 General principle, functioning and utility of some common instruments
6.3.1 Microscopes, Microtome's, Colorimeter
6.3.2 Spectrophotometer, Centrifuge, Autoclave and Electrophoresis
6.4 Summary
6.5 Terminal Questions and Answers

Unit 7: Biostatistics Exercise

Introduction
Objectives
Calculation of mean, median, mode, standard deviation, standard error
Chi- square test and Student- t- test from the data provided
Results
Summary
Terminal Questions and Answers

Unit 8: Microbiology Experiments

Objectives
Introduction
Preparation of culture media for bacteria
Staining of microorganisms
Antibiotic sensitivity test
Bacteriological testing of milk
Summary
Terminal Questions and Answers