

## **Course V: Laboratory Exercise (MSCZO-510) Practical Zoology**

### **UNIT WISE CONTENTS (MSCZO-510)**

#### **Unit 01: Cytology Experiment**

- 1.1 Objectives
- 1.2 Introduction
- 1.3 Study of different stages of Mitosis with the help of Onion Root Tip.
- 1.4 Study of different stages of Meiosis with the help of Grasshopper testis.
- 1.5 Laboratory preparation of following models using beads and wire:
  - 1.5.1 Adenosine triphosphate (ATP)
  - 1.5.2 DNA and RNA bases
  - 1.5.3 Nucleosides
  - 1.5.4 Nucleotides

#### **Unit 02: Experiment on Genetics**

- 2.1 Objectives
- 2.2 Introduction
- 2.3 Morphological study of *Drosophila* for Genetic Traits
- 2.4 Preparation of chromosomal maps in *Drosophila* based on percent of crossing over.
- 2.5 Genetics exercise (data to be provided)
- 2.6 Summary
- 2.7 Terminal Questions and Answers

#### **Unit 3: Experiments on Ecology: Calculation of the following shall be done on the basis of given data**

- 3.1 Objectives
- 3.2 Introduction
- 3.3 Calculation of similarity index between different communities
- 3.4 Calculation of concentration of dominance for different communities
- 3.5 Calculation of Shannon Weiner Index of diversity in different communities
- 3.6 Calculation of similarity index between different communities.
- 3.7 Calculation of concentration of dominance for different communities.
- 3.8 Determination of dissolved oxygen.
- 3.9 Determination of free CO<sub>2</sub> in water sample.

#### **Unit: 04 study of permanent cytological slide**

- 4.1 Objectives
- 4.2 Introduction
- 4.3 Prepared slide study of Meiosis and Mitosis
- 4.4 Summary
- 4.5 Terminal Questions and Answers