

## ZOOLOGY PAPER-I

### Cell Biology (Zoo-101)

Time Allowed : Three Hours

Maximum Marks : 67

Note : Attempt five questions in all, selecting one question from each unit and Question No. 1 is compulsory. Draw well labelled diagrams where required.

1. Explain briefly :

(a) Mordant

(b) Kinetochore

(c) C-value

(d) Oncogene

(e) Passive Immunity

(f) Endocytosis

(g) Karyotype

(h) Osmosis

(i) Active Transport

(j) TEM

10×1.5=15

#### UNIT-I

2. (a) What do you understand by Resolving Power of a microscope ?  
Give the factors which influence it. 7
- (b) Explain the principle of Electron Microscope. 6
3. (a) Describe the model which best explains the structure of Plasma Membrane and its functioning. 10
- (b) What are the two kinds of active groups in stains ? Give examples. 3

#### UNIT-II

4. (a) Discuss the structure and types of Endoplasmic Reticulum. 9
- (b) What is the role of ER in the cell ? 4
5. (a) Explain the structure and functions of Golgi Complex. 10
- (b) What is Mitochondrial DNA ? 3

### UNIT-III

6. (a) Discuss 'Lysosomal Polymorphism' and explain the role of lysosomes in the cell. 10  
(b) What is the role of centrosome in cell division? 3
7. (a) Explain the structure and composition of ribosomes. 10  
(b) Differentiate between eukaryotic and prokaryotic ribosomes. 3

### UNIT-IV

8. (a) Describe the nucleosome-solenoid model or Chromatin structure. 10  
(b) Differentiate between euchromatin and heterochromatin. 3
9. (a) Discuss the various types of Cancer. 9  
(b) What are the characteristics of Cancer Cells? 4