

Roll No. ....

Total Pages : 2

**MDE/D-23**

**4401**

## **CELL BIOLOGY**

Paper–M–Z 101

Time allowed : 3 Hours]

[Maximum Marks : 80

**Note :** Attempt **five** questions in all, selecting **one** question from each unit. Questions No. **1** is compulsory. All questions carry equal marks.

### **Compulsory Question**

1. Explain the following: 8×2=16
- (i) Glycocalyx
  - (ii) Gap junctions
  - (iii) Permeases
  - (iv) Receptor-ligand complex
  - (v) Endocytosis
  - (vi) Centriolar satellite complex
  - (vii) Cell cycle checkpoints
  - (viii) Nucleosome.

### **UNIT-I**

2. Describe the molecular composition, arrangement and functional consequence of plasma membrane. 16
3. What are microtubules? Describe their structure and organization in a cell. 16

### **UNIT-II**

4. Explain cell-cell adhesion with reference to  $Ca^{++}$  dependent and  $Ca^{++}$  independent adhesion. 16
5. Explain various modes of protein trafficking. 16

### **UNIT-III**

6. What is cell cycle? Explain different phases of eukaryotic cell cycle and its regulation. 16
7. Define Metastasis? Explain the development and various causes of cancer. 16

### **UNIT-IV**

8. What are Transposons? Describe transposons in prokaryotes. 16
9. Define Apoptosis. Explain the mechanism and significance of apoptosis. 16