

[Time: 03 Hours]

[ Marks:80]

Please check whether you have got the right question paper.

**N.B:**

1. Question no.1 is compulsory
2. Answer any 3 questions out of remaining 5 questions.
3. Figures to right indicate full marks.
4. Draw diagram wherever necessary

- |    |    |                                                                                        |    |
|----|----|----------------------------------------------------------------------------------------|----|
| 1. | a) | Write short notes on any four of the following                                         | 20 |
|    |    | a. Metastasis                                                                          |    |
|    |    | b. Endocytosis                                                                         |    |
|    |    | c. Cytoskeleton                                                                        |    |
|    |    | d. Osmosis                                                                             |    |
|    |    | e. Hemidesmosomes                                                                      |    |
| 2. | a) | Explain the structure of viruses. Enlist some important functions of viruses.          | 10 |
|    | b) | Write a note on structure & function of prokaryotic cell and eukaryotic cell.          | 10 |
| 3. | a) | Discuss the structural organization and function of nucleus and endoplasmic reticulum. | 10 |
|    | b) | Write a note on cell adhesion and roles of different adhesion molecules.               | 10 |
| 4. | a) | Draw & explain in short with labelled diagram of the following                         | 10 |
|    |    | a) Animal cell b) Prophase of Meiosis c) Nuclear pore complex d) Phagocytosis          | 10 |
| 5. | a) | Explain gap junction, desmosomes and tight junction with proper diagrams.              | 10 |
|    | b) | What is tumor? Explain characteristic of growing tumor.                                | 10 |
| 6. | a) | Discuss mechanism of programmed cell death.                                            | 10 |
|    | b) | Discuss different stages of mitosis.                                                   | 10 |