Roll No. | | | | | | | | | | | | | **Total No. of Pages: 02**

Total No. of Questions: 11

M.Sc. (BT) (Sem. – 2)

CELL AND DEVELOPMENTAL BIOLOGY

Subject Code: MBT-201

M Code: 76245

Date of Examination: 12-12-2022

Time: 3 Hrs. **Max. Marks: 70**

INSTRUCTIONS TO CANDIDATES:

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SEVEN questions carrying SIX marks each and students have to attempt any FIVE questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION - A

1. Write a brief account of:

   a) Morphogens

   b) Animal pole

   c) Potency

   d) Cot curve

   e) Wnt signal

   f) Peroxisomes

   g) Cell Cytoskeleton

   h) Stem cells

   i) Apoptosis

   j) Telomere shortening

SECTION - B

2. a) Differentiate between cell competence and specification. (3)

   b) Write about cell surface characteristics importantfor fertilization in Plants. (3)

3. Describe the process of oogenesis in animals. (6)

4. Explain the process of Root and shoot development in plants. (6)

5. Describe the structure and types of chromosomes. (6)

6. Write the importance of Induction in cell differentiation. (6)

7. Discus process of germination in plants. (6)

8. Describe role of Endoplasmic reticulum in secretion of proteins by cells. (6)

SECTION - C

9. Explain in detail Role of Gradients and cascades of protein during development of Drosophila. (10)

10. a) Describe the process of apoptosis. (5)

    b) Explain the Fluid mosaic model of plasma membrane. (5)

11. a) Discus signal transduction in animal cells. (6)

    b) Discus the process of fusion of genetic material during mammalian fertilization. (4)

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.