647510 MSCcelCm1010 Seat No :_____

M.Sc. (Micro) Semester - 1 (*CBCS*) Examination
Oct/Nov. -2019 - [NEW COURSE]
CELL BIOLOGY (CORE)

Time: 2:30 Hours **Marks: 70**

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

Q.1 Answer the following (*any 7*) **14**

1. Explain the function of microtubules.
2. What are 'cardiolipin' in Mitochondria?
3. What are thylakoids ?
4. State the types of Endoplasmic reticulum? Explain the difference between them.
5. What are onco-proteins?
6. What is endocytosis?
7. Define the term osmosis.
8. What do you mean by 'Blebbing'? Where do they occur
9. What are secondary messengers?
10. Write briefly the G2 and S mechanism in cell cycle

Q.2 Answer the following (any two) **14**

1. Explain in detail ultrastructure of plasma membranes
2. Write a note on special type of chromosomes
3. Elaborate the ultrastructure of nucleus and explain nuclear complex

Q.3 Answer the following

1. Describe the ultrastructure of Chloroplast **05**
2. Explain the organelles: Lysosomes and Peroxisome **05**
3. Write a note on biogenesis of Mitochondria **04**

OR

Q.3 Answer the following **14**

1. Describe the mechanism of GERL system
2. What are Vacuoles? Explain the role of vacuoles in the cell.

Q.4 Answer the following

A. Attempt any two **10**

1. Explain – Active transport pump
2. Describe – Calcium dependent homophilic and non-homophilic cell adhesion
3. What do you mean by Intracellular junctions? Explain its functions

B. Attempt any one **04**

1. What are antiports and symports?
2. Explain the functions of Actin and Myosin

Q.5 Answer the following (any two) **14**

1. Write a note on cell biology approach of cancer
2. State the significance of cell surface receptors? Explain their mode of action.
3. What is 'Apoptosis'? Explain different types of pathways of apoptosis.
4. Discuss the mechanism of retrovirus in context to 'AIDS' in cell biology

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