

M.Sc. (Botany) Semester - 1 (CBCS) Examination
Nov/Dec - 2022 [NEW COURSE]
CELL BIOLOGY(CORE)

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

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

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- Q.1 Answer the following (any 7) 14**
1. State the differences in cell of microbial and plant?
 2. What are thylakoids ? Explain the role of thylakoids.
 3. Which types of proteins are found in nucleus?
 4. What is the major role of nucleolus in cell?
 5. State important function of Endoplasmic reticulum.
 6. What is the role of porins in Mitochondria?
 7. What are oncoproteins?
 8. What is endocytosis?
 9. Define the term microtubules.
 10. Write briefly the G1 and S mechanism in cell cycle
- Q.2 Answer the following (any two) 14**
1. Explain in detail ultrastructure of nucleus and nucleolus
 2. Elaborate complex of nuclear pore in the cell
 3. Write a note on ultrastructure of chromosomes
- Q.3 Answer the following**
1. Explain the ultrastructure of chloroplast **05**
 2. Write a note on biogenesis of mitochondria **05**
 3. What are Glyoxisomes ? Explain the role of vacuoles in the cell. **04**
- OR**
- Q.3 Answer the following (each of seven marks) 14**
1. State the mechanism performed by GERL system in the cell
 2. Describing the peculiar characteristics, write in detail the ultrastructure of Mitochondria
- Q.4 Answer the following**
- A. Attempt any two 10**
1. Write a note on ultrastructure of microfilaments
 2. Describe the ultrastructure of Actin and Myosin
 3. Explain – functions of IF and associated protein
- B. Attempt any one 04**
1. Write a note on Ca⁺⁺ dependent homophilic and non-homophilic cell –cell adhesion
 2. What are symports and antiports? Explain in detail
- Q.5 Answer the following (any two) 14**
1. What are cell surface receptors? Explain their mode of action.
 2. Explain in detail Extrinsic and Intrinsic pathway for programmed cell death.
 3. State the mechanism of cell transforming in to tumor cells
 4. Explain how retrovirus takes over the immune cells with respect to AIDS
