

M.Sc. (Micro) Semester - 1 (CBCS) Examination
Jan/Feb.-2022 [OLD COURSE]
CELL BIOLOGY(CORE)

Time: 1:30 Hours**Marks: 42****Instructions:**

1. Figures to the right indicate marks.
 2. There are five questions in the question paper.
 3. Answer any three of the following questions.
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- Q.1 Answer the following (any 7) 14**
1. What is role of flippase in the membrane?
 2. Write the major steps involved in G1/S transition
 3. Draw the labeled diagram of Nucleus?
 4. Explain the G2/M checkpoint.
 5. State important function of Endoplasmic reticulum and Golgi complex.
 6. Which part of thylakoid plays a major role in photosynthesis and how?
 7. Which compound works as a regulator in mitochondrial biogenesis?
 8. State the major function of glyoxisomes?
 9. What is role of spindle checkpoint?
 10. State the role of P53.
- Q.2 Answer the following (any two) 14**
1. Write the detailed ultrastructure with labeled diagram of Plasma membrane
 2. Describe some special types of Chromosomes
 3. Explain the regulation of CDK-cyclin activity
- Q.3 Answer the following**
1. Describe the structure and functions of Lysosomes and Peroxisomes **05**
 2. Write detail account of biogenesis of chloroplast **05**
 3. Explain the photosynthetic units and reaction centres in chloroplast **04**
- Q.4 Answer the following**
- A. Attempt any two 10**
1. Describe the ultrastructure of microfilaments and associated proteins.
 2. Explain diffusion and active transport and pumps
 3. Explain- Homophilic and non-homophilic cell adhesion
- B. Attempt any one 04**
1. State the functions of microtubules and microfilaments
 2. Ultrastructure of Actin and Myosin
- Q.5 Answer the following (any two) 14**
1. Explain: Ligand gated ion channel and Receptor Tyrosin Kinase
 2. Secondary messenger system- Discuss
 3. State the type of 'mutation' and explain the mechanism of 'Onco-genes'
 4. Describe cell biology of 'Retrovirus-HIV'
