

M.Sc. (Botany) Semester - 1 (CBCS) Examination
OCT/NOV-2024 (AS PER SYLLABUS YEAR JUNE-2018)
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) Define the term osmosis.
 - (2) What is function of the plasma membrane.
 - (3) State important chromosome models.
 - (4) Give some of the genes involved in cancer?
 - (5) State the role of the pore complex of nuclear envelope.
 - (6) Describe the importance of ion gated channel in the cell.
 - (7) Explain the function of actin and myosin.
 - (8) What is endocytosis?
 - (9) What is the role of PGC in the biogenesis of mitochondria?
 - (10) Write briefly the G1/ S transition in the cell cycle.
- Q.2 Answer the following (any two) 14**
- (1) Explain the microbial and plant cell wall.
 - (2) Describe the regulation of CDK – cyclin activity.
 - (3) Give the ultrastructure of nucleus and nucleolus.
- Q.3 Answer the following**
- (1) Describe Vacuoles and their roles in cell structure and function. **05**
 - (2) Explain the function of GERL system. **05**
 - (3) Write a note on photosynthetic units and reaction center. **04**
- OR**
- Q.3 Answer the following 14**
- (1) Explain the structure and functions of Mitochondria in the cell.
 - (2) State the biogenesis of chloroplast
- Q.4 Answer the following (any two) 10**
- (A) Attempt any two**
- (1) Write a note on ultrastructure of microtubules.
 - (2) Explain the functions of IF and associated proteins.
 - (3) What is diffusion? Explain its importance in transport across cell membrane.
- (B) Attempt any one 04**
- (1) What are antiports and symports?
 - (2) State the functions of microtubules.
- Q.5 Answer the following (any two) 14**
- (1) Explain the formation of oncogenes.
 - (2) Write a note on MDP-MAP kinase pathways.
 - (3) State the mechanism of retrovirus in human beings.
 - (4) What are cell surface receptors? Explain Receptor Tyrosin Kinase.
