

M.Sc. (Micro) Semester - 1 (CBCS) Examination
Nov/Dec-2023 (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) What are proto-oncogenes?
 - (5) State the role of the pore complex of nuclear envelope.
 - (6) Describe the importance of GPCR in the cell
 - (7) Explain the function of actin and myosin.
 - (8) What is exocytosis?
 - (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 in detail ultrastructure of chromosomes
 - (2) Describe the regulation of CDK – cyclin activity
 - (3) Write a note on special types of chromosomes
- Q.3 Answer the following**
- (1) Describe Vacuoles and their roles in cell structure and function **05**
 - (2) Explain the ultrastructure of Lysosomes and glyoxisomes **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 peroxisomes in the cell.
 - (2) State the mechanism of GERL system
- 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 uniports and symports?
 - (2) State the functions of microtubules
- Q.5 Answer the following (any two) 14**
- (1) Explain the formation of 'Tumor' cells in the living organism
 - (2) Write a note on MDP-MAP kinase pathways
 - (3) Explain the Mitochondrial apoptosis pathway in apoptosis.
 - (4) What are cell surface receptors? Explain Receptor Tyrosin Kinase
