

M.Sc. (Micro) Semester - 1 (CBCS) Examination
Nov/Dec-2023 (SYLLABUS YEAR JUNE-2016)
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 basic 'Cell Concept'
 - (2) State the differences between cell wall of plant, animal and microbes
 - (3) State major key points in structure of chromosomes.
 - (4) What are good proteins and bad proteins?
 - (5) State the role of the pore complex of nuclear envelope.
 - (6) Describe the function of Peroxisomes.
 - (7) Explain the function of actin and myosin.
 - (8) Write briefly on plasma membrane of cell
 - (9) What is exocytosis?
 - (10) Which compound/element plays the role in mitochondria in case of energy shortage in the cell?
- Q.2 Answer the following (any two) 14**
- (1) State and describe chromosomes models
 - (2) Describe the cyclin dependent kinase
 - (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) Write a note on photosynthetic units and reaction center **05**
 - (3) Explain the ultrastructure of Lysosomes **04**
- OR**
- Q.3 Answer the following 14**
- (1) Explain the structure and functions of Glyoxisome in the cell.
 - (2) Describe – Biogenesis of Mitochondria
- Q.4 Answer the following (any two) 10**
- (A) Attempt any two**
- (1) Write a note on active transport pumps.
 - (2) Explain the structure and functions of microfillaments
 - (3) Calcium dependent homophillic and non-homophillic cell adhesion
- (B) Attempt any one 04**
- (1) What are antiports and symports?
 - (2) What is diffusion? Explain its importance in transport across cell membrane
- Q.5 Answer the following (any two) 14**
- (1) How does the cancer cell develop? state the important process in its development
 - (2) Write a note on MDP-MAP kinase pathways
 - (3) Explain the Extrinsic apoptosis pathway in apoptosis.
 - (4) What are cell surface receptors? Explain Ion-gated channel receptor
