

M.Sc. (Botany) Semester - 1 (CBCS) Examination
OCT/NOV-2024 (AS PER SYLLABUS YEAR JUNE-2023)
Cell Biology (Core (New-23))

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) State the difference between microbial and Plant cell wall.
- (2) What is the important content present in the matrix of Mitochondria? State its role in the matrix.
- (3) What are Auto-phagosomes?
- (4) State different special types of chromosomes.
- (5) What is the characteristics of 'Retrovirus'. Which are the major receptors involved in HIV.
- (6) What is exocytosis?
- (7) Define the term diffusion.
- (8) State the function of actin and myosin.

Q.2 Answer the following (any two) (14)

- (1) Describe the special types of Chromosomes.
- (2) Write a note on the Cell cycle.
- (3) Explain the Pore complex of the Nuclear envelope.

Q.3 Answer the following (any two) (14)

- (1) Describe the biogenesis of Mitochondria.
- (2) Explain in detail the structure and function of Lysosomes and Peroxisomes.
- (3) Write a note on the ultrastructure of Chloroplast.

Q.4 Answer the following (any two) (14)

- (1) Ca^{++} dependent homophilic and non-homophilic cell-cell adhesion.
- (2) Explain the functions of intracellular junctions.
- (3) Describe the role of IF and associated proteins.

Q.5 Answer the following (any two) (14)

- (1) What are Cell Surface Receptor? Explain any two-cell surface receptor.
- (2) What is the importance of "Programed Cell Death". Describe intrinsic pathway in detail.
- (3) Describe the mechanism of retrovirus entering into the immune system.
