

Roll No.

--	--	--	--	--	--	--

25-BO-24

**M.Sc. II SEMESTER [MAIN/ATKT] EXAMINATION
MAY - JUNE 2025**

BOTANY

Paper - IV
[Cell Biology]

[Max. Marks : 75]

[Time : 3:00 Hrs.]

[Min. Marks : 26]

Note : Candidate should write his/her Roll Number at the prescribed space on the question paper.
Student should not write anything on question paper.
Attempt all five questions. Each question carries an internal choice.
Each question carries **15 marks**.

Q. 1 Explain cell wall under the following headings –

1. Biogenesis
2. Structure
3. Chemical Composition
4. Functions

OR

Describe organization and role of cytoskeleton in detail.

Q. 2 Describe structure and functions of vacuoles and tonoplast membrane in detail.

OR

Give a detailed account of plasma membrane including its structure, models and functions.

Q. 3 Describe nucleus under the following –

1. Ultra structure
2. Nuclear pore
3. Nucleolus

OR

Explain structure, genome organization and biogenesis of mitochondria in detail.

P.T.O.

Q. 4 Define the cell cycle in brief. Explain the process of meiosis in detail with suitable diagrams.

OR

Describe in detail -

1. Role of cyclins and cyclin dependent kinase
2. Mechanism of programmed cell death

Q. 5 Describe origin, types and cytological behavior of -

1. Deficiency
2. Duplication
3. Inversion
4. Translocation

OR

Explain aneuploidy and polyploidy in detail.

—○—