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**WT—139—2024**

**FACULTY OF SCIENCE**

**M.Sc. (First Year) (Second Semester) EXAMINATION**

**NOVEMBER/DECEMBER, 2024**

**(CBCS/New Pattern)**

**BOTANY**

**Paper VII**

**(Cell Biology, Genetics and Plant Breeding)**

**(Friday, 13-12-2024)**

**Time : 10.00 a.m. to 1.00 p.m.**

*Time—3 Hours*

*Maximum Marks—75*

*N.B. :—* (1) Attempt *All* questions.

(2) *All* questions carry equal marks.

(3) Draw well labelled diagrams wherever necessary.

1. Describe structural organisation and functions of cell wall. 15

*Or*

Describe process and significance of meiosis.

2. Explain in detail complementary gene interaction with suitable example. 15

*Or*

Describe Mendel's laws of inheritance with suitable examples.

3. Describe different types of chromosomal aberrations. 15

*Or*

Give Hardy Weinbergs law and describe its applications to calculate gene frequencies in a population.

P.T.O.

4. What is hybridization ? Describe process and significance of hybridization in plant breeding. 15

*Or*

What are mutagens ? Describe types and mechanism of their action.

5. Write short notes on (any *three*) : 15
- (a) Lysosomes
  - (b) Additive interaction of gene
  - (c) Karyotype
  - (d) Incompatibility.