

B. Sc 2441 - Botany Paper - I (Cell Biology, Genetics and Plant Breeding)

P. Pages : 2

Time : Three Hours



GUG/W/16/5596

Max. Marks : 50

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- Notes : 1. All questions are compulsory.
2. Illustrate your answers with suitable examples and draw well labelled diagrams wherever necessary.

1. Describe ultrastructure and functions of plant cell wall. **10**

OR

Write on-

a) Mendel's Law of independent Assortment. **5**

b) Complementary gene (9:7) **5**

2. Discuss the copy choice and breakage and reunion hypothesis of crossing over. **10**

OR

Write on-

a) Spontaneous and Induced Mutation. **5**

b) Pure line selection. **5**

3. Write notes on-

a) Endoplasmic reticulum. **2½**

b) Mitochondrial DNA **2½**

c) Deletion. **2½**

d) Heterosis. **2½**

OR

e) Cytokinesis **2½**

f) Mendel's First Law. **2½**

g) Significance of Linkage. **2½**

h) Physical mutagens. **2½**

4. Write notes on-
- a) Typical plant cell (Diagram only). 2½
 - b) Plastid DNA. 2½
 - c) Duplication. 2½
 - d) Clonal selection. 2½

OR

- e) Mitochondria (Diagram only) 2½
- f) Incomplete dominance. 2½
- g) Linkage and its types. 2½
- h) Chemical mutagens. 2½

5. Write on **any ten** of the following within two or three lines only (Diagrams are not necessary). **10**

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|--------------------------|-----------------|
| a) Thylakoid | b) Synapsis |
| c) Nuclear sap | d) Genotype |
| e) Locus | f) Epistasis |
| g) Coupling | h) Aneuploidy |
| i) Pericentric Inversion | j) Lethal gene |
| k) Mutation | l) Emasculation |
