

B.Sc. (CBCS Pattern) Sem-V
012A - Botany-I : Genetics and Plant Breeding-I

P. Pages : 2

Time : Three Hours



GUG/W/22/13099

Max. Marks : 50

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- Notes : 1. All questions are compulsory and carry equal marks.
2. Solve your answers with suitable examples and draw well labelled diagram wherever necessary.

1. Write on:
- a) Polymeric Gene Interaction (9:6:1). 5
 - b) Multiple allelism. 5

OR

Write short note on:

- c) Law of segregation. 2½
- d) Lethal gene (2:1). 2½
- e) Co-dominance 2½
- f) Pleiotropism. 2½

2. Write on:
- a) Kappa particles in *Paramecium*. 5
 - b) Construction of genetic maps with 2-point test cross data. 5

OR

Write short note on:

- c) Leaf variegation in *Mirabilis jalapa* 2½
- d) Chromosome theory of inheritance. 2½
- e) Turner's syndrome 2½
- f) Lyon's hypothesis 2½

3. Write on:
- a) Objectives of Plant Breeding 5
 - b) Centre of origin of plants. 5

OR

Write short note on:

- c) Undesirable consequences of plant breeding. 2½
- d) Achievements of plant breeding (any five) 2½
- e) Apomixis. 2½
- f) Changes in plant species during domestication. 2½

4. Write on:
- a) Procedures of plant introduction. 5
 - b) Kinds of plant genetic resources. 5

OR

Write short note on:

- c) Emasculation 2½
 - d) Clonal selection 2½
 - e) Merits and demerits of plant introduction. 2½
 - f) Consequences of hybridization. 2½
5. Write **any ten** questions in one or two lines only **10**

(Diagrams are not necessary)

- a) Heredity
- b) Traits
- c) Hybrid
- d) Mutation
- e) Cytoplasmic gene
- f) Maternal effect
- g) Plant breeder
- h) Father of green revolution in India.
- i) Dwarf variety
- j) Acclimatization
- k) Mass selection
- l) Pure line
