

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

P. Pages : 2

Time : Three Hours



GUG/S/25/13099

Max. Marks : 50

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- Notes : 1. All questions are compulsory and carry equal marks.
2. Draw well labelled diagram wherever necessary.

1. Write notes on:

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|-----------------------------------|---|
| a) Dominant epistasis (12:3:1) | 5 |
| b) Law of independent assortment. | 5 |

OR

Write short notes on:

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

2. Write notes on:

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|---|---|
| a) Kappa particles in <u>Paramecium</u> . | 5 |
| b) Sex determination in plants. | 5 |

OR

- | | |
|--------------------------------------|----|
| c) Sex determination in human. | 2½ |
| d) Chromosome theory of inheritance. | 2½ |
| e) Kline filter syndrome. | 2½ |
| f) Lyon's hypothesis | 2½ |

3. Write notes on:

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|-----------------------------------|---|
| a) Achievement of plant breeding. | 5 |
| b) Vavilov's centre of origin. | 5 |

OR

Write short notes on:

- | | |
|--|----|
| c) Undesirable consequences of plant breeding. | 2½ |
| d) Objectives of plant breeding. | 2½ |

e) Modes of vegetative reproduction. 2½

f) Domestication of plants. 2½

4. Write notes on :

a) Procedure of plant introduction. 5

b) Emasculation. 5

OR

Write short notes on:

c) Merits & demerits of mass selection. 2½

d) Clonal selection. 2½

e) Merits & demerits of plant introduction. 2½

f) Advantages & disadvantages of hybridization. 2½

5. Write **any ten** questions in one or two lines only. (Diagrams are not necessary) 10

a) Heterozygous

b) Genome

c) F1 generation

d) Mutation

e) Cytoplasmic gene

f) Genetic map

g) Plant breeding

h) Apomixis

i) Domestication

j) Back cross

k) Pedigree method

l) Bagging
