B.Sc. T.Y. (C.B.C.S. Pattern) Sem-V

Botany DSE Paper-I - Genetics and Plant Breeding-I

P. Pages : 2 **GUG/W/19/13099**

Time : Three Hours * 3 8 8 9 * Max. Marks : 50

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

1. Write On

a) Explain the characteristics of multiple alleles. Give one suitable example. **5**

b) Describe dominant epistasis (12:3:1) with suitable example. **5**

OR

Write short notes on

c) Co-dominance. **2½**

d) Polymeric gene interaction. **2½**

e) Pleiotropism **2½**

f) Law of segregation. **2½**

2. Write on

a) Explain chromosome theory of inheritance. **5**

b) Describe Gene mapping with 3-point test cross. **5**

OR

Write short on-

c) Kappa particles in Paramecium. **2½**

d) Sex determination in Melandrium album **2½**

e) Leaf variegation in Mirabilis Jalapa **2½**

f) Turner syndrome **2½**

3. Write On

a) Describe different modes of Asexual reproduction in crop plants with suitable examples. **5**

b) Explain centers of origin. **5**

OR

Write short note on –

c) Important achievement of plant breeding. **2½**

d) Objectives of plant breeding. **2½**

e) Undesirable consequences of plant breeding. **2½**

f) Domestication of plants. **2½**

4. Write on:

a) Clonal selection for vegetatively propagated plants. **5**

b) Objectives and types of hybridization. **5**

OR

Write short note on –

c) Plant genetic resources. **2½**

d) Recurrent selection. **2½**

e) Merits and demerits of plant introduction. **2½**

f) Emasculation. **2½**

5. Write answers to **any ten** questions in one or two lines. **1x10**

a) Lethal gene
b) Alleles
c) Phenotype
d) Barr bodies
e) Cytoplasmic inheritance.
f) Klinefelters syndrome
g) Sporogenesis.
h) Plant breeding (definition)
i) Nobilization.
j) Quarantine
k) Acclimatization.
l) Tagging

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