

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

P. Pages : 2

Time : Three Hours



GUG/W/23/13100

Max. Marks : 50

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

1. Write note on:

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|---------------------------------|----------|
| a) Genetic code. | 5 |
| b) Describe Hardy-Weinberg Law. | 5 |

OR

Write short notes on-

- | | |
|---------------------------------|-----------|
| c) tRNA. | 2½ |
| d) snRNA. | 2½ |
| e) Wobble hypothesis. | 2½ |
| f) Pedigree analysis – Symbols. | 2½ |

2. Write note on:

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|-------------------------------------|----------|
| a) Explain Structure of Chromosome. | 5 |
| b) Describe Polytene Chromosome. | 5 |

OR

Write short notes on-

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|---|-----------|
| c) Morphology of chromosome. | 2½ |
| d) Types of chromosomes on the basis of centromere. | 2½ |
| e) B-Chromosome. | 2½ |
| f) G-banding. | 2½ |

3. Write note on:

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|--|----------|
| a) Genetic basis of inbreeding depression. | 5 |
| b) In situ-germplasm conservation. | 5 |

OR

Write short notes on-

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|---|----|
| c) Heterosis. | 2½ |
| d) Polygenic inheritance – Wheat Kernel colour. | 2½ |
| e) Autosomal Inheritance. | 2½ |
| f) DNA bank. | 2½ |

4. Write note on:

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|------------------------------------|---|
| a) Procedure of Mutation breeding. | 5 |
| b) Vector mediated gene transfer. | 5 |

OR

Write short notes on-

- | | |
|---|----|
| c) Advantages of Polyploidy. | 2½ |
| d) Application of Mutation Breeding. | 2½ |
| e) Limitation of distant Hybridization. | 2½ |
| f) Flavr savr Tomatoes. | 2½ |

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

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|--------------------------|----------------------------|
| a) Gene. | b) Codon. |
| c) Gene pool. | d) Metacentric chromosome. |
| e) Ideogram. | f) Lampbrush. |
| g) Heterosis. | h) Monogenic inheritance. |
| i) Seed Bank. | j) Gamma garden. |
| k) Herbicide resistance. | l) Golden rice. |
