

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

P. Pages : 2

Time : Three Hours



**GUG/W/24/13100**

Max. Marks : 50

1. Write on:

- |                            |   |
|----------------------------|---|
| a) Detail concept of gene. | 5 |
| b) Wobble hypothesis.      | 5 |

**OR**

Write short notes on:

- |  |    |
|--|----|
| c) mRNA                                  | 2½ |
| d) Salient feature of genetic code.      | 2½ |
| e) Gene pool                             | 2½ |
| f) Pedigree Analysis - Symbols and sign. | 2½ |

2. Write on:

- |                         |   |
|-------------------------|---|
| a) Polytene chromosome. | 5 |
| b) Chromosome mapping.  | 5 |

**OR**

Write short notes on:

- |   |    |
|---|----|
| c) Structure of Chromosome (only diagram)         | 2½ |
| d) Type of Chromosome on the basis of centromere. | 2½ |
| e) Lamp brush Chromosome.                         | 2½ |
| f) G-banding.                                     | 2½ |

3. Write on:

- |                          |   |
|--------------------------|---|
| a) Heterosis             | 5 |
| b) Polygenic inheritance | 5 |

**OR**

Write short notes on:

- c) Monogenic inheritance. 2½
- d) Application of inbreeding depression. 2½
- e) Seed banks. 2½
- f) Importance of germplasm conservation. 2½

**4.** Write on:

- a) Polyploidy breeding. 5
- b) Mutation breeding. 5

**OR**

Write short notes on:

- c) Concept and importance & distant hybridization. 2½
- d) Applications of Transgenic technique. 2½
- e) Bt cotton 2½
- f) Golden rice 2½

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

- a) Cistron
- b) Gene frequency
- c) Genetic drift
- d) Chromosome
- e) Ideogram
- f) B-chromosome
- g) DNA Bank
- h) Germplasm
- i) Vigour
- j) Gamma garden
- k) Transgenic plant
- l) Flavr Savp Tometo

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