

## NS-3467 (CV-II)

### B.Sc. (Biotechnology) Examination,

June - 2021

#### Molecular Genetics and Cytogenetics

(B-204)

B.Sc. (Bio-Tech.)

Time : 1½ Hours ] [Maximum Marks : 50

Note : Attempt any **two** questions. All questions carry equal marks.

1. What are inversions? Discuss different types of inversions with examples.
2. Write short notes on:
  - (a) Position effect
  - (b) Fine structure of r II locus in T<sub>4</sub> Phage

3. Discuss phenotypic effects of duplications and its role in plant breeding & evolution with examples.
4. Write short notes on:
  - (a) Tetrasomy
  - (b) Role of polyploidy in evolution
5. Differentiate between:
  - (a) Monosomy & Nullisomy
  - (b) Meiotic pairing & Chromosomal disjunction
  - (c) AFLP and RFLP
  - (d) Repetitive DNA & Satellite DNA
6. Describe in detail the tetrad analysis in Diploid Mapping.
7. What is Heterosis? Discuss types and causes of Heterosis and its application in crop improvement.

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P.T.O.

8. Write an essay on Animal genome mapping.
9. Write short notes on:
  - (a) Encode project
  - (b) SNP
10. Give a brief account on:
  - (a) Bridge breakage fusion cycle
  - (b) Robertsonian Translocation

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