

**3467**  
**B.Sc. (Biotechnology)**  
**Examination, April-2025**  
**MOLECULAR GENETICS AND**  
**CYTOGENETICS**

**(B-204)**  
**B.Sc. (Bio-Tech.)**

*Time : Three Hours ] [Maximum Marks : 50*

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

1. Write short notes on : 5×2
  - (a) Modern gene concept
  - (b) Pseudo allelism
2. Describe in detail the structural changes in chromosomes. Give suitable diagrams. 10

**10**  
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3. Write short notes on : 5×2
  - (a) Aneupoidy
  - (b) Meiotic behaviour
4. Describe the concept of polyploidy and its role in evolution. 10
5. Differentiate between: 2.5×4
  - (a) SSR and VNTR
  - (b) Haploid mapping and diploid mapping
  - (c) Meiotic pairing and chromosome disjunction <https://www.ccsustudy.com>
  - (d) Linkage and crossing over
6. Describe Petrad analysis in diploid mapping in detail. 10
7. Describe the different methods of plant breeding and plant breeding work done in India with special reference to Potato and rice. 10

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- ✓ 8. What do you mean by Cytological mapping. Explain in detail. 10
- ✓ 9. What are molecular markers? Discuss in details the types and their characteristics. 10
10. Write short account on: 5×2
- (a) RFLP
  - (b) Animal genome mapping