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(20524)

Roll No.

(Printed Pages 3)

B.Sc. (Biotech)-II Year

NS-3467

B.Sc. (Biotechnology)

Examination, May-2024

MOLECULAR GENETICS AND

CYTOGENETICS

(B-204)

B.Sc. (Bio-Tech.)

Time : 3:00 Hours]

[Maximum Marks : 50

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

1. What are Translocation? Discuss Cytological and breeding behaviour of translocation heterozygote. 10

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2. Write short notes on : 5×2
- (a) Intragenic crossing over on rII locus in T₄ Phage. 10
- (b) Classical gene concept.
3. Write a detail account on Numerical Changes in Chromosome.
4. Write short notes on : 5×2
- (a) Haploidy
- (b) Use of polyploids in plant breeding.
5. Describe two point and three point test cross in haploid mapping in detail. 10
6. Differentiate between. 2.5×4
- (a) AFLP and RFLP
- (b) Chromosome walking and chromosome Jumping.
- (c) Autopolyploidy and Allopolyploidy
- (d) Linkage and Crossing over.

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7. What do you mean by Chromosome mapping? Explain the method for determination of map distance and cytological mapping. 10
8. Describe the different methods of plant breeding and Plant breeding work done in India with special reference to sugarcane and cotton. 10
9. What are molecular markers? Discuss in details the second and third generation molecular markers. 10
10. Write short account on : 5×2
- (a) Human genome project.
 - (b) Animals genome mapping.