

CS/2110

B.Sc. Semester V  
ZOOLOGY  
Paper: II: (ZOO 302)  
*Genetics*

5241/NA

Time Allowed: Three Hours

Maximum Marks: 40

**Note:** Attempt five questions in all. Question No. 9 in section C is compulsory. Select two questions from Section A&B. Draw diagrams wherever necessary.

### Section A

1. Describe multiple alleles with suitable examples. 6
2. Write short notes on
  - (a) Pleiotropic gene (b) Complimentary factor 3+3
3. Describe gene modifications due to incomplete dominance with example. 6
4. Discuss polymorphic genes with suitable example. 6

### Section B

5. Explain the inheritance of ~~Quantitative traits~~ *Extranuclear* with the help of examples. 6
- 6.a) Write short note on Kappa particles in Paramecium.
- b) What do you mean by equilibrium of gene frequencies. 3+3
7. Discuss the following:
  - (a) Recombinant DNA (b) Genetic Cloning 3+3
8. Write short notes on
  - (a) Conjugation
  - (b) DNA finger printing 3+3

### Section C

9. Explain the following briefly:

- I. Lethal factors
- II. Transduction
- III. Central dogma
- IV. ~~Kappa particles~~ *Epistasis*
- V. Allele
- VI. ~~Gene frequencies~~ *Transformation*
- VII. Hardy Weinberg Law
- VIII. Pseudoallelism

8X2