

Exam. Code : 103205

Subject Code : 1415

B.A./B.Sc. 5th Semester

ZOOLOGY ZOO—V (B) (Genetics)

Time Allowed—3 Hours]

[Maximum Marks—35

Note :- (1) Question 1 is compulsory and carries 7 short answer type questions of 1 mark each.

(2) The remaining 8 questions include two questions from each unit. Candidate is required to attempt 4 questions, one from each unit. Each question carries 7 marks.

SECTION—A

1. Define the following :

- (a) Incomplete Linkage
- (b) Incomplete Dominance
- (c) Purines and Pyrimidines
- (d) Semiconservative Replication
- (e) Structural Genes
- (f) Mutation and Mutagen
- (g) Transduction.

SECTION—B

UNIT-I

2. Write a note on cytological basis of crossing over.
3. What is multiple allelomorphism ? Explain with reference to antigen A and B in the blood group of man.

UNIT-II

4. Differentiate between the process of protein synthesis in prokaryotes and eukaryotes.
5. What is genetic code ? Write down its properties and explain the wobble hypothesis.

UNIT-III

6. What is positive and negative control of gene activity ? Discuss with examples.
7. Write a note on extranuclear inheritance giving special reference to kappa particles in Paramecium.

UNIT-IV

8. Define recombinant DNA and discuss the role of :
 - (a) Restriction endonucleases
 - (b) Vectors
 - (c) Plasmids in recombinant DNA technology.
9. Define Hardy-Weinberg Law. Discuss its salient features and mention the significance also.