**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.