

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

ZOOLOGY ZOO-VB

(Genetics)

Time Allowed—Three Hours] [Maximum Marks—35

Note :—(1) Section A is compulsory and has **SEVEN** short answer type questions (1 mark each).(2) Section B has **EIGHT** questions including **TWO** from each section. Candidate is required to attempt **FOUR** questions **ONE** from each unit. All questions carry equal marks.

SECTION—A

1. Define the following :

- Lethal genes
- Linkage groups
- Primary transcript
- Semiconservative replication
- Spontaneous mutations
- Genotype and Phenotype
- Peptidyl Transferase.

1×7=7

SECTION—B

UNIT—I

- Name the modifications in dihybrid ratio (9 : 3 : 3 : 1) due to different kinds of interactions of genes. Explain any two. 7
- Discuss the inheritance of quantitative traits in man. 7

UNIT—II

- Describe the process of protein synthesis in prokaryotes. 7
- Write a note on replication of DNA in eukaryotic cell. 7

UNIT—III

- Explain the extranuclear inheritance giving example of Kappa particles in Paramecium. 7
- Discuss the role of Operon model in regulation of gene expression in prokaryotes. 7

UNIT—IV

- Write a note on genetic cloning and discuss its applications in medicine and agriculture. 7
- Explain the process of transduction and transformation in Bacteria. 7