

(i) Printed Pages: 2

Roll No. ....

(ii) Questions : 9

Sub. Code :

0	5	5	2
---	---	---	---

Exam. Code :

0	0	0	6
---	---	---	---

B.A./B.Sc. (General) 6<sup>th</sup> Semester  
(2054)

**ZOOLOGY**

**Paper-I : Genetics (ZOO-601)**

**Time Allowed : Three Hours]**

**[Maximum Marks : 36**

**Note :—**(1) Attempt **FIVE** questions in all, selecting at least **ONE** question from each unit.

(2) Q. No. 1 is compulsory.

1. Describe the following :—

- (a) Incomplete dominance
- (b) Pseudoalleles
- (c) Synaptonemal complex
- (d) Z-DNA
- (e) Induced mutations
- (f) Phenylketonuria
- (g) Restriction endonucleases
- (h) Genetic drift.

1×8=8

## UNIT—I

2. Explain the role of epistatic genes on the expression of a trait with the help of a suitable cross. 7
3. (a) Discuss multiple alleles with reference to eye colour in *Drosophila*.  
(b) Differentiate between monogenic and polygenic inheritance. 4,3

## UNIT—II

4. Describe the process of protein synthesis in prokaryotes. 7
5. Explain the following :  
(a) Differences between complete and incomplete linkage with examples.  
(b) Inheritance of kappa particles in *Paramecium*. 4,3

## UNIT—III

6. Explain the C1B method for detection of mutations in *Drosophila*. 7
7. Write short notes on the following :  
(a) Lac operon  
(b) Chemical mutagens. 4,3

## UNIT—IV

8. What is gene cloning ? Discuss its applications in agriculture. 7
9. Write short notes on the following :—  
(a) Conjugation in bacteria  
(b) Hardy Weinberg law. 4,3