

(i) Printed Pages : 2

Roll No.

(ii) Questions : 9

Sub. Code :

0	5	5	2
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Exam. Code :

0	0	0	6
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B.A./B.Sc. (General) 6th Semester
(2053)

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) Question No. I is compulsory.

I. Describe the following :

- (a) Law of segregation
- (b) Pleiotropic genes
- (c) Codon degeneracy
- (d) Okazaki fragments
- (e) Physical mutagens
- (f) Alkaptonuria
- (g) DNA fingerprinting
- (h) Gene cloning.

8×1=8

UNIT—I

- II. Discuss the role of Supplementary genes on the expression of a trait with the help of a suitable cross. 7
- III. (a) Discuss multiple alleles with reference to blood group inheritance.
- (b) Differentiate between qualitative and quantitative inheritance. 4,3

UNIT—II

- IV. Discuss cytological basis of crossing over in detail. 7
- V. Explain the following :
- (a) Differences between prokaryotic and eukaryotic translation.
- (b) Structure of messenger RNA. 4,3

UNIT—III

- VI. Explain the role of somatic mutations in carcinogenesis. 7
- VII. Write short notes on the following :
- (a) Tryptophan operon
- (b) Base analogues. 4,3

UNIT—IV

- VIII. What is recombinant DNA technology ? Discuss its applications in medicine. 7
- IX. Write short notes on the following :
- (a) Transformation in bacteria
- (b) Hardy Weinberg Law. 4,3