

(i) Printed Pages: 3

Roll No.

(ii) Questions : 9

Sub. Code :

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Exam. Code :

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

1048

ZOOLOGY

Paper-I : Genetics (Zoo-601)

Time Allowed : Three Hours]

[Maximum Marks : 36

Note :— Question no. 1 is compulsory. Attempt five questions in all, selecting one question from each Unit.

I. Write short answers :

- (a) Pleiotropic genes.
- (b) Difference between qualitative and quantitative inheritance.
- (c) Complete Linkage.
- (d) Crossing over.
- (e) Inducible enzymes.
- (f) Spontaneous mutations
- (g) Chimeric DNA
- (h) Gene pool.

1×8=8

UNIT—I

- II. Define epistasis. Discuss different types of epistasis giving suitable examples. 7
- III. (a) What are supplementary genes ? Explain with an example. 4
- (b) Write an explanatory note on Lethal genes. 3

UNIT—II

- IV. Describe in detail an experiment to demonstrate that crossing over has a cytological basis. 7
- V. (a) Discuss extranuclear inheritance of Kappa particles in PARAMECIUM. 4
- (b) Give structural detail and significance of Synaptonemal complex. 3

UNIT—III

- VI. Describe in detail the Operon Model. 7
- VII. (a) Write about Phenylketonuria as an inborn error of metabolism. 4
- (b) Give an account of Induced mutations and mutagens. 3

UNIT—IV

VIII. Describe in detail various methods used for construction of Chimeric DNA. 7

IX. (a) What is Polymerase chain reaction ? How it is used for gene amplification ? 3½

(b) Discuss conjugation as a method of genetic recombination in bacteria. 3½