(i) **Printed Pages: 2** **Roll No. .....**

(ii) **Questions : 7** **Sub. Code : 1013**

Exam. Code : 0043

B.Sc. (Hons.) Bioinformatics 5th Semester

(2122)

GENETICS AND EVOLUTION

Paper : BIN-5004

Time Allowed : Three Hours] **[Maximum Marks : 60**

Note :—Attempt **five** questions in all. Question No. **1** is compulsory. Select at least **two** questions from each Unit.

1. Answer briefly :
   (a) Ames test
   (b) Tri-hybrid cross
   (c) Duplicate genes
   (d) Test cross
   (e) Evolutionary genetics
   (f) Heterochromatin
   (g) Natural selection
   (h) Histones. 8×1.5

UNIT–I

2. (a) Discuss the Chromosomal theory of Inheritance. 6
   (b) Write a note on the monohybrid cross. 6

3. (a) What is pleiotropy ? Discuss its application with a suitable example. 6

(b) Discuss the significance of inhibitory genes. 6

4. (a) Write a note on the genetic organization of a Viral genome. 8

(b) What is Epistasis ? Give suitable example. 4

UNIT—II

5. Write notes on :

(a) Hardy Weinberg Law 6

(b) DNA packaging. 6

6. (a) Define mutation. Discuss the different types of mutations. 7

(b) Explain the significance of Chromosomal duplication. Give suitable example. 5

7. (a) Discuss the difference between allelic and genotype frequencies. 6

(b) Write a note on the Chromosome banding pattern. 6