PG Odd Semester (CBCS) Exam., December—2017

BIOTECHNOLOGY

(1st Semester)

Course No. : BTYCC–103

(Genetics and Quantitative Methods)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. What is sex-linked inheritance? Discuss the characteristics of sex-linked inheritance. Write a note on the diseases caused by sex-linked inheritance in human. 2+8+4=14

OR

2. What is dominance? Discuss various types of dominance with suitable example. 4+10=14

3. What is mutation? Write the effect of alkylating agent and UV-ray in developing gene mutation. 2+12=14

OR

4. What is gene mapping? Write the process of gene mapping in phages or bacteria. 2+12=14

5. What is gene regulation? Write the process of regulation of gene expression in lac operon system. 2+12=14

OR

6. Write short notes on the following : 7+7=14

(a) Lambda genetic control

(b) Transposons in prokaryotes

7. Discuss the measures of dispersion with formulae. Write a note on 1% and 5% levels of significance. 10+4=14

OR

8. What is correlation coefficient? Discuss the properties of correlation coefficient. Discuss at least two methods of measuring correlation coefficient. 2+6+6=14

9. Discuss paired and unpaired *t*-tests with formulae. Write a note on the applications of *t*-test in biotechnology. 10+4=14

OR

10. Write short notes on the following : 7+7=14

(a) Bivariate regression analysis

(b) ANOVA and its applications

★ ★ ★