6. Write short notes on : 3½x4=14

(a) DNA Chip

(b) Operon

(c) Transposon

(d) Lambda genetic control

7. Define correlation. Name different methods of correlation analysis. Write a note on Karl Pearson's correlation analysis between two variables and its applications. 2+2+10=14

Or

8. Write short notes on :

(i) Least square method of regression 6

(ii) Regression equations of two variables (taking deviation from mean) 8

9. Define test of significance. Write a note on unpaired and paried t tests with formulae. Add a note on applications of t test. 2+8+4=14

Or

10. Write short notes on : 3½x4=14

(i) F test

(ii) Chi-square test

(iii) Design of experiment and its basic principles

(iv) One-way ANOVA.

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PG Odd Semester Examination, 2022

BIOTECHNOLOGY

(1st Semester)

Course No.: BTYSEC-504

(Genetics & 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 dominance? Discuss different types of dominance with suitable example. Write a note on applications of dominance. 2+8+4=14

Or

2. Define inbreeding. Discuss the effects of inbreeding. Write a note on applications of inbreeding for genetic improvement of species. 2+8+4=14

3. What is mutation? Describe the mechanism of action of different chemical mutagens in inducing gene mutation. 2+12=14

Or

4. Describe the techniques for isolation of mutants. Add a note on suppressor mutation. 12+2=13

5. Write a note on lac operon system. What is gene expression and why is it important for any organism? 7+7=14

Or