B.Sc. DEGREE EXAMINATION,APRIL 2020
III Year V Semester
Design of Experiments

Time : 3 Hours **Max.marks :60**

Section A $(10 \times 1 = 10)$ Marks

Answer any **TEN** questions

1. Define Local Control.
2. What is experimental error.
3. State the Mathematical model of two way ANOVA.
4. Give the test statistic for Tukey's test.
5. Write the advantages of CRD.
6. State the applications of RBD.
7. Construct a 3X3 layout of a Latin square design.
8. Write the formula for single missing observation in RBD.
9. Define Confounding.
10. What is Split plot design.
11. State Cochran's theorem.
12. What is meant by efficiency of a design.

Section B $(5 \times 4 = 20)$ Marks

Answer any **FIVE** questions

13. Describe the fundamental principle of experiment.
14. Explain Newman keul's test.
15. State the advantages and disadvantages of Randomised Block Design.
16. Describe the analysis of co-variance technique in CRD.
17. Explain the process of computing various factorial effects in the case of a 23 design.
18. Explain Duncan's multiple range test.
19. Distinguish between Complete confounding and Partial confounding.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. Explain the following with illustration. (a) Experiment (b) Treatment (c) Block (d) Size of the plot (e) Precision
21. Explain in detail about: (a) Square root transformations (b) Angular transformations.
22. Give the complete analysis of Latin Square Design.
23. Explain in detail about the method of estimating two missing values in RBD.
24. Give the statistical analysis of 3^2 factorial experiment.

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