M.Sc. DEGREE EXAMINATION,APRIL 2020
I Year II Semester
Research Design and Analysis

Time : 3 Hours **Max.marks :75**

Section A $(10 \times 2 = 20)$ Marks

Answer any **TEN** questions

1. State any two uses of ANOVA.
2. Write the formula for Newman-Keul test.
3. What is a symmetrical BIBD?
4. Write the ANOVA table for LSD.
5. State Fraction Factorial design?
6. Define partial confounding give an example?
7. Find the degrees of freedom for error for a design with two replicates.
8. What is a split- split plot design.
9. Give the uses of Bioassay.
10. Define indirect assays.
11. What is meant by "Alias Effect" in fractional factorial design?
12. State any two uses of confounding in a factorial experiment.

Section B $(5 \times 5 = 25)$ Marks

Answer any **FIVE** questions

13. Write a note on Tukey test.
14. State and prove any two properties relating the parameters of a BIBD.
15. Construct a design for confounding in a factorial design with two blocks.
16. Derive the ANOVA for a factorial design with r-replicates.
17. Write the limitation of dose response relationship.
18. Explain two factor ANOVA with equal replication.
19. Construct ANOCOVA for RBD.

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

Answer any **THREE** questions

20. Describe the procedure for single factor ANOVA.
21. Develop the analysis of BIBD.
22. Explain the statistical Analysis of 3^2 Factorial Experiment.
23. Explain the analysis of Split-Plot Design.
24. Describe in detail the concept of Response Surface methodology (RSM).

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