22P253 (Pages: 2) Name: ....

Reg.No: ....

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2023

(CBCSS - PG)

(Regular/Supplementary/Improvement)

CC19P MST2 C06 / CC22P MST2 C06 - DESIGN AND ANALYSIS OF EXPERIMENTS

(Statistics)

(2019 Admission onwards)

Time : 3 Hours Maximum : 30 Weightage

Part-A

Answer any *four* questions. Each question carries 2 weightage.

1. What is the purpose of randomisation and replication in block designs? Explain.

2. (i) Distinguish between fixed effects and random effects model.
   (ii) Briefly explain model adequacy checking.

3. Describe the efficiency of RBD relative to CRD.

4. Describe the analysis of covariance.

5. What do you mean by PBIBD? Explain.

6. Explain the concept of fractional factorial.

7. What do you mean by response surface design? Explain.

(4 × 2 = 8 Weightage)

Part-B

Answer any *four* questions. Each question carries 3 weightage.

8. Describe the analysis of two way classified data.

9. Obtain the expression for the efficiency of LSD compared to CRD.

10. Explain Lattice Design.

11. Explain 2^2 factorial experiment with an example.

12. What do you mean by confounding? Explain.

13. Explain the analysis of split plot design.

14. Briefly describe the method of steepest accent.

(4 × 3 = 12 Weightage)

Part-C

Answer any *two* questions. Each question carries 5 weightage.

15. Define BIBD. State and prove parametric relations in BIBD.

16. Explain Balanced Incomplete Block Design. State and prove the neccessary conditions.

17. What do you mean by BIBD? Explain. Also derive intrablock analysis of BIBD.

18. Analyse 2^3 factorial design with ANOVA table.

(2 × 5 = 10 Weightage)

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