

25P254

(Pages: 2)

Name:

Reg.No:

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2026

(CBCSS - PG)

(Regular/Supplementary/Improvement)

CC22PMST2C05 - DESIGN AND ANALYSIS OF EXPERIMENTS

(Statistics)

(2022 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. Explain model adequacy checking.
3. Define resolvable BIBD. How can it differ from BIBD?
4. What do mean by PBIBD? Explain.
5. Give any two advantages of facorial design.
6. Explain the concept of fractional factorial.
7. Explain:
 - (i) Rotatablity of a design.
 - (ii) Method of steepest accent.

(4 × 2 = 8 Weightage)

Part-B

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

8. Explain the analysis of two way classified data.
9. Estimate the values a randomised block design if
 - (i) one observation is missing
 - (ii) two observations are missing.
10. Derive intrablock analysis of BIBD.
11. What do you mean by Lattice Design? Explain.
12. Derive the analyse of 2^3 factorial design.
13. Explain confounding in factorial experiments.

14. Explain response surface design.

(4 × 3 = 12 Weightage)

Part-C

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

15. Derive the efficiency of (i) Latin square design compared to randomised block design (ii) Latin square design compared to completely randomised design.
16. Describe the analysis of a randomised block design with a single concomitant variable.
17. State and prove necessary conditions for BIBD.
18. Explain the analysis of main plot and sub plot of a split plot design. Also explain strip plot design.

(2 × 5 = 10 Weightage)
