

21P257

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Name:

Reg.No:

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2022

(CBCSS - PG)

(Regular/Supplementary/Improvement)

CC19P ST2 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. What do you mean by model adequacy checking? Explain.
3. Derive the expression for efficiency of Latin Square Design over Completely Randomized Design.
4. Describe the analysis of covariance.
5. What do you mean by PBIBD? Explain PBIBD with two associate classes.
6. Explain the concept of fractional factorial.
7. Explain rotatability of a design.

(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 relative efficiency of RBD relative to CRD.
10. What do you mean by Lattice Design? Explain
11. Illustrate 2^2 factorial experiment with an example.
12. What do you mean by confounding? Explain.
13. Explain split plot design.
14. Explain Response surface design and orthogonality of a design.

(4 × 3 = 12 Weightage)

Part-C

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

15. Explain BIBD. State and prove parametric relations in BIBD.
16. Explain Balanced Incomplete Block Design. In a BIBD prove that the number of blocks can never be less than the number of treatments.
17. Describe intrablock analysis of BIBD.
18. Explain 2^3 factorial experiment.

(2 × 5 = 10 Weightage)
