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NP – 825

VI Semester B.Sc. Examination, June/July 2025
(NEP) (F + R)
STATISTICS

Analysis of Variance and Design of Experiments

Time : 2½ Hours

Max. Marks : 60

- Instructions :** 1) *Scientific calculators are permitted.*
2) *Statistical tables and graph sheets are provided on request.*

PART – A

Answer **any four** questions (2 marks each) : (4×2=8)

1. What do you mean by ANOVA ?
2. Explain the critical difference (c.d.).
3. Explain the experimental material.
4. What do you mean by replication ?
5. Explain IBD.
6. What is the need for confounding ?



PART – B

Answer **any four** questions (5 marks each) : (4×5=20)

7. Give the layout of one-way ANOVA.
8. Explain the procedure of Tukey's test for non-additivity for two-way layout with one observation per cell.
9. Explain the procedure of estimating the single observation when it is missed in RBD.
10. Derive the efficiency of LSD over RBD (rows of LSD as blocks).

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11. Explain the Yate's method of computing factorial effect totals.
12. Distinguish between complete and partial confoundings.

PART – C

Answer **any four** questions (**8 marks each**) :

(4×8=32)

13. Explain the analysis of two-way classification single observation per cell.
14. Provide the analysis of Completely Randomized Design (CRD).
15. Give the layout and analysis of LSD.
16. Define BIBD and give its analysis.
17. Explain the analysis of 2^2 factorial experiment.
18. By assuming a complete confounding in r-replicates in 2^3 factorial experiment in RBD, provide its analysis.


