20P262 (Pages: 1) Name…….

Reg. No……...……..

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2021

(CUCSS - PG)

(Regular/Supplementary/Improvement)

CC19P MST2 C06 - DESIGN AND ANALYSIS OF EXPERIMENTS

(Statistics)

(2019 Admission onwards)

Time: Three Hours Maximum: 30 Weightage

Part A

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

1. Define (i) Randomization (ii) Replication
2. What is Greaco Latin square design? Write the statistical model.
3. Explain PBIBD with two associate classes.
4. Give any two advantages of factorial design.
5. Explain how will you construct of 2^3 factorial experiment.
6. What is resolution of a design? Explain.
7. What are Response surface designs?

(4 x 2 = 8 Weightage)

Part B

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

8. Explain analysis of CRD with one concomitant variable.
9. Obtain relative efficiency of RBD in comparison to CRD.
10. Define BIBD, show that (i) $bk = vr$. (ii) $\lambda (v - 1) = r (t - 1)$.
11. Illustrate 2^2 factorial experiment with an example.
12. Distinguish between confounding and fractional replication.
13. Explain Lattice Design.
14. Describe briefly the method of Steepest accent.

(4 × 3 = 12 Weightage)

Part C

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

15. Define RBD. Explain the analysis of RBD with one missing observation.
16. Explain randomization in LSD. Develop the procedure for analysis of LSD.
17. Define BIBD. Derive intrablock analysis of BIBD.
18. Explain 2^3factorial design. How will you calculate different effects of 2^3 factorial design using Yates algorithm?

(2 × 5 = 10 Weightage)

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