LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – STATISTICS

SIXTH SEMESTER – APRIL 2019

16UST6MC02/ ST 6606 – DESIGN AND ANALYSIS OF EXPERIMENTS

Date: 08-04-2019   Dept. No.   Max. : 100 Marks
Time: 09:00-12:00

PART - A

ANSWER ALL QUESTIONS: **(10x2=20 Marks)**

1. Describe the principle of least squares?
2. State the assumptions of ANOVA?
3. What is Randomization in experimental design?
4. State any two advantages of CRD?
5. Give possible layout of 4X4 LSD?
6. Define Factorial design?
7. State any two advantages of confounding?
8. Define orthogonal contrasts?
9. What is inter block analysis?
10. Define Incomplete block design.

PART – B

ANSWER ANY FIVE QUESTIONS: **(5x8=40 Marks)**

11. Find the least square estimates of the parameters of RBD?
12. Distinguish partial confounding and complete confounding?
13. Mention the advantages and disadvantages of LSD?
14. Define missing plot techniques? Derive the one missing value of RBD?
15. Derive the expectation of various sum of squares of two way ANOVA?
16. Derive the Statistical analysis of 2^2 Factorial Design
17. Discuss the partial confounding of 2^3 factorial design
18. Derive Fisher's inequality in BIBD

PART - C

Answer any Two Questions: **(2x20=40 Marks)**

19. Explain about Two-way classification with m observations per cell with its Statistical analysis of the model.
20. (a) Elaborate the Principals of the Design of Experiments
    (b) Explain the concept of LSD with an example
21. Explain the concept of 2^3 Factorial design
22. Discuss Intra Block analysis of BIBD.

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