



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc.DEGREE EXAMINATION – STATISTICS

SIXTH SEMESTER – APRIL 2017

ST 6606 / ST 6603 - DESIGN & ANALYSIS OF EXPERIMENTS

Date: 20-04-2017
09:00-12:00

Dept. No.

Max. : 100 Marks

Part – A (10 x 2 = 20 marks)
Answer ALL the Questions

1. Define Fixed Effect Model.
2. Define Uniformity Trials.
3. Give an example of two-way ANOVA hypothesis.
4. State the advantages of CRD.
5. What are the disadvantages of RBD?
6. State the situations for missing observations in real life.
7. Define BIBD.
8. State the advantages of Factorial Experiments.
9. Define confounding.
10. Write the treatment combinations in 2^3 Factorial Experiments.

Part – B (5 x 8 = 40 marks)
Answer any FIVE Questions

11. State the assumptions and advantages of ANOVA.
12. Describe about one-way classification in ANOVA.
13. Explain the concepts of Randomised Block Design.
14. Explain the technique of estimating one missing observation in RBD.
15. Discuss about 2^2 Factorial Experiments.
16. Describe the nature and need for confounding in an experiment.
17. Mention the various objectives in constructing a BIBD.
18. In what way Design of experiments are useful in real life? Justify with examples.

Part – C (2 x 20 = 40 marks)
Answer any TWO Questions

19. a) Explain about the principles of Experimental Design. [10]
b) Explain the statistical analysis of two-way classification. [10]
20. a) Discuss the concept of Latin Square Design with its statistical analysis. [15]
b) State the advantages and disadvantages of LSD. [5]
21. a) Derive the estimation of two missing observations in RBD. [15]
b) Discuss the concept of partial confounding. [5]
22. Explain the statistical analysis of Intra block analysis of BIBD. [20]
