

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



B.Sc. DEGREE EXAMINATION – STATISTICS

SIXTH SEMESTER – APRIL 2018

ST 6606 / ST 6603 – DESIGN AND ANALYSIS OF EXPERIMENTS

Date: 17-04-2018
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

Section – A

Answer ALL Questions

(10 x 2 = 20 marks)

1. What is the need of studying Analysis of variance?
2. State the assumptions of ANOVA.
3. Define fixed effect model.
4. What do you understand by two-way classification?
5. Define Design of Experiment.
6. Define a treatment with an example.
7. State the advantages of LSD.
8. Define Confounding.
9. Define Factorial Experiments.
10. State the parameters of BIBD.

Section – B

Answer any FIVE Questions

(5 x 8 = 40 marks)

11. Explain about one- way classification model with its statistical analysis.
12. Discuss the advantages and disadvantages of CRD.
13. Describe Randomized Block Design with an example.
14. Explain the concept of estimation of one missing value in LSD.
15. Discuss about the concept of Factorial Experiments in detail.
16. Explain the statistical analysis involved in 2^2 Factorial Experiments.
17. Discuss about the confounding in 2^3 Factorial Experiments.
18. Prove the relation $vr = bk$ in BIBD.

Section – C

Answer any TWO Questions

(2 x 20 = 40 marks)

19. A) Explain about two- way classification model with its statistical analysis. **[12 marks]**
B) Discuss the advantages and disadvantages of RBD. **[8 marks]**
20. A) Explain the three principles of Experimental design. **[10 marks]**
B) Explain the concept of LSD with a layout. **[10 marks]**
21. Discuss about the concept and statistical analysis of 2^3 Factorial Experiments.
22. A) Explain the concept of BIBD with its advantages. **[10 marks]**
B) Explain about Intra Block Analysis of BIBD. **[10 marks]**
