

M.Sc. (Semester—II) (CBCS Scheme) Examination
STATISTICS
(Design of Experiments)
Paper—VII

Time : Three Hours]

[Maximum Marks : 80

Note :— Answer either (A) or (B) from each question.

1. (A) (i) What is analysis of variance ? State the basic assumptions in the analysis of variance technique. 8
(ii) Give complete analysis of one way classified data. 8

OR

(B) (i) What is design of experiments ? Discuss the use of basic principles of design of experiments in CRD, RBD and LSD. 8
(ii) Write notes on :
(a) Orthogonality of data
(b) Experimental error. 8
2. (A) Give complete statistical analysis of LSD. 16

OR

(B) (i) Explain missing plot technique in RBD for two missing observations. 8
(ii) Obtain efficiency of LSD. Also state advantages of LSD over RBD. 8
3. (A) (i) Give complete statistical analysis of Youden square design. 8
(ii) Explain the parameters of BIBD. Prove that :
(a) $vr = bk$
(b) $\lambda(v - 1) = r(k - 1)$. 8

OR

(B) Give complete statistical analysis of BIBD. 16
4. (A) Give complete statistical analysis of split-plot design. 16

OR

(B) Explain the technique of ANOCOVA for one-way classification and two way classification with its application. 16
5. (A) (i) Define confounding, complete confounding and partial confounding. 8
(ii) Explain Yate's method in 2^4 factorial experiments for computing factorial effect totals. 8

OR

(B) (i) Differentiate between partial confounding and complete confounding. State the advantages of confounding in factorial experiment. 8
(ii) Explain Yate's method in 2^3 factorial experiments for computing factorial effect totals. 8

