

Mid-Western University
Examinations Management Office
Final Examinations -2078

Bachelor level/ B.Sc /6th Semester

Full Marks : 100

Time: 3 hrs

Pass Marks: 50

Subject : Design of experiment (STAT461)

Candidates are required to give their answer in their own words as far as Practicable. The figures in the margin indicate full marks.

Answer the following questions [6×10=60]

1. a) List out different assumptions required for ANOVA. [5]
b) Write down applications of ANOVA in different area. [5]
2. What are advantage and disadvantage of randomized block design. Carry out statistical analysis of two way classified data.
3. Give layout and mathematical model of CRD. Derive the expression to measure the efficiency of RBD over CRD.

OR

Write and explain the statistical model for $m \times m$ LSD. Give the statistical analysis of $m \times m$ LSD.

4. Discuss on uses of ANCOVA. Explain ANCOVA with their mathematical model, hypothesis and ANCOVA table.
5. Differentiate between 2^2 and 2^3 factorial design. Give layout, Mathematical model, main effect, interaction effect and ANOVA Table CRD performed for 2^2 design.

OR

What is Graeco Latin Square design? Explain complete and partial confounding in factorial design.

6. Describe 2^3 experiment considering RBD. Complete the following table for the analysis of variance of a design.

S.V	D.F	SS	MSS	F
BLOCK	4	28	?	?
TREATMENTS	3	?	?	?
ERROR	?	?	3	
TOTAL	?	84		

THE END