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DEPARTMENT OF MATHEMATICS

UNIT - IV DESIGN OF EXPERIMENTS

ANALYSIS OF VARIANCE (ANOVA):

fucturia),

ANOVA is a technique that will enable us to lest the significance of the difference among more than two sample mean.

ASSUMPTION:

- I The observations are landom.
- 2) The observations are independent.
- 3) The samples are drawn from normal fopulations
- 4) Bopulation variances are equal

BASIC PRINCIPLES:

- 1) Randomisateon
- 2) Replication
- 3) Local control.

BASIC DESIGN.

- * Completely landomised design (CRD) One-way classif
- * Randomised Block design (RBD) two-way desifical
- * Latin square design (150) There-way classificati
- * Two square factorial design

Hist: - F - Ratio : F = 512 where 512 >52

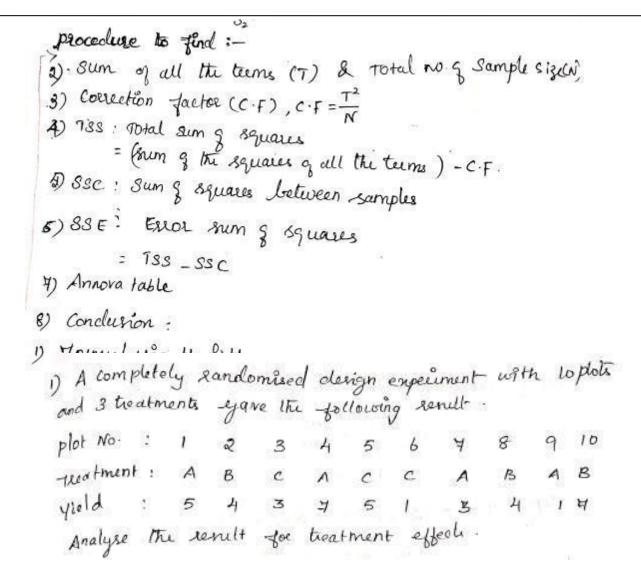




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UNIT - II DESIGN OF EXPERIMENTS







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Step 1: Formulating 140 & H1:

Ho: There is no significance différence between

the treatments.

H: There is significance difference between the

treatments

$$N = n_1 + n_2 + n_3$$
= 4 + 3 + 3 = 10





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$$C \cdot \Gamma = \frac{T^2}{N} = \frac{40^2}{10}$$

step 5: SSC =
$$(\underbrace{\Sigma n_1}^2 + (\underbrace{\Sigma n_2}^2 + \underbrace{(\Sigma n_3)^2}_{n_2} - \mathbf{C} \cdot \mathbf{F})$$

= $\frac{16^2}{4} + \frac{15^2}{3} + \frac{9^2}{3} - 160$

Olip 7: Annova table:

Steps: Conclusion:

Fc = 1.61 < 19.35 = Fx , Ho & accepted.

a. There is no significance difference between the teatments.