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Solution : S.Y.B.Sc. A.T.K.T (Sem 4) Paper-2 - October 2018

Subject : (Statistics) QP Code: 52709

- Q1 (a)
- 1) False
  - 2) False
  - 3) True
  - 4) False
  - 5) True

- (b)
- 1) Normal
  - 2) In CRD Only one source of variation  
In LSD three sources of variations.

3) Yield :

$$4) E = \frac{S_R^2 + (m-1)S_E^2}{mS_E^2}$$

5) 1, p, q, pq, r, pr, qr, pqr : Treatment Combs

Q2. a) In two-way classification

Model — (02)

Hypothesis — (02)

Math. analysis. = (05)

b) In oneway classification

T.S.S, E.S.S, Treat S.S — (3)

Expectation of S.S — (7)

c) ANOVA - Defn — (2)

Use of ANOVA : — (2)

Hypothesis — (2)

Test. Statistic — (3)

Q3. a) Principles of D.E.

Replication	Randomisation	Local Control
(2)	(2)	(2)

In CRD : Rand. & Repl.

RBD : Rand., Repl. & Local control } (4)

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Q3. b) Explanation of CRD :

Math. Model explanation, Layout, — (9)

Math. Model — (2)

Estimates of parameters — (5)

c) Explanation of RBD — (3)

Layout — (2)

Advantages & disadvantages — (5)

Q4. a) Explanation of LSD: — (3)

Math. Model : (2)

Assumptions : (2)

Hypothesis (1)

• ANOVA table (3)  
(Decision criteria)

b) Describe factorial exp — (2)

Table of signs — (2)

Math. Model — (2)

Math. Analysis : — (4)

c) Missing value in LSD : — (10) (07)  
Analysis — (03)

Q5. a) Explain the terms: Treatment, Experimental unit,  
Block, Experimental error, precision  
(each 2 marks)

b) Efficiency of RBD wrt CRD : (10)

c) Describe  $2^2$  fact. Exp. (2)

Math. Model : — (2)

Math. anay. with ANOVA — (6)