Exam Date & Time: 28-Sep-2020 (10:00 AM - 01:45 PM)

PSG COLLEGE OF ARTS AND SCIENCE

Note: Writing 3hrs: Checking & Inserting Image : 30mins

BSc DEGREE EXAMINATION MAY 2020
(Sixth Semester)

Branch - STATISTICS
DESIGN OF EXPERIMENTS [14STU21]

Marks: 75   **Duration: 210 mins.**

SECTION A

Answer all the questions.

1) Define analysis of variance for one way classification.   (2)

2) Write the linear model for analysis of variance two way classifications.   (2)

3) Write the linear model for CRD.   (2)

4) Define blocks in randomized block designs.   (2)

5) What is factorial experiments?   (2)

6) Write the treatment combinations of 2^3 factorial experiments.   (2)

7) Define partial confounding.   (2)

8) What is total confounding?   (2)

9) Write the mathematical model of ANACOVA for one way classification.   (2)

10) What is concomitant variable?   (2)

SECTION B

Answer all the questions.

11) Write the assumptions of analysis of variance.   (5)

a)

[OR]

b) Derive the statistical analysis of one way classification.   (5)

12) Derive the relative efficiency of LSD over CRD.   (5)

a)

[OR]   Describe the procedure of estimating one missing value in RBD.
b)   (5)

13)   Explain the principles of experimental designs.

(5)

a)

[OR]   Derive the statistical analysis of 2^3 factorial experiments in RBD.
b)   (5)

14)   Compare partial and total confounding.

(5)

a)

[OR]   Derive the statistical analysis of 2^4 factorial experiments with "ABCD" is confounded
b)   in two blocks with 'r' replicates in RBD.   (5)

15)   Write the assumptions of analysis of co-variance.

(5)

a)

[OR]   Derive the statistical analysis of covariance for one way classification data.
b)   (5)

SECTION C

Answer 3 out of 5 questions.

16)   Derive the statistical analysis of variance two way classification data.

(10)

17)   Obtain two missing values in LSD with ANOVA table.

(10)

18)   Obtain 3^2 factorial experiments with complete ANOVA table in RBD.

(10)

19)   Derive the statistical analysis of 2^3 factorial experiments with partially confounded in
four blocks.   (10)

20)   Derive the statistical analysis of covariance two way classification data.

(10)

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