

B.Sc. III-Semester (CBCS) Examination, November / December 2018

Subject : Statistics

Paper – III : Statistical Methods (DSC)

Time : 3 Hours

Max. Marks: 80

PART – A (5 x 4 = 20 Marks)
(Short Answer Type)

Note : Answer any FIVE of the following questions.

- 1 State the principle of least squares.
- 2 Define Correlation Ratio and its necessity of study.
- 3 Write short notes on independence of attributes.
- 4 Define multiple correlation and write its measure of computation.
- 5 Define Standard error. Write the standard errors for sample mean and variances.
- 6 Write about Point estimation. State the properties of chi-square distribution.
- 7 State Neymann Pearson Factorization theorem.
- 8 Explain the concept of Mean Square Error of an estimate.

PART – B (4 x 15 = 60 Marks)
(Essay Answer Type)

Note: Answer ALL questions.

- 9 (a) Define Karl Pearson Coefficient of Correlation. State and prove its properties.
OR
(b) Define Regression and derive the Regression equation of Y on X.
- 10 (a) State the conditions for consistency of Data for a single attribute A, for two attributes A and B and for three attributes A, B and C.
OR
(b) Find the remaining class frequencies from the following information.
 $(ABC) = 57, (\alpha\beta\gamma) = 8310, (AB\gamma) = 281, (\alpha BC) = 78, (\alpha B\gamma) = 620, (A\beta C) = 86,$
 $(\alpha\beta C) = 65, (A\beta\gamma) = 453.$
- 11 (a) Define F – distribution. State its properties and applications.
OR
(b) Explain the characteristics of a good estimator.
- 12 (a) Write the method of moment estimation. Let $X_1, X_2, \dots, X_n$ be a random sample of size n drawn from Poisson population with parameter λ , estimate the parameter λ using method of moments.
OR
(b) Obtain the confidence intervals for the parameter μ based on the sample of size n drawn from Normal (μ, σ^2) σ^2 is unknown by Pivot method.