R-16

Code: 3311/R

Faculty of Science
B. Sc (Statistics) II Year, CBCS –III Semester
Regular Examinations, Dec/Jan 2019-20
Paper –III: STATISTICAL METHODS

Time: 3 Hours

Max Marks: 80

Section –A

I. Answer any FIVE of the following questions (5X4=20 Marks)

1. Explain Bi-variate data and scattered diagram.
2. Calculate the Rank correlation co-efficient to the following :

X	1	2	3	4	5	6	7	8	9	10
Y	2	3	1	5	6	4	7.5	7.5	3	10

3. Derive the normal equations for fitting of a power curve $Y = ax^b$.
4. Define Consistency. Write the conditions for consistency involvement of two attributes.
5. Obtain the relation between F and χ^2- distributions.
6. Find the mean deviation about mean of t-distribution.
7. Explain the method of Moments. Write its properties.
8. Obtain MLE for λ in Poisson population.

Section –B

II. Answer the following questions. (4 X 15= 60 Marks)

9. (a) Define "Correlation Ratio" and write its properties and also show that correlation co-efficient is independent of change of origin and scale. If X and Y are uncorrelated, Can we say that X and Y are independent?

OR

(b) Define Regression and Regression Co-efficients. State and prove its properties.

10. (a) What is Curve fitting.Explaine in detail fitting of straight line.

OR

(b).Define Yule's Co-efficient of association and Yule's Co-efficient of Colligation and obtain the relation between them.

11. (a) Define t-distribution. Find its mean and variance and also write its properties.

OR

(b) Define χ^2- distribution. Find its moment generating function and also find its mean and variance from it.

12. (a) Explain the criteria of a good estimator with appropriate examples.

OR

(b) Define Interval estimation and Confidence interval and write 5 properties of Maximum Likelihood Estimator. In random sampling from normal populations $N(\mu, \sigma^2)$. Find the MLE for σ^2 when is μ, unknown.

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