BSc Third semester Question Bank

Statistical Methods

UNIT – 1

1.Write short notes on scatter diagram.

2.Explain the principle of least squares. Derive the normal equations for fitting of a curve of the type Y=ae^{bx}.

3.Find the normal equation to a st line using least squares method.

4. Explain the fitting a second degree parabola using method least square.

5.Discuss briefly about how a power curve is fitted.

6. Fit a ST line y=a + bx from the following data.

X	0	1	2	3	4
Y	1	1.8	3.3	4.5	6.3

7.Find a and b so that y=ab^x best fits the following data.

X	0.2	0.3	0.4	0.5	0.6	0.7
Y	3.16	2.38	1.75	1.34	1.00	0.74

8.Define correlation ratio. S.T $1 \geq \eta_{yx}^2 \geq r_{yx}^2 \geq 0$.

9.Derive the spearman's Rank correlation coefficient.

10.Explain what are regression lines . Why two regression lies are there? Derive the Regression equation of y on x.

11.Write short note on correlation analysis versus Regression Analysis.

UNIT -II

1.Write short note on multiple correlation coefficient.

2.Write short notes on multiple correlation and partial correlation.

3.What is consistency of given data? How do you check it for three attributes?

4.What is association of attributes? How is it measured.

5.Derive the rank correlation coefficient. Derive the limits for rank correlation.

6.explain concept of regression .Indicate the significance of regression analysis.

7.Define regression coefficients and prove its properties.

UNIT –III

1.Write about sampling distribution and also its mean with known σ.

2.Define χ^2 distribution . sae its properties and applications.

3.Define t- distribution .state its properties and also give its applications.

4.Define F-distribution .State its properties and applications.

5.Write shorts on point estimation and interval estimation.

6.write short notes on properties of good estimator.

7.Define unbiased ness and its conditions.

UNIT –IV

1.Define sufficiency. state Fisher's Neyman factorization theorem. Find sufficient estimator for λ of a Poisson distribution on a basis of a sample of 'n' observations .

2.Define Consistency of an estimator and prove that the sample median is a consistent estimator for the mean of a Normal distribution.

3.Write a short note on Method of moments.

4.Explain the estimation by the method of moments estimating Poisson distribution parameters.

5.Give the asymptotic properties of ML estimator starting regularity condition.

6.Explain the method of M.L.E . state the properties.

7.Write short notes on interval estimation.