B.Sc. DEGREE EXAMINATION,NOVEMBER 2019
III Year VI Semester
Regression Analysis

Time : 3 Hours **Max.marks :60**

Section A $(10 \times 1 = 10)$ Marks

Answer any **TEN** questions

1. Define partial correlation.
2. When do we use biserial correlation
3. Define outlier in regression model.
4. Why we are used least square method?
5. Define Mean Predicted Value
6. Define standard error.
7. Differentiate homogeneity and heterogeneity in regression analysis.
8. Write any two properties of least square estimator.
9. State any two assumptions of errors in regression mode
10. Define intercept and slope.
11. What is error term in regression analysis?
12. Define degrees of freedom.

Section B $(5 \times 4 = 20)$ Marks

Answer any **FIVE** questions

13. Explain assumption of Karl Pearson's correlation coefficient.
14. Prove that the least square estimators for simple linear regression are unbiased.
15. Explain the residual plots in detail.
16. Describe the test procedure for testing a subset of regression coefficients equal to zero.
17. What is meant by heteroscedasticity and how remove from the data set.
18. Explain the procedure to find an outlier and how to delete from the data
19. Explain the different types of transformations used in modelling.

Section C $(3 \times 10 = 30)$ Marks

Answer any **THREE** questions

20. Explain simple, multiple and partial correlation coefficients with illustration.
21. a) Explain principle of weighted least square.
    b) Discuss in detail about testing the normality of error terms.
22. Explain the various problems involving construction of multiple regression models
23. Derive best linear unbiased estimator for Regression coefficient in multiple regression models.
24. Explain the procedure for testing the significance of the regression coefficient and testing the hypothesis for over all fitness of the model using ANOVA.

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