# M.Sc. DEGREE EXAMINATION,APRIL 2020
## I Year II Semester
## Applied Regression Analysis

**Time : 3 Hours** **Max.marks :75**

**Section A** $(10 \times 2 = 20)$ Marks

Answer any **TEN** questions

1. Give the assumptions of simple linear regression model
2. Define coefficient of determination.
3. What is multiple linear regression model?
4. Define and list any one property of hat matrix.
5. State Gauss –Markov theorem
6. What do you meant by outlier?
7. State any two methods of detecting auto correlation.
8. Define multicollinearity.
9. What are sources of multicollinearity?
10. What is non-linear regression?
11. What is intrinsically linear?
12. State Cook's distance measure

**Section B** $(5 \times 5 = 25)$ Marks

Answer any **FIVE** questions

13. Estimate the parameters of a simple linear regression model.
14. Describe interval estimation of the parameters of multiple linear regression.
15. Test the complete regression of multiple linear regression model.
16. Discuss the methods of detecting influential observation.
17. Describe briefly about indicator variable and their uses.
18. Elaborate on the effects of multicollinearity.
19. Explain the transformation of Non-linear regression model to linear model along with the advantages and disadvantages.

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

Answer any **THREE** questions

20. Test for significance of slope and intercept of simple linear regression model.
21. Explain the test procedure for testing individual coefficients and subset of regression variables for multiple linear regression model.
22. Elaborate the methods for scaling of residuals.
23. Explain the methods of detecting multicollinearity.
24. Estimate the parameters of NLR model using various iterative procedures.

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