LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.A. & B.COM DEGREE EXAMINATION – **ECONOMICS & COMMERCE**

FOURTH SEMESTER – **APRIL 2015**

ST 4207 - ECONOMETRICS

Date : 29/04/2015   Dept. No.   Max. : 100 Marks
Time : 09:00-12:00

Section –A

Answer all the questions (10 x 2 = 20)

1. Define Parameter and Statistic.
2. What is intercept and slope?
3. What is Standard Error?
4. Define Response variable.
5. Write the normality assumption for error term.
6. What is the use of R square value?
7. Define multicollinearity.
8. What is Confidence limit?
9. What is level of significance?
10. Define Bench mark Category.

Section –B

Answer any five questions (5 x 8 = 40)

11. What are the limitations in econometrics?
12. Explain the properties of ordinary least square estimators.
13. Elucidate the Durbin Watson 'd' statistic method.
14. Explain Variance Inflation Factor.
15. State and prove Gauss Markov theorem.
16. How do you measure the goodness of fit in the regression model?
17. Elucidate the interaction effect using dummy variable.
18. Discuss the problem of multicollinearity and explain the remedial measures.

Section – C

Answer any two questions   **(2 x 20= 40)**

19. Derive the expression for $\hat{\beta}_1$ and $\hat{\beta}_2$ with two explanatory variables in multiple regression models.

20. Consider the following data on Y, X_1 and X_2.

Y:	12	16	18	20	25
X_1:	5	7	4	9	3
X_2:	2	1	0	1	1

    a.) Fit a linear model of Y on X_1 and X_2. Interpret the regression coefficients.
    b.) Calculate R^2 and interpret it.

21. Test the problem of heteroscedasticity using Park test for the following data

X	2	5	4	6	8	4	3	5	7	2
Y	4	6	6	3	4	5	8	4	9	3

22. Construct a linear regression model for the given data by the use of dummy variables (bench mark category = M.tech)

Quantitative Aptitude Score	7	6	5	8	4	5	7	8	3	9
Education Qualification	M.E	M.tech	M.Stat	M.tech	M.E	M.tech	M.E	M.Stat	M.Stat	M.E

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