LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.A. DEGREE EXAMINATION – ECONOMICS

SECOND SEMESTER – APRIL 2014

EC 2811 - ECONOMETRICS

Date : 03/04/2014 Dept. No. Max. : 100 Marks

Time : 09:00-12:00

Part - A

Answer any FIVE questions. **(5 x 4 = 20 marks)**

1. Define Econometrics.
2. What is 'homoscedasticity'?
3. Differentiate ANOVA and ANCOVA with example.
4. Write a short note on Generalized Least Square method.
5. Distinguish between Autocorrelation and Serial Correlation.
6. What is 'simultaneous equation bias'?
7. Write short note on full and limited information models.

Part - B

Answer any FOUR questions. **(4 x 10 = 40 marks)**

8. Distinguish between PRF and SRF and bring out the significance of stochastic disturbance term.
9. If $y_i = \beta_1 + \beta_2 X_{2i} + U_i$, derive the estimators of β_1 and β_2.
10. Bring out the usefulness of dummy variable in seasonal analysis and explain the precautions of using the same.
11. Briefly explain the methods of deducting heteroscedasity.
12. Explain the recursive model with suitable example.
13. Given the demand and Supply model.

    Demand Function: $Q_t^d = \propto_0 + \propto_1 P_t + \propto_2 I_t + U_{1t}$

    Supply function: $Q_t^s = \beta_0 + \beta_1 P_t + U_{2t}$

    Examine the identification state of the given model.
14. Explain the Durbin-Watson d test for detecting autocorrelation.

Part - C

Answer any TWO questions. **(2 x 20 = 40 marks)**

15. Elaborate the assumptions of Classical Linear Regression Model.
16. Explain causes and consequences of muliticollinearity and how will you rectify the same.
17. Elucidate the problem of errors of measurement and the method of instrumental variable to rectify the same.
18. Given the following data

$$\sum y_i^2 = 1000, \sum x_{2i}^2 = 200, \sum x_{3i}^2 = 100, \sum x_{2i}y_i = 400,$$
$$\sum x_{3i}y_i = -100 \sum x_{2i}x_{3i} = 0, \bar{Y} = 50, \bar{X}_2 = 15, \bar{X}_3 = 10, n = 28.$$

(i) Estimate the parameters in the equation $y_i = \beta_1 + \beta_2 X_{2i} + \beta_3 X_{3i} + U_i$

(ii) Estimate S.E. of estimators,

(iii) Obtain 95% confidence interval of $\hat{\beta}_2$ and $\hat{\beta}_3$

(iv) Test the significance of $\hat{\beta}_2$ and $\hat{\beta}_3$

(v) Find R^2

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