

2017**M.A. / M.Sc.****3rd Semester Examination****ECONOMICS****PAPER—ECO-301E***Full Marks : 40**Time : 2 Hours*

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Group—A

1. Answer any *two* of questions : 2×2
- (a) Discuss the relative importance of regressors in multivariate CLRM ?
- (b) What are the effects of omission of a relevant regressor from a linear multiple regression model ?
- (c) What is autocorrelation ? How is its presence in the disturbance term detected ?

(Turn Over)

- (d) What happens to the property of Bestness of the estimates of parameter in the presence of heteroscedasticity in an econometric model?

2. Answer any one question : 1×6

- (a) State the assumption relating to the distribution of the disturbance term that is not used to derive the BLUE properties of the estimates of the parameters in the regression model. State the significance of the assumption of normal distribution of the disturbance term.

- (b) (i) Define the concept of specification error.

- (ii) Suppose that an irrelevant explanatory variable has been included in the regression equation. Show that the least squares estimates of the parameters of this regression equation will be efficient or not efficient under certain condition. State the condition also.

3. Answer any one question : 1×10

- (a) Show that the types of multicollinearity in a two regressor regression model depends on the combinations of values of r_1 , r_2 and r_{12} . 10

- (b) Explain in details, the asymptotic properties of estimators in case of large sample. 10

Group—B

4. Answer any *two* questions : 2×2
- (a) What is likelihood ratio test ?
 - (b) Distinguish between CAGR (Compound Annual Growth Rate) and Exponential Rate of Growth of a time series.
 - (c) Distinguish between model specification error and model mis-specification error. 2
 - (d) Differentiate between nested and non-nested models. 2
5. Answer any *one* question : 1×6
- (a) Present briefly a model to detect a break in a time series endogenously from a given data set.
 - (b) Discuss the Ramsey's test of model specification error. 6
6. Answer any *one* question : 1×10
- (a) Derive the maximum likelihood estimators of the parameters of a bivariate regression model under

usual assumptions. which of these parameter estimators coincide with the least square estimators. Explain the reasons behind this coincidence.5+2+3

- (b) Write a note on various types and consequences of model specification error. 10
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