

MASTER OF ARTS (ECONOMICS)

Term-End Examination

December, 2007

MECE-001 : ECONOMETRIC METHODS

Time : 3 hours

Maximum Marks : 100

Note : Answer any **two** questions from Section A and
any **five** questions from Section B.

SECTION A

Answer any **two** questions.

1. Consider the supply-demand model : 20

$$Q_t^D = \alpha_0 + \alpha_1 P_t + \alpha_2 X_t + u_{1t}$$

$$Q_t^S = \beta_0 + \beta_1 P_t + u_{2t}$$

where X = income is the exogenous variable.

- (a) Find the identification conditions of the demand and supply equations.
- (b) Apply indirect least squares method to estimate the supply equation in the model.
2. Explain why measurement error in explanatory variable leads to biased and inconsistent estimates of parameters while measurement error in dependent variable does not. 20

3. Explain how the profit model is specified. Give the estimation of a hypothetical profit model by maximum likelihood method and interpret the coefficients. 20

4. What are the important steps followed in principal components analysis ? Explain how principal components are derived by the covariance method. 20

SECTION B

Answer any **five** questions.

5. Explain the estimation procedure of simultaneous equation systems through the limited information maximum likelihood method. 12
6. When do you encounter the problem of autocorrelation in data ? Explain how you will detect the presence of autocorrelation. 12
7. Write short notes on : 12
 - (a) Breusch-Pagan Test
 - (b) White's Test
8. Suppose you want to test the differences in salary of a group of 50 teachers according to their gender (male, female) and qualification (graduate and post-graduate). Specify the above model and state how tests of significance can be carried out using the dummy variable method. 12
9. Prove that OLS estimates are BLUE. 12
10. Specify the partial adjustment model. How will you estimate the model ? 12
11. Explain the following concepts : 12
 - (a) Adjusted R-squared
 - (b) One-tail and two-tail tests
12. Explain the method of two-stage least squares. 12