M.A. Examination, 2018
Semester-III
Economics
Course – OP-5 (Optional)
(Advanced Econometrics-I)

Time: Three Hours **Full Marks: 40**

Questions are of value as indicated in the margin

Answer question number 1, 2 or 3, 4 or 5

1. Examine whether the following statements are True (T), False (F) or uncertain (U) (Provide a brief explanation) (***any four***) 4×4=16

   (a) It is appropriate to represent a dichotomous situation by using three dummy variables.

   (b) Compared to the Logit Model the cumulative distribution function of the probit Model has a heavier tail.

   (c) The OLS method is not applicable for estimation of the reduced form equations of a simultaneous equation system.

   (d) In a Tobit Model, Tobit coefficient of a regressor gives the marginal impact of that regressor on the mean value of the observed regressand.

   (e) In the Kyock Model, the application of OLS produces asymptotically biased estimates.

   (f) For an exactly identified equation 2SLS estimates coincide with ILS estimates.

2. (a) Specify a Multinomial Logit Modal and state the procedure to estimate such a model.

   (b) How do you measure the goodness of fit of such a model? 9+3=12

3. (a) Specify a Tobit Model and state the procedure to estimate such a model.

   (b) How are the marginal effects computed in a Probit Model?

   (c) How do you examine the overall statistical significance of a Logit / Probit Model?

   7+2½+2½=12

4. The (X^1X) matrix for all the endogenous variable in a model is

$$X^1X\begin{bmatrix}7 & 0 & 3 & 1\\ 0 & 2 & -2 & 0\\ 3 & -2 & 5 & 1\\ 1 & 0 & 1 & 1\end{bmatrix}$$

   Only the first of these exogenous variable has a non-zero coefficient in a structural equation to be estimated by 2SLS. This equation includes two endogenous variables and the least square estimates of the reduced form coefficients for these two variables are

$$\begin{bmatrix}0 & 1 & 3 & 2\\ 1 & -1 & 1 & -1\end{bmatrix}$$

P.T.O.

Taking the first endogenous variable as the dependent variable, state and solve the equation for the 2SLS estimates. 2+10=12

5. (a) Define a Recursive Model.

   (b) Prove that OLS estimates of Recursive Model parameters are consistent. 2+10=12

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