M.A. Examination, 2019

Semester-IV

Economics

Course: XV (Group-A)

(Econometrics-II)

(For Back Candidates)

Time: 3 Hours **Full marks: 40**

Questions are of value as indicated in the margin.

Answer question number **1** and***any two***from the rest.

1. Examine whether the following statements are True, False or uncertain and give brief explanation (***any four***) 4×4=16
   (a) The random walk model represents a stationary stochastic process.
   (b) The Error Correction Model (ECM) reconciles the short run behavior of an economic variable with its long run behavior.
   (c) A moving average process has an infinite memory.
   (d) GARCH model is better than ARCH model because the former is more parsimonious and avoids over fitting.
   (e) Panel data can be used to deal with heterogeneity among the cross-sectional units.
   (f) Two-way fixed effect model considers both individual and period effects in Panel Data.
2. (a) Explain how you would examine stationary of time series data using the Augmented Dickey Fuller test. What are main limitations of this test?
   (b) What is meant by co-integration? Explain the steps in Engle-Granger test of co integration between two time series variables. 4+2+2+4=12
3. (a) Distinguish between the autoregressive (AR) and moving average (MA) process.
   (b) Define an ARIMA process.
   (c) Discuss the steps involved in Box-Jenkins (BJ) methodology for ARIMA model selection. 3+2+7=12
4. (a) Construct a VAR model and explain how you would examine causality between the variables using this model.
   (b) What is the Vector Error Correction Model (VECM)?
   (c) Explain Engle's procedure of examining the presence of ARCH(p) effects in time series data. 5+2+5=12
5. (a) Discuss the Fixed Effect Model (FEM) of panel data regression and point out how it differs from the Constant CoefficientModel (CCM).
   (b) How would you choose between the FEM and the CCM for application to a particular problem? 6+2+4=12