

M.A. Examination, 2017
Semester-IV
Economics
Course-XV (Special) (Group-A)
(Econometrics-II)

Time: 3 Hours

Full Marks: 40

Questions are of value as indicated in the margin.

Answer question no. 1

1. Examine whether the following statements are True, False or uncertain and give brief explanation (*any four*) 4×4=16
- (a) Differencing method is employed to run a regression that involves time-series variables which are trend stationary.
 - (b) The random walk model represents a stationary stochastic process.
 - (c) An autoregressive process has an infinite memory.
 - (d) GARCH is better model than ARCH because the former is more parsimonious and avoids over fitting.
 - (e) Impulse responses trace out the responsiveness of the dependent variable in the VAR model to shocks to each of the variable.
 - (f) One way fixed effect model considers both individual and period effects in Panel Data.

Answer question no. 2 or question no. 3

2. (a) What is the vector Autoregressive (VAR) model?
- (b) Construct a VAR model and explain how you would examine causality between the variables using this model?
- (c) What is the vector error correction model (VECM)? When such a model is used?

2+7+2+1=12

or

3. (a) Explain how you would examine stationarity of time series data using the Augmented Dickey-Fuller (ADF) test. What are main limitations of this test?
- (b) What is meant by the 'ARCH effect'? Examine Engle's procedure of examining the presence of ARCH (p) effects in time series data. 4+2+2+4=12

P.T.O.

(2)

Answer question no. 4 or question no. 5

4. (a) What is 'within-group estimator' in the context of panel regression? What is the advantage of such an estimator?
- (b) What is 'first-difference estimator' in the context of panel regression?
- (c) Discuss the steps involved in the test that is performed to choose between the constant coefficient Model and Fixed Effect Model. 3+3+6=12

or

5. (a) Discuss the Random Effect Model of panel data regression and point out how it differs from the Fixed Effect Model. How would you choose between the FEM and REM for application to a particular problem? 6+6=12
