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63/2 (SEM-4) ECO 4·6

2024

ECONOMICS

Paper : ECO 4·6

(Econometrics)

Full Marks : 80

Pass Marks : 32

Time : Three hours

***The figures in the margin indicate
full marks for the questions.***

1. Answer the following questions : 2×4=8
 - (a) What are the properties of stationary series ?
 - (b) What is heteroskedasticity ?
 - (c) What is a unit root problem ?
 - (d) What is autocorrelation ?

Contd.

2. Answer the following questions : $5 \times 4 = 20$

- (a) Show that autocorrelation is similar to a correlation coefficient.
- (b) Show that MA(1) model is stationary.
- (c) Prove that ARMA model is stationary.
- (d) Take any non-stationary series and convert it to a stationary series.

3. Answer **any two** of the following questions : $10 \times 2 = 20$

- (a) What happens to the estimators in presence of autocorrelation?
- (b) Show that ARIMA model is non-stationary.
- (c) Find the estimators in a regression model when it suffers from Heteroskedasticity.
- (d) Explain the Granger causality test.

4. Answer the following questions : $16 \times 2 = 32$

- (a) State the importance of 2SLS. Explain the different stages how over identification problem is addressed by 2SLS method. $4 + 12 = 16$

Or

Elaborate the Dickey-Fuller and Augmented Dickey-Fuller test for autocorrelation.

- (b) Check the stationarity for a RWM with drift and RWM without drift. If not stationary, convert them into a stationary series. $12 + 4 = 16$

Or

- (i) Shortly explain a spurious regression with the help of a non-stationary series.
- (ii) Elaborate the error correction model as postulated by Engel and Granger. $6 + 10 = 16$