QP Code : 23/PT/11/XIXB

POST-GRADUATE COURSE

Term End Examination — June, 2023/December, 2023

ECONOMICS

Paper-XIXB : ADVANCED ECONOMETRICS - II

Time : 2 hours] [Full Marks : 50

Weightage of Marks : 80%

Special credit will be given for precise and correct answer. Marks will be deducted for spelling mistakes, untidiness and illegible handwriting. The figures in the margin indicate full marks.

Use of scientific calculator is strictly prohibited.

1. Answer any *four* of the following questions : $2\frac{1}{2} \times 4 = 10$

   a) What is the meaning of cointegration ?

   b) What is meant by weak stationarity ?

   c) What is spurious regression ?

   d) What is the difference between ARCH and GARCH models ?

   e) What is correlogram ?

   f) What do you mean by moving average method ?

2. Answer any *four* of the following questions : $5 \times 4 = 20$

   a) Write a short note on Johansen's Cointegration test.

   b) Briefly explain the difference between Fixed effect model and Random effect model in the context of Panel data.

   c) What is Random walk model ? Briefly explain different types of Random walk model. 2 + 3

   d) How will you select a particular time series model for analysing long term data ?

   e) What is the importance of stationary series ? What are the advantages of panel data over cross-section or time series data ? 2 + 3

f) From the U.K. private sector housing (X) for the period 1948 to 1984, Terence mills obtained the following regression results :

$$\Delta\hat{X}_t = 31 \cdot 03 - 0 \cdot 188 X_{t-1}$$

$$SE = (12 \cdot 50) \quad (0 \cdot 080)$$

$$(t =) Y \qquad (-2 \cdot 35)$$

Note : The 5 per cent critical Y value is – 2·95 and the 10 per cent critical Y value is – 2·60.

g) Is there a unit root in this time series ? How can you know this ? 2 + 3

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

a) What is Autoregressive (AR) Model ? Show that AR (1) process can be transformed to MA (α) process. 2 + 8

b) What is unit root problem ? Briefly explain different unit root tests in time series data. 2 + 8

c) What is forecasting ? Briefly explain the major steps involved in the application of the Box-Jenkins approach to forecasting. 2 + 8

d) "If the primary object is forecasting, VAR will do the job." Critically evaluate this statement. In what sense is VAR atheoretic ? 7 + 3