

- (ix) What is a bank's balance sheet ? Briefly explain its components. 1+4=5
- (x) What is standard money ?

4. Answer the following questions : **(any two)**

10×2=20

- (i) Discuss the role of money in modern economy.
- (ii) Explain the main constituents of money market.
- (iii) Distinguish between quantitative and selective methods of credit control. Explain the selective credit control measures. 3+7=10
- (iv) Explain in detail the determinants of money supply.

5. Answer the following questions : **(any one)**

14×1=14

- (i) Explain the functions of a central bank.
- (ii) Discuss the need of a sound banking system in a developing country.
- (iii) What factors influence demand for and supply of savings ? Determine market rate of interest in an economy with the help of saving and borrowing schedule. 4+10=14

Total number of printed pages-12

63/1 (SEM-5) DSE2/DSE2/  
ECOHE5126/ECOEHE5226

2023

### ECONOMICS

Paper : ECOHE5126/ECOEHE5226

Full Marks : 80

Pass Marks : 32

Time : Three hours

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

Paper : ECOHE5126

**(Applied Econometrics)**

**(Option-1)**

1. Choose the correct option of the following : 1×6=6
- (any six)**
- (a) The purpose of literature review in empirical research is :
- (i) To identify potential variables for the study

Contd.

- (ii) To provide an overview of existing research on the topic
  - (iii) To conduct statistical analysis
  - (iv) To present the research finding
- (b) Which of the following is the consequence of mis-specification?
- (i) Biased estimate
  - (ii) Unbiased estimate
  - (iii) Efficient estimate
  - (iv) Consistent estimate
- (c) What does model specification refer to?
- (i) Estimating the model parameter
  - (ii) Selecting the appropriate model
  - (iii) Evaluating the goodness of fit
  - (iv) Testing the statistical significance
- (d) What is the key challenge in estimating a simultaneous equation model?
- (i) Endogeneity
  - (ii) Heteroscedasticity
  - (iii) Autocorrelation
  - (iv) Multicollinearity

- (e) What is Panel Data in econometrics?
- (i) Data collected from multiple sources
  - (ii) Data collected at a single point of time
  - (iii) Data collected over multiple time periods from the same entities
  - (iv) Data collected from a specific region
- (f) What does a distributed lag model study?
- (i) Lagged effects of an independent variable
  - (ii) Contemporaneous of an independent variable
  - (iii) Interaction effect between independent variable
  - (iv) All of the above
- (g) In a fixed effect model what is held constant for each individual across time?
- (i) Independent variable
  - (ii) Dependent variable
  - (iii) Error term
  - (iv) Individual specific effects



(h) The estimation procedure adopted by the random effect model is -

- (i) GLS
  - (ii) WLS
  - (iii) RLS
  - (iv) OLS
- (i) Which of the following is the first stage in empirical research ?
- (i) Formulating a research question
  - (ii) Data collection
  - (iii) Publication of research
  - (iv) Data analysis
- (ii) In regression analysis mis-specification refers to :
- (i) Choosing the wrong specific level
  - (ii) Choosing the wrong model specification
  - (iii) Ignoring outliers in the data
  - (iv) Using inappropriate software

2. Answer the following questions : **(any five)**  
2×5=10

- (a) Define model selection in econometrics.
- (b) What is mis-specified model ?

(c) Define autoregressive model.

- (d) Mention two uses of E-VIEWS software.
- (e) Mention two common functional forms used in regression.
- (f) Explain why stationarity is a crucial requirement for autoregressive model.
- (g) Provide a concise definition of functional form in regression.

3. Answer **any six** of the following questions :  
5×6=30

- (a) Explain the merits and demerits of Koyck method of estimating the lag model.
- (b) "Model selection is a crucial step in statistical modeling." Elucidate the statement.
- (c) Distinguish between single equation system and the simultaneous equation system.
- (d) Mention the steps in analysing the Panel Data.
- (e) Discuss the concept of simultaneous equation model in econometrics.



(f) Discuss the instrumental variable estimation approach in simultaneous equation model.

(g) Discuss the concept of distributed lags and its connection to the Koyck model.

(h) Mention *any five* types of mis-specification in regression model.

(i) Explain the importance of identifying mis-specification in regression model.

(j) Write a brief note on the usefulness of STATA software in econometrics.

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

(a) Describe the structure of a Panel Data set. Explain fixed effects and random effects model in Panel Data analysis.

5+5=10

(b) Explain the preliminary stages of empirical economic research. Discuss the role of data collection in empirical economic research.

7+3=10

(c) Explain the concept of Panel Data and its advantage. Discuss the differences between cross-sectional, time series and panel data.

5+5=10

(a) Explain Heteroscedasticity and serial correlation in Panel Data models.

5. Answer **any one** of the following : 14

(a) Explain the concept of simultaneous equation model in econometrics. Discuss the instrumental variable estimation approach in simultaneous equation model.

8+6=14

(b) Explain the process of model specification in empirical economic research. Discuss ethical consideration in empirical economic research.

10+4=14

(c) Explore the concept of model selection and its relevance in building a reliable regression model. Explain the purpose of model selection.

8+6=14