

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2024  
(Sixth Semester)

Branch – STATISTICS

ECONOMETRICS

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

1. In Gerhard Tintner's framework, what role do assumptions play in economic modeling?
  - (i) They are unnecessary and should be avoided
  - (ii) They help to validate the accuracy of the model
  - (iii) They are essential simplifications of reality to facilitate analysis
  - (iv) They are irrelevant to the outcome of the mode
  
2. Which of the following accurately describes the relationship between the static multiplier and government spending?
  - (i) The static multiplier is higher when government spending decreases.
  - (ii) The static multiplier is higher when government spending increases.
  - (iii) The static multiplier is unaffected by changes in government spending.
  - (iv) The static multiplier is only relevant for changes in private investment.
  
3. In Leontief's input-output model, what does the coefficient in the input-output matrix represent?
  - (i) The total revenue generated by an industry
  - (ii) The total resources required by an industry to produce one unit of output
  - (iii) The total output of an industry
  - (iv) The total labor force employed by an industry
  
4. Which statistical methods are commonly used in economic forecasting, according to principles outlined by Tintner?
  - (i) Regression analysis and time-series analysis
  - (ii) Hypothesis testing and Bayesian inference
  - (iii) Mean-variance optimization and Monte Carlo simulation
  - (iv) Factor analysis and cluster analysis
  
5. How is autocorrelation commonly detected in time series data?
  - (i) By examining scatter plots of the data
  - (ii) By calculating the variance of the data
  - (iii) By analyzing the residuals from a regression model
  - (iv) By calculating correlation coefficients between lagged values of the variable

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

- 6 a Explain the uses of economic models in economic theory.  
OR
- b Provide examples of linear and nonlinear models commonly used in econometric analysis.

Cont...

- 7 a What role does the accelerator principle play in shaping the business cycle?  
OR  
b Explain the significance of the Domar Model in economic theory.
- 8 a Define Input / Output analysis and outline its main assumptions.  
OR  
b Explain Leontief's Open Model and outline its main features.
- 9 a Explain the scope of econometrics.  
OR  
b Identify and explain the limitations of econometrics in economic analysis.
- 10 a Explain how autocorrelation can be detected and corrected in econometric analysis.  
OR  
b Provide examples of how dummy variables are used in econometric analysis.

**SECTION -C (30 Marks)**

Answer ALL questions

ALL questions carry EQUAL Marks

(5 x 6 = 30)

- 11 a Provide examples of exogenous and endogenous variables and explain their roles in economic analysis.  
OR  
b Explain how dynamic variables are incorporated into economic models.
- 12 a Illustrate Harrod model of Economic Growth.  
OR  
b Describe the main features of the Cobweb Model.
- 13 a Explain Input / Output analysis in economics, highlighting its key concepts, assumptions, and applications in economic analysis.  
OR  
b Discuss about Leontief's Model.
- 14 a Describe two variables linear model.  
OR  
b Discuss the concept of Economic Forecasting, highlighting its applications in economic analysis.
- 15 a Discuss the methods of detecting Multicollinearity.  
OR  
b Explain the concept of heteroscedasticity.

Z-Z-Z END