

23P427

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Name :

Reg. No :

FOURTH SEMESTER M.A. DEGREE EXAMINATION, APRIL 2025

(CBCSS-PG)

(Regular/Supplementary/Improvement)

CC19P ECO4 E01 - ADVANCED ECONOMETRICS

(Economics)

(2019 Admission onwards)

Time: 3 Hours

Maximum: 30 Weightage

Part A

Answer *all* questions. Each question carries 1/5 weightage.

1. In linear probability model, the
 - (a) regressand is dichotomous
 - (b) regressand is ordinal variable
 - (c) regressor is dichotomous
 - (d) regressors is ordinal variable
2. Applying OLS to simultaneous equations results in the parameters being
 - (a) is faster
 - (b) is slower
 - (c) depends on β_k
 - (d) depends on k
3. What is the key assumption made in the adaptive expectation model?
 - (a) The dependent variable is stationary
 - (b) The lag structure is fixed
 - (c) The errors are normally distributed
 - (d) Agents form expectations based on past observations of the variable
4. Dataset where each subject has the same number of observations is called
 - (a) Short panel
 - (b) Long panel
 - (c) Balanced panel
 - (d) Unbalanced panel
5. In simultaneous equation model, the number of equations to be estimated is
 - (a) One more than the number of endogenous variables
 - (b) Equal to the number of endogenous variables
 - (c) Depend on the underlying economic theory
 - (d) Equal to the number of endogenous and exogenous variables
6. The short run or impact multiplier are the
 - (a) structural equation coefficient
 - (b) reduced form coefficient
 - (c) linear model
 - (d) first differenced SEM
7. Indirect least squares method and two-stage least squares are examples of
 - (a) Single equation method
 - (b) System method
 - (c) Simultaneous equation method
 - (d) Full information method

8. In estimating SEM, we find proxy variables for the stochastic explanatory variables. These proxy variables are known as
 - (a) Coefficients of reduced form
 - (b) Parameters of structural form
 - (c) Instrumental variables
 - (d) Explanatory variables
9. In random walk without drift
 - (a) The effect of shock persists throughout the time period
 - (b) The effect of shock in the past dies out over time
 - (c) The effect of shock drifts away quickly
 - (d) There is no effect of past shock
10. In simultaneous equation model, the endogenous variable in one equation may appear as
 - (a) Regressand in other equations
 - (b) Regressor in other equations
 - (c) Parameters in other equations
 - (d) Dependent variable in other equations
11. A purely random process is a stationary series with
 - (a) Zero variance
 - (b) Zero mean
 - (c) Positive mean
 - (d) Zero mean and zero variance
12. A series that is an example for difference stationary process is
 - (a) Random walk with drift
 - (b) Random walk without drift
 - (c) Both (a) and (b)
 - (d) Neither (a) nor (b)
13. A white noise process is a stochastic process with
 - (a) Zero mean
 - (b) Constant variance
 - (c) Serially uncorrelated error term
 - (d) All of the above
14. The model in which Y depends on current and previous time period error term is
 - (a) Single equation model
 - (b) AR (1) model
 - (c) MA (1) model
 - (d) ARMA (1,1) model
15. Data such as stock prices exhibit periods in which their prices show wide swings for an extended time period followed by periods in which there is relative calm. This phenomenon is known as
 - (a) Volatility clustering
 - (b) Impulse response function
 - (c) Volatility
 - (d) Partial autocorrelation function

(15 × 1/5 = 3 Weightage)

Part B (Very Short Answer Questions)

Answer any *five* questions. Each question carries 1 weightage.

16. Define a lag.
17. Why OLS cannot be applied to estimate autoregressive models?
18. What is an unbalanced panel?
19. Define endogenous and exogenous variables.

20. Define recursive models.
21. What is meant by instrument exogeneity?
22. What is meant by stochastic processes?
23. Define VAR models.

(5 × 1 = 5 Weightage)

Part C (Short Answer Questions)

Answer any **seven** questions. Each question carries 2 weightage.

24. Explain Probit model.
25. Differentiate between autoregressive and distributed lag models.
26. What is Koyck transformation? Explain the features.
27. Bring out the features of h statistic.
28. Explain the rules of identification.
29. Explain the instrumental variable estimator with a single regressor and a single instrument.
30. Bring out the difference between trend stationary and difference stationary processes.
31. Explain the Dickey-Fuller test of stationarity.
32. What is error correction mechanism (ECM)? Bring out its relation with cointegration?
33. Explain the measurement of volatility using ARCH and GARCH models.

(7 × 2 = 14 Weightage)

Part D (Essay questions)

Answer any **two** questions. Each question carries 4 weightage.

34. Explain the logit, probit, and tobit models.
35. Explain the estimation of simultaneous equations using different single equation methods.
36. Explain the estimation of exactly identified and overidentified structural equations.
37. Explain the Box–Jenkins methodology of economic forecasting?

(2 × 4 = 8 Weightage)
