36. Explain the non-stationarity in time series analysis and random walk models.

37. Explain the Box–Jenkins methodology of economic forecasting.

<div align="center">(2 × 4 = 8 Weightage)</div>

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22P427   (Pages: 4)   Name: ……..…………….

Reg. No: …..…………….

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FOURTH SEMESTER M.A. DEGREE EXAMINATION, APRIL 2024

(CBCSS - PG)

(Regular/Supplementary/Improvement)

CC19P ECO4 E01 – ADVANCED ECONOMETRICS

(Economics)

(2019 Admission onwards)

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Time: 3 Hours   Maximum: 30 Weightage

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Part A

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

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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. Models that use censored data is

   (a) LPM model   (b) Logit model   (c) Probit model   (d) Tobit model

3. Profits of a firm depend on the current sales and past period (t-1) sales of the firm. This is an example of

   (a) Autoregressive model   (b) Distributed lag model

   (c) Lagged model   (d) Linear probability model

4. In Koyck transformation,

   (a) distributed lag model is converted into an autoregressive model

   (b) an autoregressive model is converted into distributed lag model

   (c) infinite distributed lag model is converted to finite distributed lag model

   (d) finite distributed lag model is converted to infinite distributed lag model

5. What is the key assumption made when using the Almon approach to estimate a distributed lag model?

   (a) The dependent variable is stationary   (b) The lag coefficients are linear

   (c) The lag structure is fixed   (d) The residuals are normally distributed

6. In which of the following models, the intercept varies across subjects but remains time-invariant?

   (a) Pooled OLS model

   (b) Fixed effect least square dummy variable model

   (c) Fixed effect within group model

   (d) Random effect model

<div align="right">(1)   Turn Over</div>

7. 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

8. In SEMs, OLS can be applied if

   (a) it is a recursive model

   (b) order condition is satisfied

   (c) rank condition is satisfied

   (d) both order and rank conditions are satisfied

9. The ILS estimators are

   (a) unbiased in small samples   (b) biased in large samples

   (c) asymptotically efficient   (d) BLUE in small and large samples

10. 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

11. A time series with all the moments of its probability distribution being invariant over time is known as

   (a) Trend stationary   (b) Difference stationary

   (c) Weakly stationary   (d) Strictly stationary

12. A time series that has a unit root can be made stationary by

   (a) detrending the time series   (b) first differencing the time series

   (c) Either (a) or (b)   (d) Neither (a) nor (b)

13. 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

14. ARIMA (0, 0, q) means the stochastic process is

   (a) AR (q) stationary process

   (b) MA (q) stationary process

   (c) Time series that needs to be differenced p times to make it stationary

   (d) Nonstationary series with p lags

15. The response of the dependent variable in the VAR system to shocks in the error terms is traced by

   (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. Write a note on LPM.

17. What is impact multiplier?

18. Define an instrumental variable.

19. Define single-equation models.

20. What are causal models?

21. What is meant by instrument relevance?

22. Define spurious regression.

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. Explain autoregressive and distributed lag models.

26. Explain the Koyck approach to distributed lag models.

27. Explain the procedure for detecting autocorrelation problem in autoregressive models.

28. Explain the rules of identication.

29. Explain the method of 2SLS.

30. Explain the instrumental variable estimator with a single regressor and a single instrument.

31. Compare and contrast the commonly used tests of stationarity.

32. What is error correction mechanism (ECM)? Bring out its relation with cointegration?

33. Explain volatility clustering and its measurement.

(7 × 2 = 14 Weightage)

Part D (Essay questions)
Answer any *two* questions. Each question carries 4 weightage.

34. Compare and contrast the fixed effect and random effect models in panel data analysis.

35. Explain the different single equation methods of estimation of simultaneous equations.