TB258364L

Reg. No :.....

Name :.....

Integrated M.A . Programme in Social Sciences (C.S.S) EXAMINATION, JANUARY 2025

2020 ADMISSIONS REGULAR (ACCELERATED SEMESTER)

SEMESTER VIII - CORE COURSE ECONOMICS

EC08C35IM20 - Advanced Econometrics

Time : 3 Hours **Maximum Weight : 30**

Part A

I. Answer any Eight questions. Each question carries 1 weight **(8x1=8)**

1. Define dummy variables in regression analysis.
2. Explain what is meant by piecewise linear regression models.
3. Explain what are distributed lag models.
4. Explain what is the role of lags in economics.
5. State the rank condition of identification.
6. Define simultaneous equation models.
7. Difference between stationary and non stationary stochastic process.
8. Define Gaussian white noise process.
9. Write a note on GARCH models.
10. Discuss the differences between ARCH and GARCH models.

Part B

II. Answer any Six questions. Each question carries 2 weight **(6x2=12)**

11. Explain what is a dummy variable and how is it used in regression models.
12. Discuss adaptive expectations model.
13. Explain the concept of lag in economics.
14. Explain the procedure for two-stage least squares (2SLS) estimation.
15. Demand function: $Q^d_t = \alpha_0 + \alpha_1 P_t + \alpha_2 I_t + \alpha_3 R_t + u_{1t}$

    Supply function: $Qst = \beta_0 + \beta_1 P_t + \beta_2 P_{t-1} + u_{2t}$

    Check the rank and order condition of identification,
16. Explain stochastic processes and two types of stochastic processes.
17. Explain how does VAR differ from univariate time series models like ARIMA.
18. Discuss MA process

Part C

III. Answer any Two questions. Each question carries 5 weight **(2x5=10)**

19. Explain the concept of ANCOVA and its use in statistical analysis. Provide examples of real-world scenarios where ANCOVA would be the most appropriate choice.
20. Explain the concept of simultaneous equation bias in econometrics. Provide an example of a real-world situation where simultaneous equation bias may occur and explain how it affects the estimation process
21. Describe how the autocorrelation function differs between stationary and non-stationary processes. Provide examples to illustrate your points.
22. Describe the different methods for measuring volatility in financial markets. Discuss the importance of modeling volatility for financial forecasting.