Reg. No. : ....

Name : ....

II Semester M.A. Degree (C.B.S.S. – Reg./Supple./Imp.) Examination, April 2022
(2018 Admission Onwards)
ECONOMICS/DEV. ECONOMICS/APPLIED ECONOMICS
ECO2C09 – Basic Econometrics

Time : 3 Hours

Max. Marks : 60

PART – A

Answer **all** the **eight** questions in Part – A. **Each** question carries ½ mark :

1. Which of the following is not a distribution free test ?

   A) GearyTest

   B) Pearson Product Moment Correlation

   C) Spearman Coefficient of Correlation

   D) Kolmogorov-Smirnov Test

2. The order condition states that

   A) If $k = m - 1 \Rightarrow$ The equation is exactly identified

   B) If $k > m - 1 \Rightarrow$ The equation is under identified

   C) If $k < m - 1 \Rightarrow$ The equation is over identified

   D) All the above

3. Factor analysis is a remedial measure for

   A) Autocorrelation
   B) Multicollinearity
   C) Heteroscedasticity
   D) Normality

4. Which among the following is an assumption of a linear regression ?

   A) Multivariate normality
   B) No or little multicollinearity
   C) No auto-correlation
   D) All the above

5. Regressors are _____ in repeated samples.

   A) Random   B) Stochastic

   C) Non stochastic   D) Varying

6. Identify the variable which is not known as a dummy variable.

   A) Nominal scale   B) Categorical

   C) Ratio   D) Indicator

7. The theorem that justifies normality assumption in OLS regression

   A) Central limit   B) Gauss Markov

   C) Kruskal's   D) Taylor's

8. Variance inflation factor detects

   A) Simultaneity   B) Linearity

   C) Autocorrelation   D) Multicollinearity   **(8×½=4)**

PART – B

Answer **any eight** questions in Part – **B**. **Each** question carries **2** marks. **No** answer should exceed **one** page :

9. Define unbiasedness property of an estimator.

10. Give an account of Indirect Least Squares.

11. What is the normality assumption ?

12. What is GLS method ?

13. What do you mean by parameter estimation ?

14. Mention any two consequences of heteroscedasticity.

15. Define parameter.

16. Define total sum of squares.

17. What is simultaneous equation bias ?

18. Why do we need econometrics ?

19. Explain the goodness of fit of a statistical model. (8×2=16)

PART – C

Answer **any four** questions in Part – C. **Each** question carries **5** marks. **No** answer should exceed **two** and a **half** pages.

20. Discuss the nature and scope of econometrics.

21. Explain identification problem. Differentiate between the rank and order conditions of identifiability.

22. What is the justification of stochastic disturbance term in regression analysis ?

23. Mathematically derive coefficients using OLS method for the regression function :
$y_i = \beta_1 + \beta_2 x_i + u_i$.

24. Prove the properties of OLS regression estimators.

25. Explain ANOVA in regression. (4×5=20)

PART – D

Answer **any two** questions in Part – D. **Each** question carries **10** marks. **No** answer should exceed **six** pages :

26. What are the consequences of OLS estimation in the presence of autocorrelation ? Discuss the Durbin Watson d test.

27. Explain the two approaches in the hypothesis testing of regression coefficients.

28. State and explain the assumptions of classical linear regression model.

29. Discuss the nature of simultaneous equation models. (2×10=20)