LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.A. DEGREE EXAMINATION – **ECONOMICS**

THIRD SEMESTER – **APRIL 2022**

16/17/18UEC3MC02 – BASIC ECONOMETRICS

Date: 24-06-2022 Dept. No. Max. : 100 Marks

Time: 01:00 PM - 04:00 PM

PART – A

Answer any **FIVE** questions in about 75 words each: (5x 4 = 20 Marks)

1. Define Econometrics.
2. Distinguish between Discrete and Continuous random variables.
3. What is the relation between 'Population' and 'Sample'?
4. Write a note on Cumulative Density Function.
5. What is the difference between a 'Deterministic' model and a 'Stochastic' model?
6. Define Standard Error (SE).
7. State the normality assumptions of the random disturbance term Ui.

PART – B

Answer any **FOUR** questions in about 250 words each: (4 x 10 = 40 Marks)

8. Draw the flow chart showing Divisions of Econometrics.
9. Briefly explain the properties of a good estimator.
10. Illustrate the concepts:
    (a) Marginal Probability.
    (b) Joint Probability.
    (c) Conditional Probability.
    (d) Expectations.
11. Explain the stochastic assumptions of OLS estimators.
12. Show that R^2 is a measure of Goodness of fit in OLS regression using a suitable diagram.
13. Using suitable illustration, compare the Population Regression Function (PRF) and the Sample Regression Function (SRF) for a simple linear model.
14. State the procedure for testing the significance of large samples using Z test.

PART – C

Answer any **TWO** questions in about 900 words each: (2 x 20 = 40 Marks)

15. Examine in detail the methodology of Econometrics.
16. Explain the concepts of Point Estimation and Interval Estimation using suitable examples.
17. Using Gauss Markov theorem, prove that OLS estimators are BLUE in a two variable linear model $Yi = \beta_1 + \beta_2 Xi + Ui$.
18. The following data gives an account of Family Consumption Expenditure (Yi) and Family Income (Xi):

Yi:	70	65	90	95	110	115	120	140	155	150
Xi:	80	100	120	140	160	180	200	220	240	260

(a) Estimate the Consumption function of the family $Yi = \beta 1 + \beta 2Xi + Ui$.
(b) Find the Variance and Standard Error of the estimators.
(c) Test the significance of the parameters at 5% level of significance.

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