

20U443

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Name:

Reg.No:

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2022

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC19U MEC4 C04 - MATHEMATICAL ECONOMICS

(Statistics - Complementary Course)

(2019 Admission onwards)

Time : 2.00 Hours

Maximum : 60 Marks

Credit : 3

Part A (Short answer questions)

Answer *all* questions. Each question carries 2 marks.

1. Explain the term Econometrics.
2. Explain the Simple linear regression model.
3. Explain pooled data.
4. Briefly explain method of ordinary least squares.
5. Prove that the residuals are uncorrelated with the predicted Y_i .
6. What are the features of β_1 and β_2 .
7. Explain correlation coefficient.
8. Define level of significance.
9. Explain normal probability plot.
10. Explain ANOVA table.
11. Explain the model of regression through origin.
12. What do you mean by reciprocal models?

(Ceiling: 20 Marks)

Part B (Short essay questions - Paragraph)

Answer *all* questions. Each question carries 5 marks.

13. Prove that the conditional expectation of error term is zero.
14. Explain Sample regression function.

15. Establish the relationship between r^2 and $\hat{\beta}_2$.
16. Explain Monte Carlo experiment.
17. Why do we employ the Normality assumption?
18. Obtain $100(1 - \alpha)\%$ confidence interval for σ^2 .
19. Discuss about the functional forms of regression model.

(Ceiling: 30 Marks)

Part C (Essay questions)

Answer any *one* question. The question carries 10 marks.

20. Find the least square estimator of σ^2 .
21. Discuss about the method of maximum likelihood estimation of two variable regression model.

(1 × 10 = 10 Marks)
