



QP CODE: 26019294



26019294

Reg No :

Name :

M.Sc DEGREE (CSS) EXAMINATION, MARCH 2026

Fourth Semester

Core Courses - ST500401 - ECONOMETRICS METHODS

M Sc STATISTICS, M Sc APPLIED STATISTICS

2019 Admission Onwards

4FE5CC69

Time: 3 Hours

Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

Weight 1 each.

1. Define a linear regression model.
2. Derive the least square estimator of β in a multiple linear regression model $Y = X\beta + U$.
3. What are stochastic regressors?
4. Write a short note on outlier, leverage and influential observations.
5. Define price elasticity of demand.
6. Explain the uses of cobweb model.
7. Define cost function.
8. State Euler's theorem on homogeneous functions.
9. Explain the structural form and reduced form of a model with an example.
10. Discuss autoregressive and distributed lag models with suitable examples.

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

Weight 2 each.

11. Discuss the procedure of testing the significance of the parameters of the two variable regression model. Construct $100(1 - \alpha)\%$ confidence intervals for each of these parameters.
12. What are orthogonal polynomials? How it can be used more effectively in fitting a polynomial of appropriate degree?





13. Describe Glejser test.
14. Discuss any two tests for detecting auto correlation.
15. Explain indifference curve approach.
16. Explain the economic significance of Cobb-Douglas production function.
17. Explain the concept of identification problem using an example.
18. Explain least variance ratio estimation method.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

*Weight **5** each.*

19. Explain the uses of dummy variables in regression models.
20. What is multicollinearity. How can we detect it? How to overcome this problem in a regression model?
21. Describe the input-output model and indicates Hawkins-Simon conditions.
22. Describe the 2SLS method of estimation. State the asymptotic properties of the estimates so obtained.

(2×5=10 weightage)

