QP CODE: 24800580

24800580

Reg No : .....

Name : .....

INTEGRATED MSC DEGREE EXAMINATION, DECEMBER 2023

Sixth Semester

NTEGRATED MSC BASIC SCIENCE-STATISTICS

Elective - IST6EL05 - MATHEMATICAL ECONOMICS

2020 Admission Onwards

914A950C

Time: 3 Hours Weightage: 30

Part A (Short Answer Questions)

*Answer any **eight** questions.*

*Weight **1** each.*

1. Explain the following economical terms (i) Human wants (ii) Commodities (iii) Utility
2. Explain the different factors influence consumer behavior.
3. What do you mean by demand schedule?
4. What do you mean by marginal product?
5. State Euler's theorem.
6. Explain limitations of input output model.
7. Write three statistical assumptions in linear model.
8. Write a note on coefficient of determination.
9. Explain structural model.
10. Write different method of estimation and explain any one of them.

(8×1=8 weightage)

Part B (Short Essay/Problems)

*Answer any **six** questions.*

*Weight **2** each.*

11. Explain (i) utility function (ii) Marginal utility analysis
12. Find the elasticity of the demand for the demand law p = (a-bx)^2 in terms of x. show that η increases as x increases. Find the output where η=1. Examine whether the demand law is normal.

13. Explain (i) properties of Cobb-Douglas production function (ii) limitations of Cobb-Douglas production function.

14. Write a note on Leontief's input output model.

15. Briefly explain Cochrane-Orcutt procedure.

16. Discuss different solutions of multicollinearity.

17. The model is $y_1 = a_1y_1 + a_2x_1 + u_1$

$y_2 = b_1y_1 + b_2x_2 + b_3x_3 + u_3$

y_1, y_2 - endogeneous variables

x_1, x_2, x_3 - exogeneous variables. Identify the equations.

18. Explain TSLS method of estimation.

(6×2=12 weightage)

Part C (Essay Type Questions)

*Answer any **two** questions.*

*Weight **5** each.*

19. (a) Discuss total cost function

(b) Show that AC and MC are equal when AC is minimum.

(c) Given the total cost $\pi = \frac{x^2}{10} + 5x + 200$. Find the AC and MC also find the output for which AC is minimum.

20. (a) Explain elasticity of substitution. (b) Show that $\sigma = \frac{r}{ab} \frac{[ar+ab]}{r\frac{dr}{db} - \frac{dr}{da}}$

21. What is meant by autocorrelation?

a)Indicate its causes and consequences.

b)Discuss various models of autocorrelation.

22. Explain full Information maximum likelihood method.

(2×5=10 weightage)