

20U128

(Pages: 2)

Name:

Reg.No:

FIRST SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2020

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC19U MEC1 C01 - MATHEMATICAL ECONOMICS

(Statistics - Complementary Course)

(2019 Admission onwards)

Time : 2.00 Hours

Maximum : 60 Marks

Credit : 3

Part A (Short answer questions)

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

1. Define law of demand.
2. What do you mean by shift in supply?
3. Suppose 5% rise in price of eggs causes its quantity demanded to fall by 10%. Find elasticity of demand.
4. When did you say that a firm is in optimum?
5. Define Marginal Revenue.
6. Given the demand function = $30 - 2Q$, find the marginal revenue function
7. What is the difference between cardinal utility approach and ordinal utility approach
8. Explain the concavity and convexity of a function
9. Find the differential of the function $y = (2x - 5)^2$
10. Explain marginal productivity.
11. Define income elasticity of demand.
12. What do you mean by optimization of a function?

(Ceiling: 20 Marks)

Part B (Short essay questions)

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

13. Discuss the reasons for law of demand

14. Briefly explain supply of a commodity
15. What are different concepts of cost
16. What do you mean by utility? Explain the utility approach developed by Alfred Marshall.
17. The utility function $u = x^2y$ and the budget line is $x + 2y = 4$. Find equilibrium bundle.
18. Find the cross partial derivative of $z = 3x^2 + 12xy^2 + 5y$
19. Find the first derivative of $z = x \log x$

(Ceiling: 30 Marks)

Part C (Essay questions)

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

20. a) Explain short run cost functions
b) Given $TC = \frac{x^3}{3} - 3x^2 + 9x$ Find the value of x when AC is minimum and also find the value of MC at the minimum value of AC
21. Optimize $z = 26x - 3x^2 + 5xy - 6y^2 + 12y$ subject to the constraint $3x + y = 170$

(1 × 10 = 10 Marks)
