

15U638

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Name:

Reg. No.....

SIXTH SEMESTER B.A. DEGREE EXAMINATION, MARCH 2018

(CUCBCSS-UG)

CC15U ECO6 B12 - MATHEMATICAL ECONOMICS

Economics–Core Course

(2015 Admission)

Time: Three Hours

Maximum: 80 Marks

Answers may be written either in English or in Malayalam.

Part A

Answer *all* questions. Each question carries $\frac{1}{2}$ mark.

1. The Cross elasticity for complementary goods will be
(a) Negative (b) Positive (c) Zero (d) None of the above
2. At the point of tangency between the budget line and indifference curve
(a) MRS = price ratio (b) MRS > priceratio
(c) MRS < priceratio (d) MRS \neq priceratio
3. At the shut down point
(a) P=AVC (b) TR=AFC (c) MC=MR (d) All the above
4. Breakeven point is the intersection between
(a) MC and MR (b) TC and TR (c) AC and AR (d) none of the above
5. If MR is Rs.50 and the price elasticity of demand is 2, find the AR.
(a) 50 (b) 100 (c) 150 (d) 200
6. Efficient allocation of resources is achieved under
(a) Monopoly (b) Perfect competition
(c) Oligopoly (d) Monopolistic competition
7. $y=mx+c$ is of a straight line
(a) slope form (b) general form (c) intercept form (d) none of the above
8. In the case of demand for inferior goods, income effect is
(a) Positive (b) negative (c) constant (d) none of the above
9. The concept of consumer surplus is put popularised by
(a) Alfred Marshall (b) Keynes (c) Pigou (d) Friedman
10. Elasticity of substitution of Cobb-Douglas production function is
(a) 0 (b) 1 (c) 2 (d) 3

(1)

Turn Over

11. When total utility curve reaches the maximum, the Marginal utility will be

- (a) Positive (b) Negative (c) Zero (d) Falling

12. The slope of indifference curve represents

- (a) MRTS (b) MRS (c) Price ratio (d) All the above

(12 x 1/2 = 6 Marks)

Part B

Answer any *ten* questions. Each question carries 2 marks.

- 13. What is mathematical economics?
- 14. Distinguish between monopoly and monopolistic competition.
- 15. What do you mean by utility function?
- 16. What do you mean by APC and MPC?
- 17. What is the significance of lagrange multiplier?
- 18. Explain the concept least cost combination in association with production?
- 19. Define Differential equation.
- 20. What do you mean by Cross elasticity of demand?
- 21. Explain Shut down point.
- 22. What is Production function?
- 23. Differentiate between Fixed and variable cost.
- 24. What is meant by constraint optimization?

(10 x 2 = 20 Marks)

Part C

Answer any *six* questions. Each question carries 5 marks.

- 25. If MR is 15 and the elasticity of demand with respect to price is 2, find the average revenue?
- 26. What is meant by production function and explain diagrammatically production possibility curve?
- 27. Find the dual of the following LPP: Minimize $Z=40x_1 + 200x_2$
 Subject to: $4x_1 + 40x_2 \geq 160$
 $3x_1 + 10x_2 \geq 60$
 $8x_1 + 10x_2 \geq 80$
 $x_1, x_2 \geq 0$
- 28. Explain different degrees of price discrimination.
- 29. Explain the basic concepts incorporated in linear programming.

30. If $y = x^4 - x^9 - x^{11}$ find $\frac{dy}{dx}$

31. What are the basic assumptions of Input output analysis?

32. Find out the marginal revenue if the total revenue is $R = 50x - 2x^2$

(6 x 5= 30 Marks)

Part D

Answer any *two* questions .Each question carries 12 marks.

- 33. Give an essay on the properties of Cobb-Douglas production function.
- 34. Optimize the function $Z= 4x^2 + 3xy+ 6y^2$ subject to the constraint $x + y=42$ with Lagrange multiplier.
- 35. Write an essay on Input output analysis.
- 36. Explain and compare the equilibrium conditions under perfectly competitive market and monopoly.

(2 x 12 = 24 Marks)
