K16U 2015

Reg. No. : ....

Name : ....

III Semester B.A. Degree (CBCSS – Reg./Supple./Imp.) Examination, November 2016
(2014 Admn. Onwards)
COMPLEMENTARY COURSE IN ECONOMICS
3C03 ECO : Mathematical Economics – I

Time : 3 Hours   Max. Marks : 40

PART – A

Answer **all** the questions. **Each** carries **1** mark :

1. The coefficient of price elasticity of demand at a particular point on a demand curve is _____

2. If MR is 20 and elasticity of demand is 2, then AR is _____

3. MPL/MPK is _____

4. _____ is the locus of points of different combinations of commodities give the same level of satisfaction.

(4×1=4)

PART – B

Answer **any seven** questions. **Each** carries **2** marks :

5. Distinguish between AP and MP.

6. Demand function of a monopolist is 14-2x and the cost function is $C = x^2 + 2x$. Find the marginal cost, marginal revenue and equilibrium output.

7. What is indifference curve ?

8. What are the properties of demand function ?

9. Explain Cobb-Douglas production function.

10. Distinguish between elasticity of demand and supply function.

11. Find the equilibrium price for a commodity when supply and demand functions are given by $Q_s = -12+p$ and $Q_d = -2-p$.

12. Explain short run equilibrium under pure monopoly.

13. Define MRTS.

14. Define Monopolistic competition.

PART – C

Answer **any 4** questions. **Each** carries **3** marks :

15. The cost of chocolate powder is Rs. 20 and that of fixed cost are Rs. 10,000. Each tin of chocolate powder is sold out for Rs. 30. Determine cost function, revenue function and the break even point.

16. Explain the relationship between AR, MR and elasticity of demand.

17. A monopolist with the cost function $C(x) = \frac{1}{2}x^2$ faces a demand curve $x = 12 - p$. What will be his equilibrium price and quantity ?

18. Explain Revealed preference theorem.

19. Explain Homothetic function.

20. Given the utility function $u = (x+2)(y+1)$ and budget constraint $2x + 5y = 51$. Find the optimal level of x and y purchased by the consumer.

21. Explain price discrimination.

22. Explain elasticities and different types of elasticities. **(4×3=12)**

PART – D

Answer **any 2** questions. **Each** carries **5** marks :

23. Derive Slutsky equation and interpret the results.

24. A monopolist produces two commodities x and y jointly. The relevant cost function is $C = x^2 + 2xy + y^2$. The demand functions are $p_x = 36 - 3x$ and $p_y = 50 - 5y$. Find the prices and quantities that would maximize total profits.

25. Explain the role of theory and mathematics in economics.

26. What are indifference curves ? Explain the properties. **(2×5=10)**

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