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SIXTH SEMESTER B.A. DEGREE EXAMINATION, MARCH/APRIL 2016

(UG-CCSS)

Economics

EC 6B 11—MATHEMATICAL ECONOMICS AND ECONOMETRICS

(2009—2012 Admissions)

Time : Three Hours

Maximum : 30 Weightage

*Answers may be written either in English or in Malayalam.
Use a simple calculator is permitted.*

Part A

Answer all questions.

1. $MRTS_{lk}$ is given by the slope of :
 - (a) PPC.
 - (b) Indifference curve.
 - (c) Cost curve.
 - (d) Isoquant.
2. For substitutes, cross elasticity of demand is :
 - (a) Positive.
 - (b) Negative.
 - (c) Zero.
 - (d) 1.
3. Demand function shows relation between demand and :
 - (a) Price.
 - (b) Income.
 - (c) Substitute price.
 - (d) All above.
4. Price elasticity of demand for Giffen goods is :
 - (a) Negative.
 - (b) Positive.
 - (c) Zero.
 - (d) + 1.
5. For n variables in m constraints ($n > m$), the solution obtained after setting $n-m$ variables zero is called :
 - (a) Feasible.
 - (b) Optimal.
 - (c) Basic.
 - (d) Basic feasible.
6. For normal goods, elasticity of supply :
 - (a) -.
 - (b) 0.
 - (c) - or +.
 - (d) +.

Turn over

7. Elasticity of substitution of Cobb Douglas production function is :
- (a) > 0 . (b) < 0 .
 (c) 1. (d) All above.
8. Linear homogenous production function generates returns to scale which is :
- (a) Increasing. (b) Decreasing.
 (c) Constant. (d) Linear.
9. Sample mean is called :
- (a) Parameter. (b) Statistics.
 (c) Estimator. (d) All the above.
10. The value of correlation coefficient lies in between :
- (a) 0 to 1. (b) -1 to 0.
 (c) -1 to 1. (d) None.
11. The data at a point of time is called :
- (a) Time series. (b) Panel.
 (c) Pooled. (d) Cross-section.
12. Mean of the error term in the econometric model is :
- (a) x . (b) -1 .
 (c) $+1$. (d) 0.

(12 \times $\frac{1}{4}$ = 3 weightage)

Part B (Short Answer Type Questions)

Answer all questions.

Each question carries 1 weightage.

13. Define Mathematical economics.
14. What is an econometric model ?
15. Explain demand functions.
16. What is Engel function ?
17. Define marginal rate of technical substitution.
18. State the condition of profit maximisation.
19. Distinguish between Primal and Dual LPP.
20. Define Stochastic error.
21. Explain coefficient of determination.

(9 \times 1 = 9 weightage)

Part C (Short Essay or Paragraph Questions)

Answer any five questions.

Each question carries 2 weightage.

22. Find the optimum of $y = -x^2 + 18x - 3$.
23. Given the demand function $p = 2 - 5q$, find the elasticity of demand at $q = 3$ units.
24. State the assumptions of classical linear regression.
25. Explain the OLS method of estimating parameters of simple linear econometric model.
26. Maximise utility $U = xy$ subject to $5x + y = 120$.
27. How do you measure cross elasticity of demand? How does it help in finding the kinds of goods?
28. Given the demand function $q = 71 - 0.5p$ and the cost function $c = 2000 + 10q$, find the monopoly profit and price.

(5 × 2 = 10 weightage)

Part D (Essay Questions)

Answer any two questions.

Each question carries 4 weightage.

29. Discuss the properties of Cobb-Douglas production function.
30. Explain the methodology of econometrics.
31. Explain the steps in solving LPP by Graphical method with an example.

(2 × 4 = 8 weightage)