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Reg. No.....

SIXTH SEMESTER B.A. DEGREE EXAMINATION, MARCH/APRIL 2015

(U.G.—CCSS)

Core Course—Economics

EC 6B 11—MATHEMATICAL ECONOMICS AND ECONOMETRICS

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** *the questions from* 1-12.

1. MRSxy is given by the slope of :
   (a) PPC. (b) Indifference curve.
   (c) Cost curve. (d) Isoquant.

2. The value of correlation coefficient lies in between :
   (a) 0 to 1. (b) – 1 to 0.
   (c) $-1 < r < +1$. (d) 0.

3. In monopoly, MR is :
   (a) Below AR. (b) = AR.
   (c) Above AR. (d) Constant.

4. Marshal's utility function is :
   (a) Ordinal. (b) Cardinal.
   (c) Both. (d) None.

5. In perfect completion, shut down point is the point where :
   (a) P = AFC. (b) P = ATC.
   (c) P = AC. (d) P = AVC.

6. Linear homogenous production function generates :
   (a) Increasing returns. (b) Decreasing returns.
   (c) Constant returns. (d) Zero returns.

Turn over

7. Graphical solution of LPP is adequate when the number of variables is :

(a) Three. (b) Two or three.

(c) Two. (d) None.

8. Sample mean is called :

(a) Parameter. (b) Statistics.

(c) Estimator. (d) All the above.

9. The data at a point of time is called :

(a) Time series. (b) Panel.

(c) Pooled. (d) Cross-section.

10. Mean of the error term in the econometric model is :

(a) x. (b) -1.

(c) $+1$. (d) 0.

11. Linear dependence between the successive values of the error term in called :

(a) Multicollinearity. (b) Autocorrelation.

(c) Random error. (d) Heteroscedasticity.

12. 't' test is used when the sample is :

(a) Large. (b) Medium.

(c) Small. (d) Both small and large.

(12 × ¼ = 3 v

Part B (Short Answer Type Questions)

Answer **all** *questions.*

13. Explain demand and supply functions.
14. Define Linear Programming.
15. Define Engel function.
16. What is 't' test ?
17. Distinguish between MRS and MRTS.
18. Define Econometrics.
19. Define Panel data.

20. Distinguish between correlation and regression.
21. Define linear homogenous production function.

(9 × 1 = 9 weightage)

Part C (Short Essay or Paragraph Questions)

Answer any **five** *out of seven.*

22. Explain the lagrange multiplier method.
23. State the relationship between average revenue and marginal revenue.
24. How do you solve a linear programming problem ?
25. How do you measure income elasticity of demand ? Classify goods by this measure.
26. Given the demand function $q = 71 - 0.5p$ and the cost function $c = 2000 + 10q$, find the monopoly profit and price.
27. How do you test the significance of regression coefficients.
28. Explain the OLS method of estimating parameters of linear regression model.

(5 × 2 = 10 weightage)

Part D (Essay Questions)

Answer any **two** *out of three.*

29. Maximise the utility function $U = 4xy + 3y$ subject to the constraint $2x + 6y = 60$.
30. Discuss the properties of Cobb-Douglas production function.
31. Explain the equilibrium under discriminating monopoly.

(2 × 4 = 8 weightage)