

SIXTH SEMESTER B.A. DEGREE EXAMINATION, MARCH/APRIL 2015
(U.G.—CCSS)

Core Course—Economics

EC 6B 11—MATHEMATICAL ECONOMICS AND ECONOMETRICS

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 the questions from 1-12.

1. MRS_{xy} 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) 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.

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 x $\frac{1}{4}$ = 3 weightage)

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 x 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 x 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 x 4 = 8 weightage)