

# RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College under University of Calcutta)

FIRST YEAR

B.A./B.SC. FIRST SEMESTER (July – December) 2014

Mid-Semester Examination, September 2014

Date : 15/09/2014

ECONOMICS (Honours)

Time : 11 am – 1 pm

Paper : I

Full Marks : 50

[Use a separate answer book for each group]

## Group – A

### Unit - I

(Answer any one question)

1. a) Consider a Total Product Curve when only one factor is variable. Show how Marginal Product and Average Product can be derived from the Total Product Curve. Find thus the three stages of production. [8]  
b) Define 'elasticity of substitution' ( $\sigma$ ). [2]  
c) Let  $Q = A[K^{-3} + L^{-3}]^{-\frac{1}{3}}$  be a production function. Find the Marginal Rate of Technical Substitution (MRTS) for this production function. How does MRTS change as  $\frac{K}{L}$  changes? [5]
2. a) Explain 'Ridge Lines' with diagram. [3]  
b) Explain 'Returns to scale' in detail for a Homogeneous Production Function. [3]  
c) Let,  $Q = L + 3K$  is a production function. Find MRTS and draw the Iso-quant map for this production function. [4]  
d) Consider an isocost curve  $C = wL + rK$ . Given a fixed level of output, say  $-q - K \cdot L$ , explain clearly the minimization of cost subject to output constraint. Find out cost minimizing input levels. [5]

### Unit – II

(Answer any two questions)

3. Suppose that the supply and demand of wheat depend on the price of wheat (P), the amount of annual rainfall (r), and the level of disposable consumer income (I). The equations describing the supply and demand curves are given by  $Q_S = 20r + 100P$  and  $Q_D = 4000 - 100P + 10I$ .  
a) Solve for the equilibrium price and quantity when  $I = 100$  and  $r = 10$ .  
b) How do the equilibrium price and quantity change with an increase in income by 50 units? [2.5+2.5]
4. A telephone company A charges fixed fee of Rs. 500 and in addition to that Rs. 2 per call (x). Another company B charges Rs. 1000 as fixed fee and Rs. 1 per call. If the consumer has a monthly income 10000 and price of other good (y) is unity, draw two budget lines showing two different offers from company A and company B. [2.5+2.5]
5. a) What does the term "ceteris paribus" mean? How does it relate to the distinction between a change in quantity demanded and a change in demand? [1½+1½]  
b) Consider the market for video cassette recorders (VCRs). How will each of the following changes affect demand, supply, and equilibrium price and quantity? Discuss why. [1½×6]
  - i) Consumer incomes increase dramatically.
  - ii) Penalties on the recording of copyrighted materials are imposed and enforced.
  - iii) Movie theaters reduce their prices.
  - iv) An improvement in technology dramatically reduces production costs.

- v) The price of recording tape increases.
- vi) It is rumored that prices of VCRs will rise sharply next year.

**Group – B**

(Answer **any two** questions)

- 6. a) Distinguish between Gross National Product and Net National Product.  
b) How is transfer earning treated in the measurement of National Income and Personal Income?  
c) If in an economy GDP is greater than GNP, what do you infer about the structure of its production sector? [4+4+4½]
- 7. Explain two reasons why in an economy real wage may not remain fixed at full employment level. [12½]
- 8. Discuss the process of attaining equilibrium in a simple keynesian cross model. What would happen if there is an increase in government spending. [6+6½]

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