



**THE OPEN UNIVERSITY OF SRI LANKA**  
**BACHELOR OF MANAGEMENT STUDIES DEGREE PROGRAMME**  
**FINAL EXAMINATION – 2011/2012**  
**MCU 3207 – MANAGERIAL ECONOMICS**  
**DURATION – THREE (03) HOURS**

**DATE: 12<sup>th</sup> February 2012**

**TIME: 1.30 p.m – 4.30 pm**

*Answer Part A and any three (03) questions from Part B.*

*Use of Non- Programmable Calculators are allowed*

**PART A**

- (1) (i) “Many of the decisions facing managers fall into the category of optimization problems”. Explain with examples. (7 marks)
- (ii) The demand function of good ‘x’ given as;

$$Q = 40 - 0.5p$$

P – Price      Q – Quantity

Complete the following table

Quantity	Price	Total Revenue	Average Revenue	Marginal Revenue
1				
2				
3				
4				
5				
6				
7				

(8 marks)

- (iii) Using illustrations prove that the Least Cost Production in the long run requires the firm to meet the following condition.

$$\frac{MP_L}{P_L} = \frac{MP_k}{P_k}$$

$MP_L$  = Marginal Product of labour

$MP_k$  = Marginal product of capital

$P_L$  = Price of a unit of labour

$P_k$  = Price of a unit of capital

(8 marks)

- (iv) The owner who manages a firm inherited the building; the firm uses and therefore pays no rent. The owner has to make payments for labour, capital and other factors used in the production,
- Identify the firm's Explicit & Implicit costs.
  - How should the owner calculate firm's Business Profit & Economic Profit.

(7 marks)

- (v) Based on a consulting economist's report, the total cost function of a firm is given as

$$TC = 800 + 4Q - 0.06Q^2 + 0.002Q^3$$

- Is this a short or long run cost function? Provide reasons.
- Determine the level of fixed cost, average total cost function and average fixed cost function.
- Determine the average variable cost (AVC) function and the level of output at the minimum average variable cost.
- Determine the marginal cost (MC) function and the level of output at the minimum marginal cost.

(10 marks)

### PART B

- (2) a) Estimates of the Income Elasticity for two products given below.

Product	Estimated Income Elasticity
Fridges	1.28
Clothes	0.72

How would the unit sales and the revenue earned from the two products change during the periods of economic expansions and recessions? Explain.

(7 marks)

- b) You are a member of the governing body of a leading educational institution. Recently, the institution is facing severe financial problems. Two solutions have been put forward, one is to increase the tuition fee by 10%, and the other is to reduce the tuition fee by 10%. What factors would you consider in forecasting the effect of two options?

(7 marks)

c) Using the Concept of Elasticity explain the impact of following situations on the respective markets.

- i) The government has reduced the tax imposed on motor vehicles.
- ii) The government has increased the tax imposed on milk powder.  
Use illustrations to explain.

(6 marks)

(3) a) i) Considering the following given details of product 'x', derive the demand equation of the same.

Price(Rs.)	Quantity demanded(units)
8	40
10	32

- ii) If the supply equation of good 'x' is,  $Q_s = -28 + 6p$ , find the equilibrium price & quantity.
- iii) Calculate the Price Elasticity of Supply at Rs.8/= and comment on the value of the coefficient.

(8 marks)

b) The demand for product 'a' is given by,

$$Q_a = 5400 - 24p_a + 0.2I + 16P_b$$

$P_a$  – Price of the product, I – Income per capita

$P_b$  – Price of a related good

If initial values given as

$$P_a = Rs.20 \quad P_b = Rs.16 \quad I = Rs.20,000$$

- (i) What will be the demand for product 'a' at initial prices and income?
- (ii) What is the point Income Elasticity at the initial values?
- (iii) What is the own Price Elasticity at the initial values?
- (iv) What is the point Cross Price Elasticity between product 'a' and 'b'? Are they substitutes or complements? Provide reasons.
- (v) If the objective is to maintain the quantity of product 'a' as computed in part (i), what change in price of product 'a' is necessary to compensate for a Rs. 2/= reduction in product 'b'?

(12 marks)

- (4) a) "In Perfect Competition, market participants do not compete against one another rather, they make decisions in an economic environment that they perceive as being fixed or given." Discuss with examples. (9 marks)

- b) A firm that operates in a Perfectly Competitive market sells product 'x' at Rs. 100/=. The owner of the firm estimates the total cost of production to be;

$$TC = 1200 + 4Q + 0.02Q^2$$

- (i) To maximize profit, how many of good x should the firm produce?  
 (ii) Calculate the level of profit at profit maximizing output.  
 (iii) Given the profitable situation that exists in the short run as shown in above (ii); explain how the market will behave in the long run. (11 marks)

- (5) a) (i) What is meant by a Natural Monopoly? Explain.  
 (ii) Using illustrations comment on the output and price decisions of a Monopolist that;  
 i. aims at maximizing profit  
 ii. aims at maximizing total revenue. (11 marks)

- b) The demand function faced by a monopolist is given as;

$$Q = 48 - 0.02p$$

Q – Output                  P – Price

If the total cost function of the firm given as;

$$TC = 400 + 10Q^2$$

- (i) Find the profit maximizing price and the output  
 (ii) Calculate the profit at the profit maximizing output  
 (iii) Find the revenue maximizing output (9 marks)

- (6) Are the following statements 'true' or 'false'? Explain using illustrations.

- i) By forming a Cartel, firms that operate in Oligopolistic markets can increase their profits. (7 marks)
- ii) Firms that operate in Monopolistically Competitive markets can make economic profit in the short as well as in the long run. (7 marks)
- iii) An Oligopolistic firm is more likely to match a price cut than a price increase by a competitor. (6 marks)

*-Rights Reserved-*