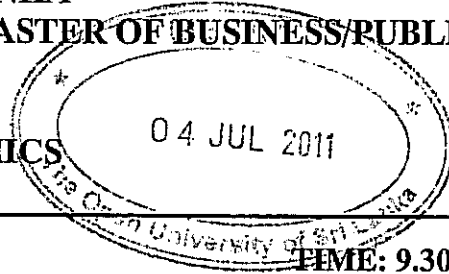


**THE OPEN UNIVERSITY OF SRI LANKA
COMMONWEALTH EXECUTIVE MASTER OF BUSINESS/PUBLIC
ADMINISTRATION PROGRAMME
FINAL EXAMINATION 2010 /11
MCP2605 – MANAGERIAL ECONOMICS
DURATION THREE (03) HOURS**



DATE: 12th December 2010

TIME: 9.30am to 12.30pm

Answer any Four (4) questions.

All questions carry equal marks

1. (a) "The concept of Profit Maximization has been criticized as incomplete by many economists. They point out that firms may have other economic objectives".
- What is Profit Maximization model?
 - What are the limitations of the profit maximization model?
 - What are the other economic objectives, a firm may have? Explain in relation to other models that have been developed to state the behavior of firms.
- (15 Marks)
- (b) "Economics is extremely useful in helping managers of a firm in deciding how to adapt to external changes in economic variables" Do you agree? Explain with examples.
- (10 Marks)
2. (a) (i) What is the nature of price elasticity of demand and supply for agricultural products. Suppose improvement in Agri-technology has increased the production of a certain grain substantially. How will this affect farmer revenue? Explain using illustrations.
- (05 Marks)
- (ii) Estimated Income Elasticity for two (02) selected goods is given below.

Commodity	Income Elasticity
* Motor Vehicles	1.40
* Fish	0.52

How will the demand for the above two goods change under booming and recessionary Economic condition.

(05 Marks)

(b) Management of a firm estimates the demand for a company's product 'X' as,

$$Q_x = 2220 - 200P_x + 0.2I + 100P_0$$

P_x = Price of X

I = Income per capita

P_0 = Price of alternative products

$$P_x = \$ 2 \text{ per unit} \quad I = \$ 28,000 \quad P_0 = \$ 1.80$$

- (i) How much 'X' will be demanded at the initial price, income & price of the alternative product?
- (ii) Find the Price, Income and Cross Price Elasticity at initial values?
- (iii) What effect a price increase of good 'X' will have on firm's total revenue?
- (iv) If the objective is to maintain the quantity of good 'X' demanded as computed in the above (i), what reduction in price of 'X' will be necessary to compensate for a \$0.30 reduction in the price of alternative product?

(15 Marks)

3. (a) (i) When increasing quantity of labour input is added to the fixed capital how would the marginal product of the variable factor change? How will this influence the way the total product change? Explain.

(6 marks)

(ii) Suppose production function of good 'X' is given as;

$$Q_x = 135L - 3L^2$$

Q_x = Number of units of good x produced

L = No of workers hired

Unit of 'X' is sold at \$25 and the wage rate of a worker is \$75.

How many workers should the firm hire to maximize profit?

(6 marks)

(b) (i) Prove that in the long run a firm achieves optimum level of production at the point

where;

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

MP_L – Marginal product of labour

MP_k – Marginal product of capital

P_L – Price of Labour

P_k – Price of Capital

(6 marks)

- (ii) The production function of good X is given as;

$$Q_x = 200k^{0.5} L^{0.5}$$

If wage rate (w) = \$ 25 and price of a unit of capital (r) = \$100

What is the equation for expansion path?

Determine the efficient input combination for producing 5000 units.

(7 marks)

4. (a) What is meant by economics of scope? Explain with examples.

(6 marks)

- (b) "The long run average cost curve is the envelope of a series of short run average cost curves".

How is the shape of long run average cost determined by the scale economies?

Provide practical reasons for such scale economies.

(10 marks)

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

$$TC = 800 + 6Q - 0.03Q^2 + 0.001Q^3$$

- i) Determine the level of fixed cost
- ii) Obtain equations for average total cost & average variable cost and marginal cost.
- iii) Determine the rate of output that minimizes the marginal cost.
- iv) Determine the rate of output that minimizes the average variable cost.

(9 marks)

5. (a) "A monopoly is created when a firm is given a patent and this is beneficial to economic growth as it encourages research. But it is known that monopolies result in inefficient allocation of resources" Do you agree? Explain using illustrations.

(15 marks)

- (b) Consider the following details of a monopolist that operate two plants A & B.

$$TC_A = 5Q_A^2 \quad (\text{Total cost of plant A})$$

$$TC_B = 2.5 Q_B^2 \quad (\text{Total cost of plant B}), \text{ and the demand equation for product 'X' is,}$$

$$Q = 240 - P$$

$$P = \text{Price} \quad Q = \text{quantity}$$

- Determine
- i) The level of out put produced by each plant
 - ii) The price charged
 - iii) The level of profit

(10 marks)

6. (a) "In contrast to the other market structures, a firm in an oligopoly market must consider the potential reactions of its rivals, in addition to making output and pricing decisions" Discuss with examples.

(15 marks)

- (b) Oligopolistic firm is facing a following demand curve

$$Q_1 = 96 - P_1 \text{ (Above kink)} \quad Q_2 = 24 - 0.2P_2 \text{ (Below kink)}$$

Q - Output in units

P - Price in dollars

The firm's total cost function is given as,

$$TC = 40 + 60Q + 0.5Q^2$$

- i) What is the firm's output and price at the kink?
- ii) Calculate the firm's profit
- iii) Prove that the calculated price, output and profit optimal?
- iv) Illustrate this market situation using a graph.

(10 marks)

7. (a) "Cost-Plus pricing may simply represent the decision rule used by managers in pursuit of profit maximization"

- i) What is meant by Cost-Plus Pricing?
- ii) Is this Cost-Plus pricing determined by demand elasticity & competition? Explain.

(7 marks)

- (b) i) "The most common type of price discrimination is Third Degree price discrimination" Briefly comment.

(6 marks)

- iii) Suppose a firm faces two different groups of clients and the demand curve for each given as

$$Q_1 = 240 - 2p_1 \text{ (Market 1)}$$

$$Q_2 = 100 - 0.5p_2 \text{ (Market 11)}$$

The firm's cost function is given as,

$$TC = 120 + 60Q$$

- a. What will be the output and price of each market, if the firm is to practice Third Degree price discrimination?
- b. If the firm is unable to practice price discrimination, what will be the firm's profit maximizing price and output?
- c. Show that the firm can increase its profit by engaging in the Third Degree price discrimination.

(12 marks)