

**THE OPEN UNIVERSITY OF SRI LANKA
COMMONWEALTH EXECUTIVE MASTER OF BUSINESS/PUBLIC
ADMINISTRATION PROGRAMME
FINAL EXAMINATION 2011 /12
MCP2605 – MANAGERIAL ECONOMICS**



DURATION THREE (03) HOURS

DATE: 03rd March 2012

TIME: 1.30pm to 04.30pm

INSTRUCTIONS:

- Answer Part A and any two (02) questions from Part B
- Numbering of the answers in your answer script should follow the numbers assigned to the questions in the paper.
- Illegible hand writing is liable to lose marks.

PART "A"

- (1) (a) "A number of models have been developed to explain the behaviour of business organizations and their managers in terms of their goals and objectives. Still the most widely accepted model is the Profit Maximization Model. However the advocates of alternative theories of the firm argue that the behaviour of real world managers is not always consistent with the Profit Maximization Goal".

- i) What are the limitations of Profit Maximization Model? Explain.
- ii) What are the alternative theories of firm? How far these theories explain the behaviour of real world managers? Explain with examples.

(12 marks)

- (b) A firm found that the relationship between its advertising expenditure and sales in two different countries (A & B) as,

$$Q_A = 20 + 8E_1 - 2E_1^2$$

$$Q_B = 16 + 20E_2 - 3E_2^2$$

$$Q_A = \text{Sales in country A}$$

$$Q_B = \text{Sales in country B}$$

E_1 - Advertising expenditure in country A

E_2 - Advertising expenditure in country B

(Dollar millions per year)

- i) To increase the sales in country A and country B how much the firm should spend on advertising?
- ii) Prove that the answer for (i) is to maximize, rather than minimize sales.
- iii) Should the firm attempt to maximize sales? What would be your recommendation to the firm?

(10 Marks)

- (c) Compare and contrast the 1st Degree and 3rd Degree Price Discrimination
Which is the most widely practiced in the real world? Explain with examples.
(08 marks)

- (d) The demand for a firm's product given as;
 $P = 36 - 2Q$

$P =$ price $Q =$ quantity
Marginal Cost is constant and equal at \$ 8.

- i) If the firm practices first Degree Price Discrimination, find the Economic Profit of the Firm.
- ii) If the firm does not engage in Price Discrimination, find the Profit Maximizing Price and Output. Calculate the Economic Profit.
Use illustrations to explain your answer.

(08 Marks)

- (e) Suppose a firm faces a two different group of clients. Demand equation representing each group given as;

$$P_1 = 96 - 2Q_1 \quad (\text{Group I})$$

$$P_2 = 36 - 0.5Q_2 \quad (\text{Group I})$$

The firm's cost function is given as;

$$TC = 8Q$$

$$\text{Where } Q = Q_1 + Q_2$$

- i) Suppose the firm is practicing Third Degree Price Discrimination, Find the output that will be produced and the price that will be charged in each market.
- ii) If the firm is unable to practice price Discrimination find the Profit Maximizing Price and output?
- iii) Show that the firm can make higher profit by engaging in Price Discrimination.

(12 Marks)

(Total 50 Marks)

PART "B"

- (2) (a) Using illustrations explain whether you 'agree' or 'disagree' with the following statement.

"Consumer Maximization of satisfaction requires equality between the Marginal Rate of substitution (MRS) for any pair of products and the ratio of their prices"

(07 Marks)

- (b) i) Suppose a consumer has a total utility function of ;

$$U = 2x^{0.5}y^{0.5}$$

'x' and 'y' are the products person consumes.

If the unit price of x is \$8 and y is \$12, find the quantities of x and y that will maximize consumer satisfaction, when the person's income is \$ 240.

- ii) What combination of 'x' and 'y' will the consumer choose to maximize satisfaction, if price of 'x' goes up to \$ 10 while the price 'y' and income remain the same?

Does this consumer behaviour confirm the Law of Demand? Explain.

(12 Marks)

- (c) In many instances sellers offer consumers, quantity discounts. Using Indifference Curve analysis, explain how such discounts work.

(06 Marks)

- (3) (a) "The Law of Diminishing Marginal Returns shows that if equal increments of an input, (ex:- Labour) are added and the quantities of other inputs, (ex:-capital) are held constant then the resultant increments of the output will decrease beyond some point" Do you agree? Explain using illustrations

(07 Marks)

- (b) Suppose total production function of good A given as;

$$Q_A = 163L - 4L^2$$

Q_A - Number of Units of good A produced

L - No. of workers hired

If price of a unit of A is \$20 and the wage rate of a worker is \$ 60 per day.

- i) Find the Marginal Product of labour
ii) How many workers should the firm hire to maximize profit?

(06 Marks)

- (c) How would the ISO-Quant look like if there is,
- Perfect substitutability between inputs.
 - Zero substitutability between inputs.

(05 Marks)

- (d) Production function of a firm is given as;

$$Q = 20k^{0.5}L^{0.5}$$

- i) Find the Marginal Product of Labour and Marginal Product of Capital.
- ii) If the price of a Unit of Labour (P_L) is \$ 8, price of a unit of capital (P_k) is \$12, and the firm intends to spend \$ 480 on inputs, how many units of labour and capital can the firm hire?
- iii) Determine the returns to scale.

(07 marks)

- (4) Explain whether the following statements are 'true' or 'false'.

- i) The firm's Long Run Total Cost (LTC) is derived from its expansion path. (06 Marks)
- ii) The mark up used in Cost-Plus pricing is determined by Demand Elasticity of the given product. (06 Marks)
- iii) Economies of Scope is a Cost Saving Phenomenon. (06 Marks)
- iv) The Long Run Average Cost (LAC) Curve faced by firm in some industries may not be 'U' shaped, instead it may be 'L' shaped. (07 Marks)

- (5) (a) "Even though Perfect Competition is rarely, if ever encountered in the real world, the Perfect Competition Model is highly useful because it provides an ideal framework against which we compare other models and markets." Do you agree? Explain with examples.

(14 marks)

- (b) The equilibrium price in a Perfectly Competitive market is \$24 and the Total Cost Function of the firm is given as;

$$TC = 20 + 8Q + 0.1Q^2$$

Firm is currently producing 60 units of output per period. To Maximize Profit should the output rate be increased or decrease? Explain.

(05 Marks)

- (c) The Total Variable Cost Function of a Perfectly Competitive firm is given as;

$$TVC = 100Q - 16Q^2 + Q^3$$

Below what price should the firm shut down its operations?

(6 Marks)

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