

THE OPEN UNIVERSITY OF SRI LANKA
COMMONWEALTH EXECUTIVE MASTER OF BUSINESS/PUBLIC
ADMINISTRATION



FINAL EXAMINATION – 2014
MCP 2605 – MANAGERIAL ECONOMICS
DURATION: THREE (03) HOURS

Date: 17.08.2014

Time: 9.30 am – 12.30 pm

Answer any Four (04) Questions.

Each question carries Twenty Five (25) marks

- (1) “We generally assume that short run and long run objective of a firm is the maximization of its profit or the minimization of its loss. Although a firm can select from number of other economic and non economic goals/objectives, both in the short and in the long run, the assumption of profit maximizations provides us with a clear-cut model for explaining how firms can use economic concepts and tools of analysis to make optimal decisions”
- (i) Except Profit Maximization theory what are the other theories that explain the behavior of modern firms? Explain.
 - (ii) Mention the limitations of Profit Maximization model?
 - (iii) What are the non-economic objectives of firms? Explain with examples.
 - (iv) Profit plays critically important roles in the function of the economic system. What are these roles?
 - (v) Using examples, briefly explain how firms can use economic concepts and tools of analysis to make optimal decisions. (25 marks)
- (2) (a) A Study has revealed that price Elasticity of Demand for computers is -0.84 and the Income Elasticity is $+0.76$.
- (i) Should a firm, selling computers increase or decrease the price of computers to increase its revenue? Explain using illustrations.
 - (ii) If the economy enters into a recessionary period, how would it affect the computer sales?
 - (iii) Suppose consumer income increases by 20%. How would this affect total computers sales in the Country? (07 marks)

(b) (i) Using illustrations explain the relationship among the Demand Elasticity of a downward sloping linear demand curve faced by a firm and its Total and Marginal Revenues.

(ii) "The firm will set its profit maximizing price and output where its demand curve is inelastic". Do you agree with the statement? Explain.

(08 marks)

(c) To increase revenue governments always prefer to increase taxes on things like cigarettes and alcohol. Why? Explain using an illustration. (05 Marks)

(d) The technological improvement in the agricultural sector has helped to reduce the post harvest losses of paddy farmers. However this has reduced the farmer revenue.

How would the knowledge of elasticity help you to explain this situation? (Use illustrations to explain) (05 marks)

(3) (a) The Production Functions of A & Z (Pvt) Ltd., given as

$$Q = 2K^{0.5} L^{0.5}$$

(i) Find the Marginal Product of Labour and Capital

Assume the Capital stock is Fixed at 36 units ($k = 36$) and each unit that is being produced is sold at \$10.

(ii) If the labour wage rate is \$10, determine the optimal rate of Labour to be hired.

(iii) If the wage rate increases to \$12, what is the optimal rate of Labour to be hired? (06 marks)

(b) The production function of three firms (A, B & C) are given below.

$$\text{Firm A} \quad Q_x = 20K^{0.5} L^{0.5}$$

$$\text{Firm B} \quad Q_x = 70K^{0.5} L^{0.7}$$

$$\text{Firm C} \quad Q_x = 30K^{0.4} L^{0.5}$$

Determine the returns to scale of each firm and explain the same using illustrations. (06 marks)

(c) (i) Provide examples for factors that could create Labour Saving Technological Progress and Capital Saving Technological Progress.

- (ii) Using illustrations explain the impact of;
- Neutral Technological Progress.
 - Labour Saving Technological Progress
 - Capital Saving Technological Progress on the Production function of a firm. How would this change the Marginal Range of Technical Substitution (MRTS)? (08 marks)
- (d) What is Degree of Operating Leverage (DOL)? How would this help a manager in decision making? Briefly Explain. (05 marks)
- (4) a) “The Practice of Price Discrimination is not an isolated event. It occurs in many familiar situations”.
- (i) What is Price Discrimination? Explain with examples.
- (ii) Using illustrations differentiate among 1st, 2nd and 3rd degree price discrimination.
- (iii) What are the conditions that must exist before a seller can engage in Price Discrimination? Explain. (13 Marks)
- b) Suppose a firm faces two different groups of clients and the demand curve for each, given as;
- $$Q_1 = 320 - 2p_1 \text{ (Market I)}$$
- $$Q_2 = 120 - 0.5p_2 \text{ (Market II)}$$
- The firm's cost function is given as; $TC = 124 + 40Q$
- (i) What will be the output and price of each market, if the firm is to practice Third Degree Price Discrimination?
- (ii) If the firm is unable to practice price discrimination, what will be the firm's profit maximizing price and output?
- (iii) Show that the firm can increase its profit by engaging in the Third Degree Price Discrimination. (12 Marks)
- (5) a) A firm operating in a Monopolistically Competitive market has the following short-run demand and cost schedule for a particular product.
- $$Q = 240 - 4p \qquad TC = 1000 + 10Q$$
- (i) Find the firm's short run profit maximizing price and output.

- (ii) Calculate the firm's profit or loss. Use illustrations to explain the answer.
- (iii) Considering the situation in part ii, what do you think will happen in the long run? Explain using illustrations.
- (iv) Can the firm achieve allocative efficiency in the long run? Explain your answer. (13 Marks)
- b) (i) "Perfectly Competitive firm should continue to operate as long as price is lower than average variable cost, regardless of whether it is short or long run" Do you agree? Explain using illustrations.
- (ii) A Perfectly Competitive firm faces the following Total Variable Cost equation.

$$TVC = 124Q - 12Q^2 + Q^3$$

Below what price should the firm shut down its operations? (12 Marks)

- (6) a) (i) Two firms in Oligopoly Market contemplate on introducing a new product. The profit outcomes of the four possible combinations of strategies are shown by the pay-off matrix given below.

		Firm B	
		No new product	New product
Firm A	No new product	8m, 8m	6m, 10m
	New product	10m, 6m	5m, 5m

Analyze the pay off matrix and explain about the best strategy available for each firm.

- (ii) Using illustrations explain how the firms in Oligopolistic market can benefit by forming a Cartel. (13 Marks)
- b) Oligopolistic firm is facing a following demand curve.
- $$Q_1 = 135 - p_1 \text{ (Above kink)} \quad Q_2 = 72 - 0.4p_2 \text{ (Below Kink)}$$
- Q – output p – price in dollars

The firm's Total Cost Function is given as; $TC = 60 + 20Q + Q^2$

- (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 are optimum?
- (iv) Illustrate this market situation using a graph. (12 Marks)

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