

**THE OPEN UNIVERSITY OF SRI LANKA  
COMMONWEALTH EXECUTIVE MASTERS OF BUSINESS/PUBLIC  
ADMINISTRATION  
FINAL EXAMINATION – 2016  
MANAGERIAL ECONOMICS – MCP2605  
DURATION: THREE (03) HOURS**



033

**DATE: 17.07.2016**

**TIME: 1.30 pm – 4.30 pm**

***Answer Part A(40 Marks) and any three(03) questions from part B (20 Marks each)  
Non programmable calculators are allowed.***

**Part A**

**Question No.01**

- (a) “Every business has a goal. Different goals can lead to very different managerial decisions given the same limited amount of resources”.
- What are the economic and non-economic goals of modern day firms? Explain with examples.
  - Providing examples explain whether you “agree” or “disagree” with the above statement. (09 Marks)
- (b) Explain whether you “agree” or “disagree” with the following statements. Provide examples/illustrations where necessary to explain your answer.
- Straight line downward sloping demand curve can have the same price elasticity on all its points.
  - The profit maximizing price will never be set where demand is inelastic.
  - Governments aiming at revenue enhancement find it more favorable to impose taxes on goods that have elastic demand.
  - When the supply curve is more elastic the effect of a change in demand will be greater on price of the product than quantity.
  - Because of the nature of elasticity of demand and supply of agricultural products bumper harvest can create problems for farmers (18 Marks)
- (c) A local soft drink manufacturer (Firm A), sells on average 4200 soft drink bottles monthly at Rs.50/- a bottle. Its closest competitor produces a similar type of product that sells at Rs.60/=-.
- The Cross Price Elasticity between the two products is given as 0.4, what will be the monthly sales of firm A, if the competitor decreases its price to Rs.50/=-.
  - The demand for firm A has the Price Elasticity coefficient of -2, how many bottles will it sell per month when its price is lowered to Rs.40/=-? Will this increase the firm’s revenue? Why or why not? Explain. (06 Marks)
- (d) The following equations provide the relationship between advertising expenditure and sales of a soft drink manufacturing firm operation in two provinces.

$$S_1 = 36 + 2A_1 - 0.5A_1^2$$

$$S_2 = 48 + 6A_2 - A_2^2$$

$S_1$  = Sales of province 1

$S_2$  = Sales of province 2

$A_1$  = Advertising expenditure in province 1

$A_2$  = Advertising expenditure in province 2

(figures in Rs.million)

- i. How much the firm should spend on advertising in two provinces in order to maximize sales?
- ii. Prove that your answer is to maximize rather than minimize.
- iii. Would you recommend the firm to maximize sales? Why or why not? Explain.
- iv. Except advertising what other non-price method(s) is available for the firm to expand sales? Explain. (7 Marks)

### **Part B**

#### **Question No.02**

- (a) Using indifference curve analysis explain how the increase in income will affect the way the consumers purchase the following combinations of goods. Provide illustrations.
  - i. Both good X and good Y are normal goods  
X – shoes                      Y - food
  - ii. Good X is an inferior good and good Y is a superior good.  
X – Bus travel                      Y – Air travel(6 Marks)
- (b)
  - i. “At different prices, the quantities demanded shown by the demand curve correspond to the points of tangency between budget constraints and indifference curves”. Do you agree? Explain using illustrations.
  - ii. There are many instances sellers offer consumers quantity discounts. Indifference curve analysis is useful in understanding how these discounts work. Using an example, explain how these discounts work. Provide an appropriate diagram to explain your answer. (7 Marks)
- (c)
  - i. Utility function of a person given as  $U = S^2C^2$ . ‘S’ stands for shoes and ‘C’ stands for clothing. The person has Rs.4800/= for spending on shoes and clothing. A shop in the nearest town sells a pair of shoes for Rs.1200/= and a unit of clothing for Rs. 800/=. Find the quantities of two goods that will maximize the person’s satisfaction.
  - ii. At a discount shop a pair of shoes is available for Rs.800/= and a unit of clothing is available for Rs. 600/=. It costs Rs.600/= for transportation to reach this shop. What are the quantities that will maximize person’s satisfaction if he chooses to buy from the discount shop? From which shop the person should buy? Explain. (07 Marks)

### Question No. 03

- (a) Prove that in the long run, efficient production requires that the marginal product per rupee of input costs is equal for both inputs. (Consider inputs as labour and capital). Provide illustrations to explain your answers. (6 Marks)
- (b) Suppose the production function of a firm is given as
- $$Q = 50k^{0.5}L^{0.5}$$
- If the price of unit of capital is Rs.25/= and a unit of labour is Rs.16/=  
determine the equation for expansion path.
  - Find the efficient combination of inputs to produce 2000 units.
  - If the unit price of labour increases to Rs.25/=  
same as the unit price of capital, find the efficient combination of inputs needed to produce 2000 units.  
Using an illustration, explain how the labour and capital combination change compared to the combination in part (iii).
  - Does the above production function reflect increasing, decreasing or constant returns? Explain using illustrations. (8 Marks)
- (c) Using illustrations and examples explain how a production function of a firm will change under neutral, labour saving and capital saving technological progress (6 Marks)

### Question No. 04

- (a) i. "In a Perfectly Competitive firm if price is greater than Average Variable Cost but less than Average Total Cost, the firm should continue to operate in the short run" Do you agree? Explain using an illustration.
- ii. The total variable cost of a Perfectly Competitive firm manufacturing good 'x' is given as
- $$TVC = 300Q - 30Q^2 + Q^3$$
- Below what price should the firm shut down its operations? (10 Marks)
- (b) i. "Compared to Perfect Competition, Monopoly results in negative social cost" Do you agree? Explain using illustrations.
- ii. The demand curve of a Monopolist is given as
- $$Q = 40 - 0.5P$$
- $Q$  = Quantity       $P$  = Price
- If the Marginal Cost (MC) is constant and given as Rs. 20/=  
a. Find the profit maximizing price and output.  
b. What is the dead weight loss resulting from the monopoly?  
c. Compared to pricing at marginal cost how much income is redistributed from consumers to owners of the monopoly? (10 Marks)

**Question No. 05**

- (a) “Both Perfectly Competitive and Monopolistically Competitive firms in the long run make zero economic profit in the long run, but unlike Perfectly Competitive firms, Monopolistically Competitive firms fail to achieve maximum allocative efficiency” Do you agree? Explain using illustrations. (7 Marks)
- (b) The short run demand and cost equations of a Monopolistically Competitive firm are given as;
- $$Q_d = 480 - 10p \quad TC = 280 + 20Q$$
- $$Q = \text{output} \quad P = \text{Price}$$
- Find the firm's revenue maximizing price and output.
  - Find the profit maximizing price and output.
  - Calculate the firm's economic profit/loss.
  - Explain the long run behaviour of the firm using illustrations. (8 Marks)
- (c) “The key to the pricing power of firms in Monopolistic Competition and Oligopoly is their ability to differentiate their product so they are not mere price takers” Discuss this statement using examples. (5 Marks)

**Question No. 06**

- (a) “Under Price Discrimination, especially under first and second degree, a Monopolist may produce a larger quantity than when the firm has a single price”.
- Using illustrations differentiate between 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> degree price discrimination.
  - Explain whether you agree or disagree with the above statement.
  - What are the conditions necessary for a firm to engage in price discrimination? (10 Marks)
- (b) A Monopolist having two different groups of clients face the following given demand equations.
- $$Q_A = 1200 - 20P_A \quad Q_B = 800 - 5P_B$$
- The firm's cost function is given as;
- $$TC = 16Q_T \quad (Q_T = Q_A + Q_B)$$
- If the firm is engaged in the third degree price discrimination, find the price charged and output produced in each market.
  - What would be the price and output if the firm cannot practice price discrimination.
  - Which method enables the firm to make larger profits? Explain. (10 Marks)

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