

THE OPEN UNIVERSITY OF SRI LANKA

COMMONWEALTH EXECUTIVE MASTER OF BUSINESS/PUBLIC ADMINISTRATION

FINAL EXAMINATION – 2015

MANAGERIAL ECONOMICS – MCP 2605

DURATION: 03 HOURS



DATE: 30.08.2015

TIME: 1.30P.M. – 4.30 P.M.

**Instructions:**

Answer any four (04) questions.

Use of non programmable calculator is allowed.

**Question No. 01**

A) “Most theories of the behavior of the firm are based on the simple assumption that the owners and/or managers try to maximize profit. This assumption does not mean that a manager may not seek other goals”

- i. How compatible is the Principal – Agent theory with the above statement? Explain.
- ii. What actions can be taken to overcome the Principle – Agent problem? Explain.

(7 marks)

B) The following equations provide the relationship between advertising expenditure and sales of a firm operating in two regions.

$$S_1 = 24 + 3A_1 - 0.5A_1^2$$

$$S_2 = 30 + 2A_2 - A_2^2$$

$S_1$  – Sales of region one in Rs. Million.       $S_2$  - Sales of region two in Rs. Million.

$A_1$  – Advertising expenditure in region one     $A_2$  - Advertising expenditure in region two

- i. How much the firm should spend on advertising in two regions in order to maximize sales?
- ii. Prove that your answer is to maximize rather than to minimize.
- iii. Would you recommend the firm to maximizing sales? Why or why not? Explain.

(7 marks)

C) The utility function of a person given as,

$$U = S^2C^2$$

(S – Shoes, C – Clothing)

The person has Rs. 4800/= to spend on the two items. If the price of shoes is Rs. 1200/= and clothing is Rs. 800/=.

- i. Find the welfare maximizing quantities of shoes and clothing?
- ii. In a discount shop a pair of shoes available at Rs. 1000/= and clothing at Rs. 500/=, to reach the shop it costs Rs. 300/= for travelling. What are the welfare maximizing quantities of the two goods if the person purchases from the discount shop? What shop would the person prefer to buy the goods?

(6 marks)

D) In many instances sellers offer consumers quantity discounts. Using Indifference Curve Analysis explain how such discount work.

(5 marks)

### Question No. 02

A) "The incidence of the tax is distributed between the two parties to a transaction depend on the elasticities of the Supply and Demand".

- i. Using illustrations explain how the elasticities of Demand and Supply determine the way how tax is shared between two parties.
- ii. Why would the government aiming at revenue enhancement find it considerably more favorable to enact an excise tax on products like tobacco and alcohol? Explain.

(9 marks)

B) i. Would the nature of Cross – Price Elasticity and Advertising Elasticity for Substitutes and Complementary goods be the same? Explain using examples.

ii. "Brand level elasticities are higher than industry level elasticities". Do you agree? Explain using examples.

iii. Why could the favorable weather condition reduce the revenue of tomato growers? Explain using illustrations.

(10 marks)

C) Suppose country A imposed a quantitative restriction on importation of Japanese motor vehicle to that country.

- i. What would be the impact of this on the Japanese car market in country A?
- ii. What would be the impact of this on the rest of the automobile market in country A?

Explain using illustrations.

(6 marks)

**Question No. 03**

A) The production function of a firm given as;

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

(K – Capital, L – Labour)

- i. Derive the Marginal Product of Labour and Capital functions.
- ii. If the Capital stock is fixed at 36 units ( $K = 36$ ) and the good that is produced is sold at Rs.160/= to maximize profit, how many workers should the firm hire, if the wage rate is Rs.240/= ? How would this change if the wage rate increases to Rs.320/= ?

(6 marks)

B) i. Using illustrations prove that, regardless of the production objective, firms achieve efficient level of production in the long run at the point where marginal product per rupee of input cost is equal for both inputs. (Consider inputs as Labour and Capital).

ii. Suppose wage rate at a firm increases by 12%. Using theoretical principles of production explain how the relative substitution of one input for another (Eg: Capital) occurs as a result of the increased price of labour. Provide an example of how input substitution has been made in agricultural sector. Use illustrations to explain your answers.

(13 marks)

C) Using the Cobb – Douglas production function explain the concept of “Return to Scale”. Provide illustrations.

(6 marks)

**Question No. 04**

A) i. “Compared to Perfect Competition, pricing decision of Monopoly results in allocative inefficiency and it also causes a redistribution of income from consumers to the owners of Monopoly” Do you agree? Explain using illustrations.

ii. The demand faced by a Monopolist is given by,

$$Q = 3200 - 50P$$

(P = Price, Q = Output)

- a. If the management decides to maximize revenue instead of profit, calculate the revenue maximizing price and output.
- b. Will the revenue maximizing output be greater than or less than the profit maximizing rate of output? Explain using illustrations.

(14 marks)

- 00
- B) i. What circumstances could make a Monopolist operate multi – plants? Explain.  
ii. Consider the following details of a Monopolist operating two separate plants.

$$\text{Demand; } Q = 64 - 0.5P$$

The output produced by two plants;  $Q_A$  and  $Q_B$ .

$$\text{Total Cost of plant A; } TC_A = 2Q_A^2$$

$$\text{Total Cost of plant B; } TC_B = Q_B^2$$

Determine;

- The level of output produced by each plant
- The total level of output and the price charged

(11 marks)

### Question No. 05

- A) i. “The important implication of the Kinked Demand curve model is that firms in Oligopolistic market structures could experience substantial shifts in marginal cost and still not vary their prices, thus some Oligopolistic markets exhibit very stable price”. Do you agree? Explain using illustrations.  
ii. Consider the given information of an Oligopolistic firm.

$$\text{Demand above the kink; } D_1: Q_1 = 84 - P_1$$

$$\text{Demand below the kink; } D_2: Q_2 = 52 - 0.5P_2$$

(Q – Output, P – Price)

$$\text{The firms total cost (TC) is; } 172 + 12Q + 0.4Q^2$$

- Using the Kinked – Demand Curve model, what is the firm’s output and price at the kink?
- Are the output, price and profit optimal?
- Explain the above using an illustration.

(14 marks)

- B) “There is a natural tendency for collusion to occur among the firms in Oligopolistic markets. The exact nature of the collusion is determined by the specific characteristics of the market and by constraints imposed by government policy”.
- How could the collusion benefit the firms in an Oligopoly market? Explain using illustrations.
  - What is meant by “constraints imposed by the government”? Providing examples, explain.
  - When collusive arrangements are not easily achieved other types of pricing practices may occur under Oligopolistic market conditions? What are they? Explain.

(11 marks)

**Question No. 06**

A) "Price Discrimination is an extremely common practice encountered in all types of situations and Economist normally identifies different degrees of Price Discrimination".

- i. What are the necessary conditions for a firm to engage in Price Discrimination? Explain.
- ii. "Price Discrimination is an extremely common practice". Elaborate with examples.
- iii. What are the different degrees of Price Discrimination? Explain with illustrations.
- iv. Would a Discriminating Monopolist produce a larger quantity than a single price Monopoly? If so under what circumstances? Explain.

(15 marks)

B) Suppose a firm faces two different groups of clients and the demand equations for two groups given as;

$$Q_A = 1600 - 20P_A$$

$$Q_B = 600 - 5P_B$$

The firms cost function is given by

$$TC = 8Q_T \quad (Q_T = Q_A + Q_B)$$

- i. If the firm is to engage in third degree Price Discrimination, find the price charged and output produced in each market.
- ii. If the firm cannot practice Price Discrimination, what would be the output produced and price charged by the firm?
- iii. Prove that the third degree Price Discrimination enables the firm to make higher profits.

(10 marks)

**Rights Reserved**