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THE OPEN UNIVERSITY OF SRI LANKA
COMMONWEALTH EXECUTIVE MASTER OF BUSINESS/PUBLIC ADMINISTRATION PROGRAMME
FINAL EXAMINATION – 2018 DECEMBER
MSP9305/MCP2605 – MANAGERIAL ECONOMICS
DURATION: THREE (03) HOURS

DATE: 30.12.2018 **TIME: 09.30 PM – 12.30 PM**

Answer any four (04) questions. All questions carry equal marks.
Use of a non programmable calculator is allowed.

Question No.1

a) i. Compare and contrast the theory of Profit Maximization and Sales Maximization.

ii. How would a pricing & output decision of Monopolistically Competitive firm that aims at Sales Maximization differ from a firm that aims at Profit Maximization? Use illustrations to explain your answer. **(10 Marks)**

b) The following equations provide the relationship between advertizing expenditure and sales expenditure of a firm operating in two different regions.(Figures in Rs. Million)

$S_1 = 48 + A_1 - 0.5A_1^2$ $S_2 = 52 + 3A_2 - A_2^2$

S_1- Sales of region one. S_2- Sales of region two.

A_1- Advertizing expenditure of region one. A_2- Advertizing expenditure of region two

i. To maximize sales how much should the firm spend on advertizing in each region?

ii. Prove that your answer to part (i) is to maximize sales rather than minimize.

iii. Would you recommend the firm to maximize sales? Why or why not? Explain. **(07 Marks)**

c) i. Would the sign of Cross Price Elasticity and Advertizing Elasticity for substitutes and complementary goods be the same? Explain with examples.

ii. How would the adverse impact on the supply of farm products affect the farmer revenue? Explain using illustrations. **(08 Marks)**

Question No.2

a) What is meant by "Least Cost Factor Input Combination"?, Prove that the firms achieve "Least Cost Factor Input Combination" at the point where marginal product per rupee of input cost is equal for both inputs. (consider inputs as labour and capital) Use illustrations to explain your answer. **(07 Marks)**

b) Suppose the production function of a firm is given as;

$Q = 120\, K^{0.5} L^{0.5}$ (K – Capital, L – Labour)

i. If the price of unit of capital is Rs.36/= and a unit of labour is Rs.16/= determine the equation for expansion path.

ii. Find the efficient combination of inputs to produce 3600 units.

iii. If the unit price of labour increases to Rs.36/=, same as the unit price of capital, find the efficient combination of inputs needed to produce 3600 units.
Using illustrations, explain how the usage of labour and capital combination change compared to the combination in part (ii).

iv. What is the nature of "returns to scale", the given production function reflect? Explain using illustrations. **(12 Marks)**

c) How would a production function of a firm change under neutral, labour and capital saving technological progress? Explain using illustrations. **(06 Marks)**

Question No. 03

a) "The course of action adopted by managers of an unprofitable firm should be based on a consideration of the alternatives, one option is to continue producing at the least unprofitable rate of output, another is to shut down the operations, however, the best is to aim at minimizing losses "

i. Could a loss making Perfectly Competitive firm still continue to produce? Explain using illustrations.

ii. Do you agree with the above statement? Explain.

iii. The total viable cost of Perfectly Competitive firm is given as;

$$TVC = 172Q - 20Q^2 + Q^3$$

Find the price below which the firm should shut down?

(15 Marks)

b) Suppose the market demand and supply equations for a Perfectly Competitive firm given as,

$$Q_d = 20000 - 25p \qquad Q_S = -12000 + 25p$$

The average cost function of an individual firm that operates in this industry is given as;

$$AC = \frac{200}{Q} + 40 + Q$$

i. Find the profit maximizing price and output.

ii. Calculate the economic profit or loss of this firm.

iii. Depending on the answer to part ii (economic profit/loss), how would the market behave in the long run? Explain using illustrations. **(10 Marks)**

Question no.04

a) " Firms operate in Oligopoly markets could often benefit from collusion"

i. Using illustrations explain whether you "agree" with the above statement.

ii. Why would the prices are generally stable in non- collusive Oligopolistic industries? Explain using "Kinked- demand" model.

iii. Could the Oligopoly prices remain rigid as the Kinked – demand theory implies, when the macro economy is unstable? Explain. **(15 Marks)**

b) Consider the details of an item produced by an Oligopoly firm given below.

Above the kink D_1; $\quad$ $\mathbf{Q_1=124 - P_1}$

Below the kink D_2; $\quad$ $\mathbf{Q_2=68 - 0.5P_2}$

Q-output $\quad$ P-price

The total cost of the firm is given as;

$$\mathbf{TC= 80 + 68Q + Q^2}$$

i. Find the firm's output and the price at the kink.
ii. Calculate the firm's profit.
iii. Are the output, price and profit optimal? Explain.
Using illustrations explain the findings. **(10 Marks)**

Question no.05

a) " Firms engage in price discrimination because it enhances their profits. However the opportunity to engage in price discrimination is not readily available to all sellers."

i. What are the necessary conditions for price discrimination? Explain
ii. Highlighting the difference among 1st, 2nd.and 3rd degree price discrimination explain whether you "agree" with the above statement. Use illustrations to explain your answer.
iii. Is it easier and simple for managers to practice 1st degree price discrimination? Explain. **(15 Marks)**

b) Suppose a firm has two different groups of clients and the demand equation representing each group is given as;

$\mathbf{Q_A= 720 - 20P}$ $\quad$ $\mathbf{Q_B= 480 - 5P}$

Q-demand $\quad$ P-price

Firms cost function is given as'

$\mathbf{TCCQ) = 8Q_T}$ $\quad$ $(Q_T= Q_A+Q_B)$

i. If the firm is to practice third degree price discrimination, find the profit maximizing price and output of each market.
ii. If the firm is unable to practice price discrimination find the profit maximizing price and output.
iii. Prove that firm is able to make a higher profit when practicing price discrimination than charging a single price.

(10 Marks)

Question no.06

a) " In Cost – Plus pricing the mark up percentage tends to vary inversely with demand elasticity."

i. What is meant by "Cost-Plus" pricing? Explain.

ii Explain whether you "agree" with the statement given above. .

iii.Price Elasticity of Demand for good 'X' is given as '3' and it costs the firm Rs.200/= to produce good X. In pricing the product using Cost –Plus method, out of the two prices, Rs.300/= and 400/=, which price is optimal? Explain with necessary calculations.

(10 Marks)

b) What is meant by "Transfer Pricing"? Explain. **(04 Marks)**

c) Assume division "C" manufactures the components and the division "S" assembles them into the final product and sells it. Using illustrations explain how the transfer price is determined; if,

i. there is no external markets for intermediate product.

ii. there is a competitive market for intermediate product. **(11 Marks)**