THE OPEN UNIVERSITY OF SRI LANKA
COMMONWEALTH EXECUTIVE MASTER OF BUSINESS/PUBLIC
ADMINISTRATION PROGRAMME
FINAL EXAMINATION – 2022SEPTEMBER
AFP9305/ MSP 9305 – MANAGERIAL ECONOMICS
DURATION: THREE (03) HOURS

DATE: 25.09.2022   **TIME: 09.30 AM – 12.30 PM**

Answer any five (05) questions, all questions carry equal marks (20 Marks each) .
Use of non-programmable calculator is allowed.

Question No. 01.

(A)   How relevant is the principal - Agent theory in explaining the behaviour of modern-day
       business organizations? What are the solutions available to overcome such a problem? Explain.

                                                                                    (5 Marks)

(B)   The following equations provide the relationship between advertising expenditure and
       sales expenditure of a firm operating in two different regions. (Figures in Rs. Million)
       $S_1 = 36 + A_1 - A_1^2$ (region one), $S_2 = 40 + A_2 - 0.5A_2^2$ (Region two)
       (S- Sales, A -Advertising expenditure).
           i. To maximize sales how much should the firm spend on advertising in each region?
           ii. Prove that your answer to part i above is to maximize sales rather than to minimize.
           iii. Would you recommend the firm tö maximize sales? Why or why not? Explain.

                                                                                    (7 Marks)

(C)   Use the concept of elasticity to answer the following. Where possible provide illustrations to explain
       your answer.
       i. In some countries the government provides subsidies for farmers to keep some part of their
          land uncultivated. What is the objective of employing such a policy?
       ii. Under recessionary conditions, why are the firms that produce sports cars, computers, offer
          foreign holidays etc. are badly affected in comparison to the firms that produce essential items like,
          food, medicine etc.   (8 Marks)

Question No. 02.

(A)   i. On what basis a profit maximizing firm employee the variable factor if,
          a . the capital is fixed, and the labour is the variable factor,
          b. the labour is fixed, and the capital is the variable factor.   (5 Marks)

       ii. The production function of good "X" is given as; $Q = 40L - L^2$; (L – Quantity of labour, Q –
          Output).
          If the unit price of X is Rs.150/=, and the wage rate is Rs.1500/=. How many labours should the
          firm hire to maximize its profit?   (5 Marks)

(B)   The production function of a firm is given as;

$$Q = 240K^{0.5}L^{0.5}$$

       K –Capital   L –Labour

i.   Determine the equation for expansion path assuming that the price of a unit of capital as Rs.36/=, and unit of labour as Rs. 25/=.

ii. Find the efficient combination of inputs needed to produce 7200 units of the given good.

iii. If the unit price of labour also increases to Rs.36/=, same as capital, find the new efficient combination of inputs needed to produce 7200 units.

iv. What is the nature of returns to scale reflected in the above function? Explain.   (10 Marks)

Question No.03.

(A) i.   Management of a firm operate in a Perfectly Competitive market identified that the unit price (P) of its product equals the average variable cost (AVC) of production, i.e. P=AVC = Rs. 120, Could the firm continue to operate? Explain using illustrations.

ii. The Total Variable Cost (TVC) of Perfectly Competitive firm is given as;

$$TVC = 112Q - 12Q^2 + Q^3$$

Find the price below which the firm should shut down?

(10 Marks)

(B) i. What factors could make Monopolist operate multi plants? Explain.

ii. A Monopolist operates two separate plants; A & B.

Demand curve faced by the firm given as; $P = 140 - Q$ (P - Price, Rs./Q- Output, units)
$Q = Q_A + Q_B$

Total Cost of the two plants given as; $TC_A = 4Q_A^2$ $TC_B = 2Q_B^2$
Determine;

a.   The level of output produced by each plant.

b.   The price charged.   (10 Marks)

Question No 04.

A)   "The gains from product diversity could outweigh the costs of inefficiencies associated with the long run behaviour of firms operates in Monopolistic Competitive industries" Do you agree? Explain.   (06 Marks)

B)   The short run demand and cost equations of a Monopolistically Competitive firm are given as.
$Q_d = 480 - 10P$ (Demand) $TC = 320 + 8Q$ (Total Cost)   (Q – Output, P – Price)

i.   Calculate the price and output if the firm aims at,
         a. Revenue Maximization   b. Profit maximization

ii. Highlight the difference in behaviour when maximizing revenue and when maximizing profit, using illustrations.

iii. Calculate the economic profit/loss.

iv. Based on the answer to above 'iii', with the help of an illustration explain the long run behavior of the firm.   (14 Marks)

Question No 05.

A)   Some organizations charge different rates from different categories of customers, for example rates imposed on the business firms by the Ceylon Electricity Board is different to the rates imposed on the domestic residence. Theoretically, how could the pricing practice of this nature help the respective organizations to extract consumer surplus and enhance their revenues? Explain using illustrations.   (08 Marks)

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

$Q_A = 520 - 5P$ $\qquad$ $Q_B = 680 - 20P$ $\qquad$ (Q-demand, P-price)

Firms cost function is given as; $(TC = 8Q_T)$, $\qquad$ $(Q_T = Q_A + Q_B)$

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.

iv. What are the conditions necessary for a firm to engage in price discrimination? Explain.

(12 Marks)

Question No. 06.

A) i. "When a firm sets the price of a product on cost plus basis, it must take the Price Elasticity of Demand of that product into consideration". While highlighting how the "Cost-Plus" price is determined explain whether you agree with the above statement.

ii. If the Price Elasticity of Demand for good 'A' is given as '2' and for good 'B' it is '3', find the appropriate markup consistent with the profit maximization principle.

(10 Marks)

B) i. Providing examples, explain the following.

a. Two – Part Tariffs.

b. Transfer Pricing.

ii. Division 'H' of a firm is manufacturing components of a product and Division 'R' of the same firm is assembling them into the final product. Using illustrations explain how the transfer price is determined between the two units, if no external market exists for both divisions H & R.

(10 Marks)

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