UNIVERSITI SAINS MALAYSIA

Master of Business Administration

Second Semester Examination
Academic Session 2007/2008

April 2008

AGW614 - Managerial Economics

Duration: 3 hours

Please check that this examination paper consists of **FIVE** pages of printed material before you begin the examination.

Answer **FIVE** questions.

Question 1

(a) The ABC firm found that a particular brand of pizza has the following demand curve by college students in the US:

$$QS = 26.67 - \underset{(0.018)}{0.088PP} + \underset{(0.087)}{0.138AT} - \underset{(0.020)}{0.076PSD} - \underset{(0.844)}{0.544L}$$

$R^2 = 0.72$; $\bar{R}^2 = 0.67$

Standard errors of the coefficients are listed in the parentheses.

(i) Compute the elasticities for each variable and discuss the relative impact that each variable has on demand. Subsequently, discuss the implications these results have on the firm's future strategy.

(ii) Conduct a t-test for the statistical significance of each variable. Discuss the results of the t-tests in light of the policy implications mentioned in (i).

[10 marks]

(b) Explain the term "satisfice" as it relates to the operations of a large corporation.

[5 marks]

(c) List 5 key non-price factors that influence demand. Elaborate your answer.

[5 marks]

Question 2

(a) For each of the following cost functions, if possible, find minimum average cost (AC) and minimum average variable cost (AVC).

(i) $TC = 40{,}000 + 20Q$

(ii) $TC = 1000 + 2Q + 0.1Q^2$

[8 marks]

(b) The economist for the ABC firm has calculated a production function for the manufacture of their medium-size trucks as follows:

$$Q = 1.3L^{0.75}K^{0.3}$$

Where Q is number of trucks produced per week, L is number of labor hours per day, and K is the daily usage of capital investment.

(i) Does the equation exhibit increasing, constant or decreasing returns to scale? Explain.

(ii) How many trucks will be produced per week with the following amounts of labor and capital?

LABOR	CAPITAL
100	50
120	60
150	75
200	100
300	150

(iii) If capital and labor both are increased by 10 percent, what will be the percentage increase in quantity produced?

(iv) Assume only labor increases by 10 percent. What will be the percentage increase in production? What does this result imply about marginal product?

[12 marks]

Question 3

(a) A local supermarket lowers the price of its vanilla ice cream from US$3.50 to US$3. As a result, vanilla ice cream sales increase by 20 percent. At the same time store, manager notices that the sales of chocolate syrup increase by 10 percent.

(i) What is the price elasticity coefficient of vanilla ice cream?

(ii) Why have the sales of chocolate syrup increased, and how would you measure the effect.

(iii) Overall, do you think that the new pricing policy was beneficial for the supermarket?

[6 marks]

(b) Indicate whether each of the following statements is true or false and explain why.

(i) When the law of diminishing returns takes effect, a firm's average product will start to decrease.

(ii) Decreasing returns to scale occurs when a firm has to increase all its inputs at an increasing rate to maintain a constant rate of increase in its output.

(iii) A linear short-run production function implies that the law of diminishing returns does not take effect over the range of output being considered.

(iv) Stage I of the production process ends at the point where the law of diminishing returns occurs.

[8 marks]

(c) Today, the XYZ Corporation shipped goods valued at €1 million to a customer in Belgium. Payment is due in 90 days, and the Belgium firm will make the payment in euros. Today's spot rate is €1/USD1.25. The 90 days forward rate is €1/USD1.22.

(i) How many dollars would XYZ receive if payment were made today?

(ii) If XYZ sells €1 million forward for 90 days, how much is it assured to receive 90 days from now?

(iii) If the US dollar were to weaken in the 90 days and XYZ did not hedge, would it benefit or lose?

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Question 4

(a) Decide whether the following statements are true or false and explain why.

(i) A decision maker must always use the historical cost of raw materials in making an economic decision.
(ii) The marginal cost curve always intersects the average cost curve at the average cost's lowest point.
(iii) Marginal cost is relevant only in short-run analysis of the firm.
(iv) The rational firm will try to operate most efficiently by producing at the point where its average cost is minimized.

[8 marks]

(b) Suppose Malaysian government awarded contracts to private companies to rebuild the country's infrastructure damaged by the tsunami and it based its contracts on a percentage of the cost of the reconstruction.

(i) Would this constitute a moral hazard?
(ii) Explain you answer in (i). In particular, if the answer is yes, what would the government need to do to prevent such a problem?

[6 marks]

(c) The AF Company has compiled the year's revenue expectations and their probabilities:

Sales	Probabilities
240	0.05
280	0.10
320	0.70
360	0.10
400	0.05

Calculate:
(i) the expected revenue
(ii) the standard deviation
(iii) the coefficient of variation

[6 marks]

Question 5

(a) Define and compare the following types of cost:

(i) sunk cost versus incremental cost
(ii) fixed cost versus variable cost
(iii) opportunity cost versus out-of-pocket cost

[6 marks]

(b) The demand and cost function for a company are estimated to be as follows:

$P = 170 - 5Q$
$TC = 40 + 50Q + 5Q^2$

(i) What price should the company charge if it wants to maximize its profit in the short-run?
(ii) What price should it charge if it wants to maximize its revenue in the short-run?

[8 marks]

(c) Assume firms in the short-run are earning above-normal profits. Explain what will happen to these profits in the long-run for the following markets:

(i) pure monopoly
(ii) oligopoly
(iii) monopolistic competition
(iv) perfect competition

[6 marks]

Question 6

(a) What are the main characteristics of a perfectly competitive market that cause buyers and sellers to be price takers? Explain.

[6 marks]

(b) Indicate whether each of the following statements is true of false, and explain why.

(i) A competitive firm that is incurring a loss should immediately cease operations.
(ii) A pure monopoly does not have to worry about suffering losses because it has the power to set its prices at any level it desires.
(iii) In the long run, firms operating in perfect competition and monopolistic competition will tend to earn normal profits.
(iv) Assuming a linear demand curve, a firm that wants to maximize its revenue will charge lower price than a firm that wants to maximize its profits.
(v) In an oligopoly, the firm that has the largest market share will also be the price leader.
(vi) The demand curve facing a firm in a monopolistically competitive market is more elastic than one facing a pure monopoly.

[10 marks]

(c) Why should a government be concerned with the pricing of products that a company transfers to an affiliate in another country?

[4 marks]

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