UNIVERSITI SAINS MALAYSIA

Final Examination
Semester I, Academic Session 1994/95

October/November 1994

AGW514 - MANAGERIAL ECONOMICS

Time: [3 hours]

Instructions

Please make sure that this examination paper consists of SIX printed pages before you begin.

Attempt any **FIVE** out of seven questions. Please note that all parts of your selected questions must be attempted except question 1 where you have some internal choice.

Q1. Defend/attack the following (choose any FOUR).

(a)   All business firms aim at maximum profit.

(b)   While an apple grower has no role in pricing its own product, the Malaysian Telekom enjoys full powers in deciding telephone charges.

(c)   Price discrimination is quite popular in Malaysia.

(d)   Macroeconomics is ambiguous with regard to the role of government in the economy.

(e)   Devaluation is an effective tool for correcting deficits in the current account of the balance of payments.

(f)   The main cost of inflation is unemployment that follows as governments attempt to lower inflation.

[20 marks]

Q2. The management of a firm producing buckets has estimated its demand function to be

$$Q_x = 3{,}785 - 1{,}956\, P_x + 1{,}833\, P_y + 249\, I + 48\, A_x$$

$$R^2 = 0.96$$

where

Q_x = quantity demanded of product x in units
P^x = price of product x in RM
P^y = price of the major competitor in RM
I = per capita income in thousands of RM
A = advertising expenditure on product x at thousands of RM

The current values of the variables are

$$P_x = 8.49,\ P_y = 7.95,\ I = 26.5,\ \text{and}\ A_x = 35$$

Based on this information, answer the following questions:

(a) Is the estimated demand function consistant with the theory of consumer behaviour? How?

(b) Interpret the coefficients of P_y (1,833) and I (249), and the value of R^2.

(c) Estimate the current level of demand.

(d) Find the point price elasticity of demand at the current price. Is the demand elastic? If the company contemplated a price increase, would total revenue rise or fall? Why?

(e) Find the promotional (advertising) elasticity of demand between A = 35 and A = 40. Is extra promotion beneficial?

(f) If the company desires to achieve a 10% growth in its sales, determine a couple of strategies available to it.

[20 marks]

Q3. The ABC Corporation has the following production function.

Labour	CAPITAL					
	1	2	3	4	5	6
1	5	7	9	10	11	12
2	7	10	12	14	16	17
3	9	12	15	17	19	21
4	10	14	17	20	22	24
5	11	16	19	22	25	27
6	12	17	21	24	27	30

The inputs (Labour: L, Capital: K) and output (Q) prices (per unit) are

$$P_L = RM10, P_K = RM20, P_Q = RM3$$

Based on this information, answer the following questions:

(a) Suppose capital is fixed at 5 units (K = 5), compute marginal and average phyical products of labour. If the firm aims at maximum profit (minimum loss), how many units of labour must it employ?

(b) Suppose the firm is currently producing 25 units of output using L = 5 and K = 5. Is the firm using a least-cost input technology? Why?

(e) Examine the returns to scale over the range of labour and capital shown in the table.

(f) Using the duality theorem, determine the total cost, average cost and marginal cost schedules for a few output levels in the table (For example, Q = 5, 7, 9, 10, etc).

[20 marks]

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Q4. There are just two firms (1 and 2) in the pocket calculator industry. They sell their products under their own trade marks and aim at maximum profits. The demand and cost functions facing the two firms are as follows:

$$P_1 = 65 - Q_1 - Q_2 \qquad P_2 = 120 - 2Q_1 - 3Q_2$$

$$TC_1 = 40 + 4Q_1 + Q_1^2 \qquad TC_2 = 60 + 3Q_2 + 2Q_2^2$$

where P = price, Q = demand, and TC = total cost

Based on this information, answer the following questions:

(a) If each firm ignores output changes of the rival firm (Cournot's assumption), what would be the equilibrium prices and quantities of the two firms?

(b) If the two firms collude and forms a cartel, what would be the optimum prices and quantities?

(c) If the two firms decide that firm 1 would be the leader but ensure one - third market share for firm 2, what would be the equalibrium prices and quantities?

(d) Which of the above three alternatives would be the best from the consumers point of view? Why?

[20 marks]

Q5. Attempt all the following three parts of the question.

(a) Which of the following items are included in GNP?

- Income of the owner of a jewellery store
- Purchase of a bond issued by the Public Bank Bhd.
- Wages paid to a cook
- Value of a parent's time spent caring for the children
- Rental value of an owner - occupied house
- Income from a private tuition not reported to the tax authorities
- Sale of an old car
- Money saved by a professor by self white-washing the house

(b) Given the following data (all in RM billions), find national income, GDP at market price, personal disposable income, personal savings, gross domestic investment and government savings:

GNP at market price	1,285
Capital consumption	81
Indirect taxes net of subsidies	139
Net factor income from abroad	-3
Private income	1,105
Retained profits	8
Corporate tax	13
Direct personal (households) taxes	23
Personal consumption expenditure	885
Government expenditure	130
Net exports	48

(c) Suppose there are only three commodities produced in an economy and that the price and quantity data for two years were as follows:

Commodity	1981		1991	
	Quantity	Price	Quantity	Price
Wheat	4,000	1.25	6,000	2.5
Milk	1,000	2.00	1,400	3.5
Shirts	30	60	120	50

Compute nominal GNP, real GNP and the GNP deflator for each of the two years. What is the annual rate of inflation/deflation implied by the GNP deflator?

[20 marks]

Q6. Answer both the following parts of this question.

(a) What determine national income? What determine economic growth rate? Explain the relationship with each important determinant and the mechanism through which the impact is exercised.

(b) 'The stagflation of the 1970s was responsible for the reduced role of the demand management policies (monetary and fiscal) and the re-emergence of the supply side economics.' Discuss.

[20 marks]

Q7. Briefly answer both the parts of this question.

(a) Explain how micro - and macro - economics are useful in managing a firm. Give examples.

(b) Examine the state and significance of the Malaysian economy with regard to the high level economic goals. Give data to support your observations.

[20 marks]

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