UNIVERSITI SAINS MALAYSIA
Master of Business Administration

First Semester Examination
Session Academic 1995/96

October/November 1995

AGW514 - MANAGERIAL ECONOMICS

Time : [3 hours]

INSTRUCTIONS :
Please make sure that this examination paper consists of **FIVE (5)** printed pages before you begin.

Answer **FOUR (4)** questions only.

1a.   Demonstrate with the aid of graph(s) that the profit-maximizing firm may choose to hold its price constant under conditions of oligopoly, despite shifts of both the demand and cost curves.

[7 marks]

b.   Boxem-Buddies Inc.(BB), has developed a new exercise machine that will appeal to those who like to combine an exercise program with boxing practice. After a successful market-testing program they have estimated the demand curve for this machine to be $P = 188.2351 - 0.0023Q$. Their fixed costs are expected to be $200,000 per annum, and marginal costs rise with output as indicated by the expression $MC = 25.8634 + 0.0018Q$. The intercept of the market demand curve is expected to shift upward by 10% in the second year, with the slope term remaining the same. If Boxem-Buddies sets the profit-maximizing price in the first year, there will be entry of one firm at the start of the second year. Its cost curve is estimated to be $TC = 240,000 + 35Q + 0.002Q^2$. Because of its higher costs, it is expected to allow Boxem-Buddies to be the price leader. Moreover, because the innovating firm expects to gain a product differentiation advantage, the entrant will only get a third of the market when the prices are equal.

(i)   What are the short-run profit-maximizing price and output levels for the machine in year 1?

(ii)   What is the limit price that would prevent the entry of the new firm? At that price what output would Boxem-Buddies sell?

(iii)   Suppose BB sets the profit-maximizing price in year 1 and the new firm enters. What price will BB set as price leader? What are its output and profit levels in the second year?

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(iv)   In retrospect, should BB have set the limit price?   Explain and defend your answer with any underlying assumptions.

[18 marks]

2.   The Peachy Cosmetics Company has established the following relationship between the variable inputs and the output level for its production of its face cream products.   Each unit of the variable input includes one person working forty hours weekly, the necessary utilities, and a variety of ingredients in the required proportions, including the small glass jars and cardboard boxes in which the cream is packed.   These variable inputs cost $600 per unit.   Overhead (fixed) costs are $60,000 per week.

Variable Input (units)	Output (units)
100	6,500
200	14,300
300	20,200
400	24,400
500	27,800
600	30,000

(a)   Use these data to derive the firm's average AVC and SAC schedules for the output levels shown.

(b)   Graph the AVC and SAC curves and sketch in your best estimate of the marginal cost curve.

(c)   At what output level do you think diminishing returns first start?   Explain with reference to the graph and reconcile this result with the input-output data.

(d)   What is the full capacity output level?   What is average cost at that level? Under what conditions would Peachy produce in the overfull capacity area of its cost curves?

(e)   Suppose that one of the very expensive ingredients in Peachy Cream was suddenly found in abundance, and the cost of the variable units fell to $500 each.   (For the following questions, you are not required to do any calculations).

    (i)   What is the impact of this discovery on the firm's AC, SAC, and MC curves?

    (ii)   Does it change the point where diminishing returns set in?

    (iii)   Now suppose that after the reduction in the price of that ingredient, worker productivity increases as a result of improvements in morale, such that output goes up by 10% at each input level.   What is the impact of this improvement on the firm's AVC, SAC, and MC curves?

    (iv)   What is the impact of both changes on the firm's full capacity output level?

[25 marks]

3.   Beau's is a small menswear store operating in the downtown office district of a major American city.   Although Beau's sells a wide range of men's clothing, its small floor area means that it has limited depth in each area.   For example, it sells seven different brands of men's business shirts, but has limited colors and sizes in each brand.   Several other small menswear stores and two large department stores (each containing a menswear department) also operate within about six city blocks of Beau's.   The department stores carry a wider and deeper range of menswear than does Beau's, while the other smaller stores have similar prices and product offerings as compared to Beau's.   The department store has similar prices, but is more likely to run promotional prices on menswear items from time to time.   When this happens (the department stores' sales prices are usually 20% off regular prices), the volume of business at Beau's falls by about 40%.   Beau's usual pricing policy is to mark up invoice prices of the various shirts by 100%, with markdowns from these price levels only on end-of-line items.

(a)   Outline the competitive strategy you think Beau's should pursue in order to gain competitive advantage, and why.

(b)   In pursuit of that strategy, what should Beau's marketing mix be in general terms.

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(c)   Suggest the major elements of a pricing policy for Beau's products.

(d)   What is the implied price elasticity of demand for Beau's products, assuming the current markup is at the profit-maximizing level?

(e)   Do you think price elasticity is, in fact, at or near that level, based on the information given and other thoughts you might have? Why or why not? If not, would you suggest a price change, and if so, in what direction and by how much?

[25 marks]

4   (a)   Distinguish between movements along a demand curve, and shifts of that demand curve. What causes each to happen?

[5 marks]

(b)   What problems may be encountered using the questionnaire or survey method of demand estimation?

[5 marks]

(c)   The management of Uncle Bob's Cakes (UBC) has estimated its demand function to be :

$$Q_x = 2281.97 - 1498.35 P_x + 832.66 P_y + 248.78 B + 47.5 A$$

where Q_x is the quantity demanded in units, P_x is the price per unit, P_y is the price of the major competitor, B (an estimate of consumers' budgets) is per capita income (in thousands), and A is advertising expenditures (in thousands).

The current values for the variables are $P_x = 6.00$; $P_y = 6.95$; B = 24; and A = 20.

(i)   Calculate an expression for the demand and marginal revenue curves for this product, and plot these on a graph.

(ii)   Assuming the marginal cost of production is constant at $3, what is the profit-maximizing price? Show this both graphically and algebraically.

(iii)   What is the revenue-maximizing price?

(iv)   State explicitly all assumptions and qualifications that underlie your analysis.

[15 marks]

5   (a)   Malaysia is currently facing a labour shortage. To overcome this problem, the government has allowed foreign labour to be used in certain industries.

(i)   Discuss the economic arguments for and against allowing foreign labour in Malaysia.

(ii)   Identify and evaluate other choices that are available to the government to overcome the labour shortage?

[15 marks]

(b)   Comment on the zero-inflation policy of the Malaysian government.

[10 marks]

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