UNIVERSITY OF COLOMBO, SRI LANKA

FACULTY OF MANAGEMENT & FINANCE

Postgraduate & Mid-career Development Unit

MBA in Finance/ MBA in HRM/ MBA in Marketing (2015/2017) (Semester 1 – Second Half)
Examination – May/June, 2016

MBA 534 – Managerial Economics

Three (03) Hours

Answer Only Five (05) Questions

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1. i. Suppose that, in every month, a consumer spends 10 percent of his salary on thriller movies and restaurant meals. How much of this 10 percent is spent on each product depends on the satisfaction he gets from each of these two products. Suppose that we construct a graph where the two products (thriller movies and restaurant meals) are indicated on the two axes. With respect to the consumption of these two products, what is meant by the following statement?

   "Consumer is in equilibrium at a point where his/her budget line is tangent to the highest possible indifference curve."

   (08 marks)

   ii. Show how indifference curve analysis can be used in making each of the following decisions:

   a. Selecting the optimal portfolio taking both risk and return aspects into account

   b. Selecting the most appropriate price-quality mix to be offered to customers

   c. Choosing between two product attributes by a producer

   (12 marks)

   (Total 20 marks)

2. i. Consider the following estimated demand function for product Y. The estimation is based on quarterly data during the sample period 2005:01 – 2015:04:

$$Q_{y,t} = 10.34 + 28.4D - 0.53P_{y,t} + 1.04P_{x,t} - 1.85P_{z,t} - 6.31M_t + 0.78T - 10.42R_t + 21.34A_{t-1}$$
$$\text{(5.72)} \quad \text{(3.49)} \quad \text{(–1.89)} \quad \text{(2.46)} \quad \text{(–2.61)} \quad \text{(–5.78)} \quad \text{(1.43)} \quad \text{(–3.45)} \quad \text{(7.39)}$$

$$R^2 = 0.73 \qquad F \text{ statistic} = 24.82$$

where $Q_{y,t}$ is quantity of product Y demanded during quarter t; $D = 1$ for the fourth quarter (i.e. October–December) and zero otherwise; $P_{y,t}$ is price of Y during quarter t; $P_{x,t}$ is the price of a related product X in quarter t; $P_{z,t}$ is the price of another related product Z in quarter t; M_t is the average income of consumers during quarter t; T represents time trend; R_t is a measure of rainfall; A_{t-1} is advertising expenditure in quarter $t-1$.

The number given within parenthesis underneath each coefficient is the t-value of the respective coefficient. Critical t-value at the 5% level of significance is 2.02. Units of variables are not given for simplicity.

Comment on the estimated demand function for product Y (you are expected to use all information contained in the estimation results).

(10 marks)

ii. Explain how ratio-to-trend method can be used to capture seasonal variations in demand.

(06 marks)

iii. Why is it argued that simple exponential smoothing method is better than simple moving average method in demand forecasting?

(04 marks)

(Total 20 marks)

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3. i. Explain the economic rationale behind each of the following relationships:

    a. Marginal cost curve is a u-shaped curve while marginal product curve is an inverted u-shaped curve.

    b. Total cost curve is a mirror image of the total product curve.

(12 marks)

  ii. Examine the factors that give rise to U-shaped long-run average cost curve.

(08 marks)

(Total 20 marks)

4. i. Suppose that a firm operating in a perfectly competitive market is in its long-run equilibrium. Empirical evidence shows that this is an increasing cost industry. Explain the resultant process and the outcome, if a permanent increase in demand will disturb the existing equilibrium.

(06 marks)

  ii. Explain how the following factors may act as entry barriers:

    a. Economies of scale

    b. Consumer lock-in

    c. Network externalities

(08 marks)

  iii. Citing examples, explain how real factors can be used in product differentiation.

(06 marks)

(Total 20 marks)

5. Identify the relevant market structure/s in each of the following economic phenomena and elaborate on each of the statements focusing on the underlying reasoning.

   i.   Firms can employ declining block pricing in order to increase their revenue.

   ii.   Firms cannot retain economic profits in the long run.

   iii. No firm is able to reach their full capacity in the long-run.

   iv. Firms are not growing in size with the expansion of the relevant industry.

   v.   A firm charges a price lower than the profit maximizing price in order to secure its market.

(04 X 5 marks)

(Total 20 marks)

6. In a highly closed small economy, with the intention of developing automobile industry, the government issues licenses to two giant firms: Auto Alpha and Auto Beta. Both firms are expected to share the market under heavy tariff protection and resultant absence of imports of automobiles. Both firms start their production and marketing at the same time. There is a sharp competition between the two firms to share the market between them and promotions play a vital role in it. The following payoff matrix indicates each firm's payoffs associated with different combinations of strategies:

Auto Beta

		With Promotions	Without
Auto Alpha	With Promotions	20, 30	40, 10
	Without	5, 50	30, 40

Payoffs are in billions of local currency unit per year

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i. Assuming that the initial phase comes to an end in a year and the game is played just once, find the possible outcome.

(03 marks)

ii. Assuming that the two firms happen to repeat the game every year, find the most likely outcome.

(03 marks)

iii. Suppose that, after five years of operation in the industry, both firms begin to notice signs of a change in government in another two years. The new government is most likely to introduce open economic policies and remove high tariff protection appearing in most of the industries including automobile. If that happens, the two firms will not be able to remain in business competing with high quality imported cars sold at highly competitive prices. Assuming that the government change is certain, find the most likely outcome.

(04 marks)

iv. Neglect the background facts given in parts i, ii and iii above. Assume that Auto Alpha will move first converting this into a sequential game. Find the possible outcome.

(04 marks)

v. Would the outcome have been different, if Auto Beta had moved first? Draw the game tree and explain how you would arrive at your answer.

(04 marks)

vi. Based on a comparison between the outcomes in parts iv and v above, show whether there is evidence for first mover advantage in automobile industry.

(02 marks)

(Total 20 marks)

7. i. Explain how each of the following remedial actions can be used to solve "Lemons problem" in markets:

   a. Signaling

   b. Screening

(10 marks)

   ii. Show how information asymmetry can adversely affect the quality of products.

(05 marks)

   iii. Explain why insurance companies are forced to use measures like deductibles and coinsurance.

(05 marks)

(Total 20 marks)

8. i. Based on the underlying rationale, explain how pricing is done in each of the following cases:

   a. Selling two products that are substitutes in production

(06 marks)

   b. Selling two products that are complements in production

(05 marks)

   c. Selling the same product at different prices in markets where demand elasticities are different

(04 marks)

   ii. Explain how price discrimination happens in two part pricing. Why is it argued that the access fee must be less than the consumer surplus of a representative consumer if two part pricing is to be successful?

(05 marks)

(Total 20 marks)