SIM UNIVERSITY

ECO201e

Examination – July Semester 2016

Managerial Economics

Wednesday, 16 November 2016   10:00 am – 12:00 pm

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Time allowed: 2 hours
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INSTRUCTIONS TO STUDENTS:

1. This examination contains **FOUR (4)** questions and comprises **FOUR (4)** printed pages (including cover page).

2. You must answer **ALL** questions.

3. This is a closed book examination.

4. All answers must be written in the answer book.

At the end of the examination
Please ensure that you have written your examination number on each answer book used.

Failure to do so will mean that your work cannot be identified.

If you have used more than one answer book, please tie them together with the string provided.

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THE UNIVERSITY RESERVES THE RIGHT NOT TO MARK YOUR
SCRIPT IF YOU FAIL TO FOLLOW THESE INSTRUCTIONS.
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You must answer ALL the questions. (Total 100 marks)

Question 1

(a)   Singapore breeds its own fish for local consumption in fish farms and also imports fish from Malaysia. Recently two incidents occurred in the fish market in Singapore. One is that the price of fish feed (which fish farmers use to feed their fish) has decreased significantly. The other incident is that the monsoon season in Malaysia has resulted in fewer fishes being caught and Malaysia has decided to reduce the export of fish to Singapore.

Discuss and analyse the combined impact of these two incidents on price and quantity in the fish market in Singapore, supporting your prediction with a suitable diagram. If your answer contains more than one prediction, support each prediction with its own diagram and discussion.

(15 marks)

(b)   Tim has $30 to spend on fish and ice-cream. The price of fish is $3 per unit and that of ice-cream is $6 per unit. His total utility of the two goods at various quantities are shown in the table:

Quantity of fish	Total Utility of fish	Quantity of Ice-cream	Total utility of Ice-cream
1	18	1	42
2	30	2	78
3	39	3	108
4	45	4	132
5	48	5	144

Apply the rational spending rule to determine his optimal quantities of fish and ice-cream.

(10 marks)

Question 2

Consider a perfectly competitive market with market demand curve given by $P = 6 - 0.05Q$ and the market supply curve (which is the horizontal sum of individual marginal cost curves) given by $P = 3 + 0.05Q$. Eventually a series of mergers result in only one firm serving the entire market and the market becomes monopolised.

(a)   Compare and calculate the market equilibrium price and quantity under perfect competition and under monopoly. Identify these prices and quantities in a market diagram.

Note: Assume that the market supply curve is the marginal cost curve of the monopoly.

(12 marks)

(b)   Calculate the consumer surplus and the producer surplus under the perfect competition and the monopoly situation.

(8 marks)

(c)   Calculate the deadweight loss under monopoly in the diagram.

(5 marks)

Question 3

(a)   Peter is working as a teacher and earning salary of $50,000 per year. He has decided to quit his teaching job and starts his own business selling furniture. To buy the necessary equipment, he withdrew his savings of $20,000 from his bank, where it had been earning interest of 5% per year. He converted a room in his house to operate the business. Prior to the furniture business the room was rented out for $500 per month. He also hires an assistant for $1,250 per month. In the first year, he managed to produce 150 tables and 250 chairs. He sold all the tables and chairs at a unit price of $300 and $50 respectively.

   (i)   Calculate the explicit cost, implicit cost, accounting profit and economic profit for the first year. Describe the difference between accounting profit and economic profit.

(12 marks)

   (ii)   Based on your calculation in (i), will you advise Peter to continue the business or return to his teaching job? Explain.

(3 marks)

(b)   Consider two neighbouring cities, Alpha and Beta. Both are tourist-dependent and considering building a theme park to boost tourism revenues. There will be high investment costs involved and competition will be heightened to attract visitors to their respective theme parks if both are available to the tourists. The figures in the matrix show the profits earned by each city.

		Beta	
		Build a theme park	Did not build a theme park
Alpha	Build a theme park	$42m for Alpha, $30m for Beta	$65m for Alpha $25m for Beta
	Did not build a theme park	$48m for Alpha, $50m for Beta	$40m for Alpha $45m for Beta

   (i)   Solve for the Nash equilibrium in this game.

(6 marks)

   (ii)   Explain prisoner's dilemma game. Identify whether this game is a prisoner's dilemma game. Justify your answer.

(4 marks)

Question 4

(a)   Tom and Jerry both enjoy watching documentary shows. The demand function by Tom is Q = 5 - 0.25P, while the demand function by Jerry is Q = 15 - 0.5P. The documentary shows are broadcasted free-of-charge via the free to air channel.

   (i)   Discuss how you would classify documentary shows broadcasted via free to air channel with reference to rivalry and excludability. Justify your answer.

                                                                        (4 marks)

   (ii)   Assuming Tom and Jerry are the only consumers, discuss how you would obtain the market demand curve for documentary shows. Construct and draw the diagram of the market demand curve for the documentary shows, clearly labelling key prices and quantities on the axes, and including Tom's demand curve, Jerry's demand curve, and the combined market demand curve.

                                                                        (8 marks)

   (iii)   A company can produce documentary shows and broadcast to both Tom and Jerry at a constant marginal cost of $20. What is the efficient quantity of documentaries that should be produced for this market?

                                                                        (4 marks)

(b)   A rational person will consider the monetary and non-monetary gain as well as the cost of pursing education when deciding the optimal amount of education to pursue. However, it is generally true that an educated person is likely to be more civic minded, more considerate and more gracious and hence makes the life of other people in the society better off.

   (i)   Describe the type of externality in education market. Discuss why a market system for education will fail to maximise the welfare to the society. Draw a suitable diagram to support your answer.

                                                                        (6 marks)

   (ii)   Explain what can be done to rectify this externality problem.

                                                                        (3 marks)

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