

元智大學 102 學年度研究所 碩士班 招生試題卷

系(所)別：管理學院經營管理碩士班 組別：服務行銷碩士學位 科目：經濟學 用紙第 / 頁共 2 頁

●不可使用電子計算機

Please provide your answers to the following questions in either Chinese or English.

1. Company AAA makes two goods, X and Y. For every unit of good X that the company makes, it also makes two units of good Y. The company's total cost function is

$$TC(Q) = 500 + 3Q + 9Q^2$$

Where Q is the number of units of output (where each unit contains one unit of good X and two units of good Y) and TC is total cost (in dollars). The demand functions for the company's goods are

$$P_X = 400 - Q_X$$

$$P_Y = 300 - 3Q_Y$$

Where P_X and Q_X are the price and output of good X and P_Y and Q_Y are the price and output of good Y.

- a. (10 points) How much of each good should Company AAA produce and sell per period of time?
b. (10 points) What price should it charge for each good?
2. (10 points) John can buy apples at \$2 per pound at his local grocery store, and he buys 20 pounds per year. However, at the newly opened superstore apples are \$1 per pound, but John has to pay an annual membership fee of \$20. Assume that apples are the only product John would buy at the superstore if he were a member. Do you expect that John would join the superstore? Use the concept of consumer surplus in your answer.

3. (10 points) South Airline offers the following frequent flyer program to its customers: For the first 300 miles flown each year, customers pay full fare. For the next 200 miles flown during the year, the fare is reduced by 20 percent; for all flights beyond that, the fare is reduced by 50 percent. Please sketch the budget constraint that a typical passenger faces.

4. The long-run supply curve for good X is a horizontal line at a price of \$3 per unit. The demand function for good X is

$$Q^D = 50 - 2P$$

Where Q^D is the quantity of good X demanded per year and P is the price per unit (in dollars).

- a. (3 points) What is the equilibrium quantity of good X?
b. (4 points) If a tax of \$2 is imposed on each unit of good X, what is the equilibrium quantity of good X? (Assume that the tax is collected by the government from the sellers of good X.)
c. (3 points) After the tax is imposed, you buy good X for \$4.75. Is this the long-run equilibrium price?

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5. Explain whether or not and why the following items are included in the calculation of GDP in Taiwan:
 - a. (2 points) Increases in business inventories
 - b. (2 points) Sales of existing homes
 - c. (2 points) Fees earned by real estate agents on selling existing homes
 - d. (2 points) Income earned by Taiwanese living and working abroad
 - e. (2 points) Purchases of Acer stock by your sister
 - f. (2 points) Purchase of a new F-16 by the Department of Defense from the United States
 - g. (2 points) Rent that you pay to your landlord

6. For each of the following, decide whether the IS curve shifts in and to the left, shifts out and to the right, or stays unchanged:
 - a. (2 points) The tax rate decreases
 - b. (2 points) Foreign interest rates rise
 - c. (2 points) Businesses become more optimistic about future demand
 - d. (2 points) Consumers desire to save a greater proportion of their income for the future
 - e. (2 points) The central bank lowers the short-term nominal interest rate it controls
 - f. (2 points) Foreign exchange speculators become more pessimistic about the long-run value of domestic currency

7. If our government cracks down on illegal immigrants and returns them to their home countries, explain what happens to
 - a. (3 points) Our potential GDP
 - b. (3 points) Our employment
 - c. (3 points) Our real wage rateIn the countries to which these workers return, explain what happens to
 - d. (3 points) Potential GDP
 - e. (3 points) Employment
 - f. (3 points) The real wage rate

8. In Taiwan the currency drain ratio is 0.38 of deposits and the desired reserve ratio is 0.002. In the United States, the currency drain is 33 percent of deposits and the desired reserve ratio is 8 percent.
 - a. (3 points) Calculate the money multiplier in Taiwan
 - b. (3 points) Calculate the monetary base in the United States.