

國立台灣大學社會科學院國家發展研究所

109 學年度碩士在職專班入學考試試題

科目：經濟學

問答題共五題，英文題目可用中文回答。

一、 Donald derives utility from only two goods, carrots (Q_c) and donuts (Q_d). His utility function is as follows:

$$U(Q_c, Q_d) = (Q_c)(Q_d)$$

The marginal utility that Donald receives from carrots (MU_c) and donuts (MU_d) are given as follows:

$$MU_c = Q_d \quad MU_d = Q_c$$

Donald has an income (I) of \$120 and the price of carrots (P_c) and donuts (P_d) are both \$1.

- What is Donald's budget line?
- What quantities of Q_c and Q_d will maximize Donald's utility?
- Holding Donald's income and P_d constant at \$120 and \$1 respectively, what is Donald's demand curve for carrots?
- Suppose that a tax of \$1 per unit is levied on donuts. How will this alter Donald's utility maximizing market basket of goods?

(每小題 5 分，共 20 分)

二、 Duane breeds parrots for a living. He has discovered that the production function for parrot chicks (Q) is:

$$Q = K^{1/2}L^{1/2}$$

where K is capital (for example nest boxes, cages and the like) and L is parrot food.

The marginal products of capital and labor are as follows:

$$MP_K = 0.5 K^{-1/2}L^{1/2} \quad MP_L = 0.5 K^{1/2}L^{-1/2}$$

The price of K is \$8 and the price of L is \$2.

- Does this production function exhibit constant, increasing or decreasing returns to scale? Explain.
- What is the average product of capital?
- Does capital obey the "law of diminishing returns?" Explain.
- Suppose that Duane wants 144 parrot chicks, how much K and L should be employed to minimize costs, and what is the cost of producing 144 parrot chicks?

(每小題 5 分，共 20 分)

三、 BuyRight is a chain of grocery stores operating in small cities throughout the southwestern United States. BuyRight's major competition comes from another chain, Acme Food Stores. Both firms are currently contemplating their advertising strategy for the region. The possible outcomes are illustrated by the payoff matrix below.

		Acme Foods	
		Increase Advertising	Don't Increase Advertising
BuyRight	Increase Advertising	20, 15	35, -5
	Don't Increase Advertising	2, 30	25, 25

Entries in the payoff matrix are profits. BuyRight's profit is before the comma, Acme's is after the comma.

- Describe what is meant by a dominant strategy. Given the payoff matrix above, does each firm have a dominant strategy?
- Is there any pure strategy Nash equilibrium in this game?
Is there any mixed strategy Nash equilibrium in this game?
(每小題 5 分，共 10 分)

四、 國際經濟學

- 請以簡單數學式子，寫出並說明何謂「購買力平價」(purchasing power parity)。
- 請根據您的式子，說明一國匯率穩定與物價穩定，往往無法兼顧。
- 金融海嘯後很多人認為一國貨幣不可濫發，幣值釘住貴金屬(例如多少本國貨幣可兌換定額黃金)有助於物價穩定，這樣的看法是否正確?
(每小題 10 分，共 30 分)

五、 經濟景氣

- 何謂景氣領先指標、景氣同時指標、景氣落後指標？請解釋並各舉一例說明。
- 我國編製採購經理人指標 PMI，2020 年 2 月指數為 52.7，請問其屬於前述何種指標？理由為何？這個數字要如何詮釋？
(每小題 10 分，共 20 分)