

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：領導碩士學程

科目：經濟學

用紙第 1 頁共 1 頁

●不可使用電子計算機

1. Explain the meaning of "lexicographic preference" and give an example. If a person has *lexicographic preference*, does there exist an utility function that could represent her preference? 20%
2. The utility function $U(x, y) = 32\sqrt{x} + 4y$ represents a person's preference. This person's planned expenditure on this two good is \$ 80 per week and the original price of x is \$ 2 and price of y is \$ 1. Please answer the following question. 30%
 - (a) Show that the slope of every indifference curve will be the same when $x = 4$. What is the value of that slope? 5%
 - (b) Use the person's preference to explain the result of (a). 5%
 - (c) If the price of x fall to \$ 1, use Hicks definition to decompose price effect into substitution effect and income effect. 10%
 - (d) Explain the income effect of (c). 10%
3. Assuming you are the owner of the only tennis club in a town, you must decide on membership dues and fees for court time. There are two types of tennis players. "High-demand" players have demand: $Q_1 = 60 - P$, where Q_1 is court hours per month and P is the court fee per hour for each individual player. There are also "low-demand" players with each individual player's demand: $Q_2 = 10 - P$.

Assume that there are 10 players of each type. Because you have plenty of courts, the marginal cost of court time is zero. You have fixed costs of \$4,000 per month. High-demand and low-demand players look alike, so you must charge them the same prices. 50%

 - (a) Suppose that to maintain a high-quality impression, you want to limit membership to high-demand players. How should you set the monthly membership dues and court fees per hour to maximize profits, keeping in mind the constraint that only high-demand players choose to join? What would profits be? 10%
 - (b) You want to know whether you could make greater profits by encouraging both types of players to join. What monthly dues and court fees per hour would maximize monthly profits? What would these profits be? 20%
 - (c) What is the profit-maximizing court fee per hour for the owner if he simply charge usage fee for each player (does not charge membership dues)? 20%