

## 國立臺灣科技大學102學年度碩士班招生試題

系所組別：企業管理系碩士班甲組、乙組

科目：經濟學

(總分為100分)

## 一、第一大題

1. If your utility function is  $U(x, y) = \max \{x, 2y\}$ , do you have a convex preference? If A's utility function is  $u$  and B's utility function  $v = - (1/u)$ . Do A and B have same preferences? (5 points)
2. Let demand be  $P = 300 - Q^d$  and the supply function is  $P = 60 + 2Q^s$ .
  - (1) Find the equilibrium price and quantity. (5 points)
  - (2) If a unit tax  $T=15$  is imposed. What is the effect of the tax in comparison with the no-tax equilibrium? (5 points)
  - (3) If an add on tax  $t = 100\%$  is imposed. What is the effect of this tax in comparison with the no-tax equilibrium? (5 points)
  - (4) If imports are permitted, and let the import supply curve be  $P = -80 + 4Q^s_i$ . Find the new equilibrium price, the amount sold by domestic firms and the amount imported. (5 points)

## 二、第二大題

1. The demand function for a certain text is given by  $P = 20 - 0.0002Q$  and the publisher's Marginal Cost is  $MC = 6 + 0.00168Q$ . The author's royalty is 20% of Total Revenue. What is the publisher's preferred price-quantity solution? The authors? (10 points)
2. What is the efficiency condition for optimal provision of a public? Suppose that 20 people live on a street and that each of them is willing to pay \$1 for each extra streetlight, regardless of the number of streetlights provided. If the cost of providing  $X$  streetlights is given by  $C(X) = X^2 + 2$ , what is the Pareto efficient number of the streetlights to provide? (10 points)
3. If a firm has a production function:  $Q = \min \{X_1, X_2\}$ , where  $Q$  is the output;  $X_1$  and  $X_2$  are inputs used by the firm. What will be the conditional factor demand functions for  $X_1$  and  $X_2$ , correspondently? If each unit of  $X_1$  costs  $W_1$  and each unit of  $X_2$  costs  $W_2$ , find the cost function for this firm. (5 points)



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4. 請說明 (1) 凱因斯學派 (2) 貨幣學派 (3) 新古典學派 (4) 供給學

派在總體經濟上的論述為何? (~~20~~分)

(每項5分, 共20分)

5. (a) 請論述影響一個國家匯率高低的因素有那些? (10分)

(b) 請說明如何運用購買力平價說 (PPP) 來預測匯率的走勢?

(10分)

(c) 何謂殖利率曲線 (Yield Curve)? 其功能為何? 美國聯準會

(Fed) 於去年實施的“扭轉操作策略”對殖利率曲線有何影

響, 其目的為何? (10分)

