

國立臺北商業技術學院 102 學年度研究所碩士班考試入學試題

准考證號碼：□□□□□□ (請考生自行填寫)

財金財工組. 商研所. 資研所 筆試科目：經濟學 共 2 頁，第 1 頁

注意事項	1. 本科目合計 100 分，答錯不倒扣。 2. 請於答案卷上依序作答，並標註清楚題號 (含小題)。 3. 考完請將答案卷及試題一併繳回。
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1. Assume that the individual has  $I$  dollars to allocate between good  $x$  and good  $y$ . If  $P_x$  is the price of good  $x$  and  $P_y$  is the price of good  $y$ . The Cobb-Douglas utility function for goods is modeled by  $U(x, y) = x^\alpha y^\beta$ , where  $\alpha + \beta = 1$ . (a) Show the net sum of all price elasticities together with the income elasticity for a good  $x$  must sum to zero. (b) Show that the weighted average on income elasticities for all goods that a person buys must be 1. [20 points]
2. Suppose that an individual receives utility from three goods: food ( $x$ ), housing services ( $y$ ) measure in hundreds of square feet, and household operations ( $z$ ) as measured by electricity use. Assume that the individual has  $I$  dollars to allocate between good  $x$ , good  $y$ , and good  $Z$ . If  $P_x$  is the price of good  $x$ ,  $P_y$  is the price of good  $y$  and  $P_z$  is the price of good  $z$ . The CES utility function for three-goods is modeled by  $U(x, y, z) = -\frac{1}{x} - \frac{1}{y} - \frac{1}{z}$ . Based on  $P_x = 1$ ,  $P_y = 4$ ,  $P_z = 1$ , and  $I = 100$ , what do the demand functions for three goods predict? [10 points]
3. Suppose that the production function  $Q = f(L, K)$ , where  $L$  and  $K$  represent labor and capital, respectively. Assume that the marginal productivities are positive and the marginal productivities are diminishing. Which condition should be held for the derivative of the marginal rate of technical substitution with respect to labor being negative? [10 points]
4. Assume there are two periods to be considered: the current period denoted by the subscript 0 and the next period denoted by the subscript 1. Use  $r$  to denote the rate of return between these two periods. Suppose that the utility function for consumption,  $U(c)$ , is the same in both periods with  $U' > 0$  and  $U'' < 0$  but that period 1's utility is discounted by a rate of time preference of  $\frac{1}{1+\delta}$  (where  $\delta > 0$ ). If the intertemporal utility function is separable,  $U(c_0, c_1) = U(c_0) + \frac{U(c_1)}{1+\delta}$ , then show what is the marginal rate of substitution in the equilibrium? [10 points]

背面尚有試題

5. 根據凱因斯理論, 請簡要說明當一國民眾儲蓄意願提高, 對此經濟體有何影響? 但若從 Solow 的成長模型來看, 當一國民眾儲蓄率提高, 又對此經濟體又有何影響? 請簡要比較之。(9 分)

6. 考慮一個小型開放經濟體系的 IS-LM 模型, 請說明此體系在實施浮動匯率制度下, 貨幣政策與財政政策的有效性。(8 分)

7. 何謂生命循環假說(the life-cycle hypothes)? 請利用此理論, 說明個人儲蓄率與股價的關係。(8 分)

8. 考慮一個封閉的凱因斯 IS-LM 經濟體系:(共 25 分, 每小題 5 分)

消費(C)函數:  $C=120+0.8(Y-T)$

投資(I)函數:  $I=380-40r$

租稅(T)函數:  $T=400+0.3Y$

政府支出(G)函數:  $G=500$

貨幣需求( $M^d$ )函數:  $M^d/P=150+0.3Y-200r$

貨幣供給( $M^s$ )函數:  $M^s=600$

前述方程式中,  $Y$  為所得,  $r$  為利率。假定物價水準  $P=1$ , 請回答下列問題(以下問題的計算, 若遇到無法整除, 請以四捨五入取小數點後第二位):

(1) 此經濟體系的基準解是否存在均衡? 若存在均衡, 請計算均衡所得( $Y$ )和利率( $r$ )?

(2) 若在前述基準解下, 政府支出增加了 100, 請問此經濟體系是否存在均衡? 若存在均衡, 請計算新的均衡所得( $Y$ )和利率( $r$ )?

(3) 若在前述基準解下, 中央銀行貨幣供給減少了 50, 請問此經濟體系是否存在均衡? 若存在均衡, 請計算新的均衡所得( $Y$ )和利率( $r$ )?

(4) 若在前述基準解下, 政府希望此經濟體系的均衡利率水準能調整到 0.09, 若採用財政政策(調整政府支出)進行調節, 此經濟體系是否能從舊的均衡達得到新的均衡? 若達得到, 此時新增或減少的政府支出是多少? 另新的均衡所得( $Y$ )是多少?

(5) 若在前述基準解下, 政府希望此經濟體系的均衡利率水準能調整到 0.09, 若採用貨幣政策(調整貨幣供給)進行調節, 此經濟體系是否能從舊的均衡達得到新的均衡? 若達得到, 此時新增或減少的貨幣供給是多少? 另新的均衡所得( $Y$ )是多少?

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