

逢甲大學100學年度碩士班招生考試試題 編號：017 科目代碼：101

科目	個體經濟學	適用系所	經濟學系	時間	100 分鐘
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※請務必在答案卷作答區內作答。

1. Jim spends most of his time in Starbucks, a coffee shop. Jim has \$12 a week to spend on coffee and muffins. Starbucks sells coffee \$1.2 per cup and muffin for \$2 each. Jim consumes  $C$  cups of coffee per week and  $M$  muffins per week. His utility function for coffee and muffins is  $U(C, M) = \sqrt{CM}$ .

  - (1) Draw Jim's budget line with cups of coffee on the horizontal axis and muffins on the vertical axis. (2%)
  - (2) Find Jim's optimal bundle and show the answer on the graph of budget line. (8%)
  - (3) Now Starbucks has introduced a frequent-buyer card: For every five cups of coffee purchased at the regular price of \$1.2 per cup, Jim receives a free sixth cup. Draw Jim's new budget line on the same graph. (2%)
  - (4) With the frequent-buyer card, does Jim consume more coffee? (2%)
  - (5) Derive Jim's Marshallian demand for coffee and muffin and his indirect utility function in terms of the price of a cup of coffee,  $P_C$ , the price of muffin,  $P_M$  and his budget per week,  $Y$ . (6%)
  - (6) Derive Jim's Hicksian demand for coffee and muffin and his expenditure function in terms of  $P_C$ ,  $P_M$  and his utility level,  $U$ . (6%)
2. Jack's utility function is  $U(x, y) = \min(x, y)$ . The price of each good is \$1, and his monthly income is \$3000. His firm wants him to relocate in another city where the price of  $Y$  is \$2, but the price of  $x$  and his income remain constant.

  - (1) Find Jack's optimal bundles in those two different conditions. (16%)
  - (2) What would be his compensating variation and equivalent variance? (8%)
3. 已知某公司的生產函數為  $Q=(1/L)-(1/K)$ ,

  - (1) 當  $K$  與  $L$  同時增加時，其規模報酬屬於那一種？(6%)
  - (2) 如果  $P_L=5$ ,  $P_K=10$ , 且廠商欲生產  $Q=100$  單位，該公司在生產成本最低時，應僱用多少  $K$  與  $L$ ? (6%)
  - (3) 假設短期資本固定  $K=4$ , 且  $P_K=10$ ,  $P_L=5$ . 求短期總成本(STC)函數，並畫圖表示之。(6%)
  - (4) 若該廠商在其產品市場為完全競爭廠商，則該產品之長期均衡價格為何？(8%)
4. 已知有二人 A 與 B，其效用函數分別為  $U_A=X_A+Y_A$ ,  $U_B=X_B+2Y_B$ , 又其二種財貨的 Endowment 分別都是 10。

  - (1) 求 Walrasian Equilibrium。(8%)
  - (2) 求 Pareto Efficient Allocations, 畫圖表示。(8%)
  - (3) 求所有的 Core Allocations, 畫圖表示。(8%)