

國立台灣科技大學九十七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100分

1. The marketing of the Summers Company must formulate a recommendation concerning the price to be charged for a new product. According to the best available estimates, the marginal cost of the new product will be 18 and the price elasticity of demand for this product will be -3.0.
 - (1) What recommendation should she make if Summers wants to maximize profit? (5 points)
 - (2) If her recommendation is accepted, what will be the new product's marginal value? (5 points)
2. If the demand for diamonds is given by $P_Z = 980 - 2Q_Z$, where Q_Z is the number of the diamonds demanded if the price is P_Z per diamond. The total cost (TC_Z) of the De Beers Company (a Monopolist) is given by $TC_Z = 100 + 5Q_Z + 0.5Q_Z^2$, where Q_Z is the number of diamonds produced and put on the market by the De Beers Company, suppose that the government could force De Beers to behave as if it were a perfect competitor: that is, via regulation, force the firm to price Diamonds at marginal cost.
 - (1) What is social welfare when De Beers acts as a single price monopolist? (5 points)
 - (2) What is social welfare when De Beers acts as a perfect competitor? (5 points)
 - (3) How much does social welfare increase when De Beers moves from monopoly to competition? (5 points)
3. The Backus Corporation makes two products, X and Y. for every unit of good X that the firm produces, it produces two units of good Y. Backus's total cost function is $TC = 500 + 3Q + 9Q^2$, where Q is the number of units of output (where each unit contains one unit of good X and two unit of good Y) and TC is total cost (in dollars). The demand curves for the firm's two products are $P_X = 400 - Q_X$ and $P_Y = 300 - 3Q_Y$, where P_X and Q_X are the price and output of product X and P_Y and Q_Y are the price and output of product Y.
 - (1) How much of each product should the Backus Corporation produce and sell per period of time? (5 points)
 - (2) What price should it charge for each product? (5 points)

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4. Richard Miller, a Wall Street trader, says he is a risk neutral. Suppose we let 0 be the utility he attaches to \$100,000 and 1 be the utility he attaches to \$200,000. If what he says is true, what is the utility he attaches to
 - (1) \$40,000? (5 points)
 - (2) \$-20,000? (5 points)
5. A tiny fishing village has 3 residents. Ann has a utility of 10, Bruce has a utility of 6, and Charlie has a utility of 7. If the mayor uses a Rawlsian social welfare function, what would be the social welfare of this tiny village? (5 points)
6. Please distinguish between inflation and a one-time rise in the price level. You have to take an example to explain what you claim. (15%)
7. Please explain how demand-pull inflation and cost-push inflation are generated. Taking examples to confirm your statement is preferred. (15%)
8. Explain how the Taiwanese central Bank's interest rate and monetary policies influence real GDP, the price level in the last ten years in Taiwan. (20%)