

淡江大學九十三年學年度碩士班招生考試試題

系別：國際貿易學系

科目：個體經濟學

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本試題雙面印製

一、選擇題 (單選, 30%)

1. Indifference curves are convex to the origin because of
 - a. the principle of transitivity in consumer preferences.
 - b. diminishing marginal rate of substitution.
 - c. the principle that more is preferred to less.
 - d. the axiom of consumer rationality.

2. Which of the following is not an expression for the cost minimizing combination of inputs?
 - a. $MRTS = MP_L * MP_K$
 - b. $MP_L / w = MP_K / r$
 - c. $MRTS = w/r$
 - d. $MP_L / MP_K = w/r$
 - e. none of the above.

3. When a good is price inelastic
 - a. consumer expenditures do not change with all price increases.
 - b. consumer expenditures are not related to price elasticity of demand.
 - c. consumer expenditures increase with all price increases.
 - d. consumer expenditures decrease with all price increases.

4. If the isoquants are straight lines, then
 - a. inputs have fixed costs at all use rates.
 - b. the marginal rate of technical substitution of inputs is constant.
 - c. only one combination of inputs is possible.
 - d. there are constant returns to scale.

5. Producer surplus is measured as
 - a. the area under the demand curve above market price.
 - b. the entire area under the supply curve.
 - c. the area under the demand curve above the supply curve.
 - d. the area above the supply curve up to the market price.

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二、計算題 (70%)

- Judy lives in a dormitory that offers soft drinks and chips for sale in vending machines. Her utility function is: $U=3*S*C$, where S is the number of soft drinks per week and C the number of bags of chips per week. Soft drinks are priced at \$0.50 each, chips \$0.25 per bag.
 - Write an expression for Judy's marginal rate of substitution between soft drinks and chips. (6%)
 - Use the expression generated in part (a) to determine Judy's optimal mix of soft drinks and chips. (6%)
 - If Judy has \$5.00 per week to spend on chips and soft drinks, how many of each should she purchase per week? (6%)
- The market demand for a type of carpet has been estimated as:
$$P = 75 - 1.5*Q$$
where P is the price (\$/yard), and Q is output per time period (thousands of yards per month). The market supply is expressed as:
$$P = 25 + 0.5*Q$$
A typical competitive firm that markets this type of carpet has a marginal cost of production of
$$MC = 2.5 + 10*q$$
 - Determine the market equilibrium price for this type of carpet. Also determine the production in the market. (6%)
 - Determine how much the typical firm will produce per week at the equilibrium price. (6%)
 - If all firms and the same cost structure, how many firms would compete at the equilibrium price computed in (a) above. (6%)
- The ABC Corporation provides accounting services to a wide variety of customers. Furthermore, most customers have had a business association with ABC for more than five years. ABC faces a demand for its services expressed as
$$P = 10,000 - 10*Q$$
ABC's marginal cost of service is
$$MC = 5*Q$$
 - If ABC charges a uniform price for a unit of accounting service Q, what price must it charge per unit, and how many units must it produce per time period in order to maximize profit? (6%)
 - How much is the consumer surplus? (6%)

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- c. If ABC could enforce first-degree price discrimination, what would be the lowest price that it would charge and how many units Q would it produce per time period? (6%)
4. Clarke manufactures hats that they sell to retailers around the country. Clarke sells the hats for \$5.00 each, a price that the firm considers given. Clarke's production function is given by the expression below:
- $$Q = 60*L - 0.5*L^2$$
- where Q = number of hats per day,
L = number of skilled workers per day.
- Write an expression for the firm's marginal revenue product. (6%)
 - Clarke currently pays \$150 per day for each of their skilled workers. How many workers should the firm employ? (5%)
 - Clarke's workers are highly skilled and tend to have high job mobility. The firm's managers fear that they must increase the workers' total compensation to \$200 per day to remain competitive. What impact would the wage increase have upon the firm's employment? (5%)