

個體經濟學 試題 (限用答案本作答)

(一) 選擇題 (每題 2 分)

1. Identify the truthfulness of the following statements.
  - I. Demand tends to be more price inelastic when few substitutes for a product exist.
  - II. Demand tends to be more price elastic when a consumer's expenditure on the product is small.
  - a. Both I and II are true.
  - b. Both I and II are false.
  - c. I is true; II is false.
  - d. I is false; II is true.
2. Suppose the cross-price elasticity for two goods is positive. The two goods are
  - a. normal goods
  - b. substitutes
  - c. complements
  - d. inferior goods
3. For a linear demand curve, when demand is inelastic, marginal revenue is
  - a. positive.
  - b. negative.
  - c. zero.
  - d. inverse elastic.
4. Identify the truthfulness of the following statements.
  - I. As the number of firms in an industry exhibiting Cournot competition increases, the greater the Cournot equilibrium diverges from the collusive outcome.
  - II. As the number of firms in an industry exhibiting Cournot competition increases, the market price increases.
  - a. Both I and II are true.
  - b. Both I and II are false.
  - c. I is true; II is false.
  - d. I is false; II is true.
5. Weather is an example of a factor that would have which of the following effects on the market for coffee
  - a. shift demand.
  - b. shift supply.
  - c. increase quantity supplied.
  - d. decrease quantity supplied.

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6. Suppose that a particular plant emits a chemical that pollutes the ground water. Without considering the effects of the pollution, the firm has a marginal private cost curve of  $MPC = 2Q + 30$ . The firm faces a demand curve of  $P = 60 - Q$ . If the firm were to incorporate the costs of the pollution, the firm would have a marginal social cost curve of  $MSC = 4Q + 30$ .

What is the value of an optimal emissions fee that would achieve the socially optimal level of output?

- a. \$54.
  - b. \$32.
  - c. \$12.
  - d. \$10.
7. A monopolist maximizes total revenue where marginal revenue
- a. equals marginal cost.
  - b. is maximized.
  - c. equals zero.
  - d. is negative.
8. Consider four lotteries, A, B, C, and D, all with an expected value of \$100. The associated standard deviations of the lotteries are: A is 10, B is 15, C is 5, and D is 20. Which lottery is the riskiest?
- a. Lottery A
  - b. Lottery B
  - c. Lottery C
  - d. Lottery D
9. Which of the following statements regarding exogenous and endogenous variables is correct?
- a. Exogenous variables, because they are determined outside the model, tend to be mostly irrelevant to the model's solution.
  - b. Endogenous variables will always be determined within the model.
  - c. Exogenous variables, because they are variable, typically change within the model as endogenous variables change.
  - d. The values for the endogenous variables are impossible to predict since we can never be certain of the values for the exogenous variables.
10. When isoquants are convex to the origin, the marginal rate of technical substitution is
- a. inverted.
  - b. decreasing.
  - c. constant.
  - d. increasing.

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11. The production function of  $Q = 2K + 3L$  exhibits
  - a. increasing returns to scale.
  - b. constant returns to scale.
  - c. decreasing returns to scale.
  - d. undefined returns to scale.
  
12. You decide to purchase a new car for \$12,000. Upon driving the car off of the lot, the resale value of the car falls to \$9,000. The opportunity cost of purchasing the car is \_\_\_\_\_ and the opportunity cost of using the car is \_\_\_\_\_.
  - a. \$12,000 and \$9,000.
  - b. \$12,000 and \$3,000.
  - c. Unknown and \$9,000.
  - d. Unknown and \$3,000.
  
13. Suppose that a firm has a Cobb-Douglas production function for its inputs of capital and labor. The firm is currently paying \$10 per labor hour and \$5 per machine hour. The firm is currently at an efficient production level, employing an equal number of machines and workers. Suppose the cost of labor were to double and the cost of capital were to fall by half. If the firm wanted to produce the previous level of output for the previous cost, the firm would hire
  - a. more labor and less capital.
  - b. less labor and more capital.
  - c. equal amounts of labor and capital.
  - d. twice as much labor as capital
  
14. Suppose for a particular production function, the cost-minimizing level of labor is  $L = 2Q$  and the cost-minimizing level of capital is  $K = 5Q$ . If  $w = 5$  and  $r = 2$ , the long-run total cost curve is
  - a.  $TC = 7Q$
  - b.  $TC = 7$
  - c.  $TC = 20Q$
  - d.  $TC = 20$
  
15. Economies of scale exist when firms have
  - a. increasing returns to scale.
  - b. constant returns to scale.
  - c. decreasing returns to scale.
  - d. constant marginal cost.

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16. Identify the truthfulness of the following statements.
- I. Marginal cost can be measured as the slope of the total cost curve.
  - II. Average total cost can be measured as the slope of the ray from the origin to the total cost curve.
- a. Both I and II are true.
  - b. Both I and II are false.
  - c. I is true; II is false.
  - d. I is false; II is true.
17. When the production function exhibits \_\_\_\_\_ returns to scale, the long-run average cost curve exhibits \_\_\_\_\_ of scale.
- a. increasing; diseconomies.
  - b. decreasing; economies.
  - c. increasing; economies.
  - d. constant; diseconomies.
18. A monopoly market is one with
- a. one buyer and one seller.
  - b. one buyer and many sellers.
  - c. many buyers and one seller.
  - d. many buyers and many sellers.
19. Opportunity cost
- a. is the value of the next best alternative not chosen.
  - b. is irrelevant when actual accounting costs can be easily determined.
  - c. should be ignored when the decision involves sunk costs.
  - d. is the same as economic cost.
20. Suppose the equilibrium price in a market is \$5, and the government imposes a \$5.50 price floor on the market. This will create
- a. excess demand.
  - b. excess supply.
  - c. a shift in the supply curve to the right.
  - d. a shift in the demand curve to the left.
21. Which of the following would cause an unambiguous increase in the equilibrium price in a market?
- a. An increase in supply and an increase in demand.
  - b. An increase in supply and a decrease in demand.
  - c. A decrease in supply and an increase in demand.
  - d. A decrease in supply and a decrease in demand.

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22. Which of the following statements best describes the relationship between short-run demand elasticity and long-run demand elasticity?
- I. For many products, long-run demand is likely to be more price elastic than short-run demand.
  - II. For durable goods, long-run demand is likely to be less price elastic than short-run demand.
  - III. For many products, long-run demand is likely to be more price inelastic than short-run demand.
- a. I
  - b. II
  - c. III
  - d. Both I and II are generally true, but III is generally false.
23. The profit-maximizing monopsonist hires an optimal quantity of input (e.g. labor) so that the
- a. marginal expenditure on that input equals its marginal revenue product.
  - b. average expenditure on that input equals its average revenue product.
  - c. marginal expenditure on that input equals its average revenue product.
  - d. average expenditure on that input equals its marginal revenue product.
24. Increasing marginal returns occur when the total product function is
- a. decreasing.
  - b. increasing at a decreasing rate.
  - c. increasing at a constant rate.
  - d. Increasing at an increasing rate.
25. Suppose that product X is sold by a monopolist who has constant marginal cost for producing X. Further suppose that there is an exogenous shock to the product X market, resulting in an increase in demand for X. Which of the following statements is correct regarding the equilibrium price and quantity of X?
- a. Both price and quantity will rise.
  - b. Both price and quantity will fall.
  - c. Price will rise; quantity will fall.
  - d. Price will fall; quantity will rise.

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(二) 問答題 (每題 25 分)

一、有兩位參賽者：亞彌和松浦面臨三種策略 A、B 和 C。矩陣的數字為參賽者的報酬。

		松浦		
		A	B	C
亞彌	A	(6,6)	(18,14)	(24,15)
	B	(14,18)	(22,22)	(26,21)
	C	(15,24)	(21,26)	(24,28)

- 亞彌是否有優勢策略 (dominant strategy) 或劣勢策略 (dominated strategy) ?
- 松浦是否有優勢策略或劣勢策略 ?
- 賽局的聶徐均衡 (Nash equilibrium) 為何 ?

二、若一廠商面臨的生產函數為  $Q = \min\{3K, 9L\}$ ，其中 L 為勞動，K 為資本，而 Q 為產出。若勞動價格為 \$10，資本價格為 \$50，廠商的總成本是 \$16,000，請問利潤最大化的資本，勞動產出和數量是多少？

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