

國立中正大學

109 學年度碩士班招生考試

試題

[第 1 節]

科目名稱	個體經濟學
系所組別	經濟學系國際經濟學-甲組

—作答注意事項—

※作答前請先核對「試題」、「試卷」與「准考證」之系所組別、科目名稱是否相符。

1. 預備鈴響時即可入場，但至考試開始鈴響前，不得翻閱試題，並不得書寫、畫記、作答。
2. 考試開始鈴響時，即可開始作答；考試結束鈴響畢，應即停止作答。
3. 入場後於考試開始 40 分鐘內不得離場。
4. 全部答題均須在試卷（答案卷）作答區內完成。
5. 試卷作答限用藍色或黑色筆（含鉛筆）書寫。
6. 試題須隨試卷繳還。

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一、單選題 (1-25 題, 每題 2 分, 26-30 題, 每題 4 分, 共 70 分) :

1. Consider a budget constraint of two goods, x and y . If the prices of both goods are doubled and the consumer's income is tripled, the budget constraint
(A) will become steeper.
(B) will become flatter.
(C) will have a parallel downward shift.
(D) will have a parallel upward shift.
2. If Jim likes exercise (x) but hates homework (y), which of the following might best represent his utility function for exercise and homework?
(A) $U(x, y) = x + y$ (B) $U(x, y) = \frac{x}{y}$ (C) $U(x, y) = x^2 + \sqrt{y}$ (D) $U(x, y) = x^2 \sqrt{y}$
3. Suppose the demand function for a good is expressed as $Q = 40 - 2p$. If the good currently sells for \$5, then the price elasticity of demand equals
(A) $-1/3$ (B) -1 (C) -2 (D) $-1/2$
4. Consider a utility function $U = \min\{2x, y\}$. The equation $y = 2x$ is
(A) the p_1 price offer curve.
(B) the p_2 price offer curve.
(C) the income offer curve.
(D) All of the above.
5. Leo consumes two goods, x and y . When prices are $(p_x, p_y) = (2, 2)$, he consumes bundle A $(x, y) = (3, 3)$. When $(p_x, p_y) = (5, 3)$, he consumes bundle B $(x, y) = (2, 1)$.
(A) It is revealed that he prefers bundle A to bundle B.
(B) It is revealed that he prefers bundle B to bundle A.
(C) It is revealed that he prefers bundle A to bundle B and bundle B to A.
(D) The information is not enough to tell which bundle he likes more.
6. Jenny's utility function is $U = x_1^{1/2} x_2^{1/2}$, where x_1 is her consumption (in dollar) in period 1 and x_2 is her consumption in period 2. Jenny's income in the first period is \$100 and that in the second period is

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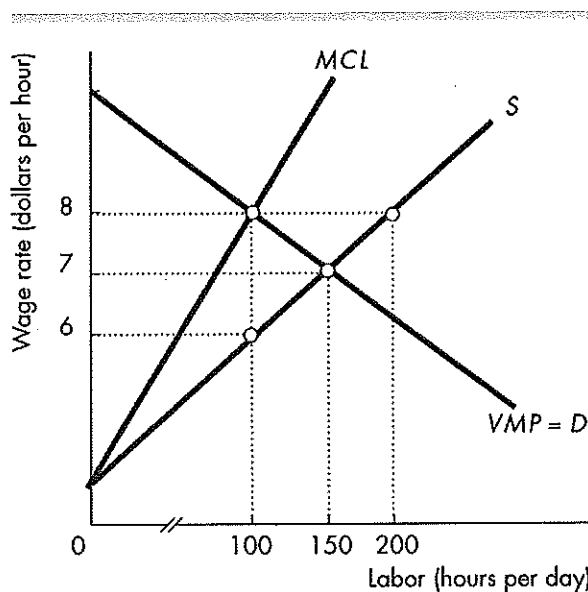
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系所組別：經濟學系國際經濟學-甲組

- \$110. The market interest rate is 20%, and Jenny can borrow or save at this interest rate. To maximize her utility,
- (A) she will save in the first period.
(B) she will borrow in the first period.
(C) she will spend \$100 in the first period.
(D) None of the above is correct.
7. Consider a utility function with two goods, x and y . If there is a change in p_1 , the compensating variation and the equivalent variation are always equal if the utility function is:
- (A) $U = x + y$ (B) $U = \sqrt{x} + y$ (C) $U = \min(x, y)$ (D) $U = xy$
8. If the supply is perfectly inelastic:
- (A) The supply curve is horizontal.
(B) The equilibrium quantity is independent of the price.
(C) An increase in demand will change the equilibrium quantity but not the price.
(D) The price elasticity of supply is 1.
9. The production function of a firm is $y = 2x^{1/2}$. The price of the output is $p_y = 10$ and the price of the input is $p_x = 2$. To maximize the profit, how many units of y should the firm produce?
- (A) 5 (B) 10 (C) 20 (D) 25
10. Which statement about cost functions is correct?
- (A) The average fixed cost does not change with the quantity of output.
(B) The difference between the average cost and the average variable cost is the marginal cost.
(C) If the marginal cost is greater than the average variable cost, the average cost will be decreasing with an increase in the quantity of output.
(D) If the market price is greater than the average variable cost but is lower than the average cost, the firm will continue to operate in the market even it is making a negative profit.
11. If a union is able to decrease the supply of workers in a competitive labor market but the union cannot affect the demand for its members' labor, then
- (A) wages and the quantity of labor hired will both increase.
(B) wages will increase but the quantity of labor hired will decrease.
(C) wages will decrease but the quantity of labor hired will increase.
(D) wages and the quantity of labor hired will both decrease.

12. Which of the following methods is used by unions to increase the demand for the labor of its members?

- (A) Decrease the marginal product of union members.
- (B) Support minimum wage laws.
- (C) Oppose import restrictions.
- (D) Decrease demand for the goods produced.



13. The marginal cost of labor (MCL), the labor supply (S) and the labor demand (D) are plotted in the above figure. Choose the correct statement

- (A) The monopsony wage rate is \$6.00 and the quantity of labor is 100 hours.
- (B) The competitive wage rate is \$8.00 and the quantity of labor is 100 hours.
- (C) If the minimum wage rate is \$7.00, then the monopsony quantity of labor is 150 hours.
- (D) None of the above is correct.

14. Mel's utility of wealth is 130 units at \$3,000, 160 units at \$5,000, and 190 units at \$9,000. Starting from zero wealth, he must choose between options A and B. Option A gives him \$5,000 for sure. Option B gives him \$3,000 with probability 0.4 or \$9,000 with probability 0.6. Mel

- (A) will choose A.
- (B) will choose B.
- (C) is indifferent between A and B.
- (D) needs more information to make a choice.

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15. Dane has a car valued at \$20,000 that gives him a utility of 80. There is a 5 percent chance that he will have an accident that will make his car worthless, in which case his utility will be zero. His utility from a wealth of \$15,000 is 76. The maximum amount Dane will be willing to pay for insurance is
 (A) \$1,000. (B) \$3,000. (C) \$5,000. (D) \$15,000.

Wealth (dollars)	Total utility
0	0
20,000	200
40,000	245
60,000	270
80,000	287
100,000	300

16. Anna spent her entire wealth of \$100,000 to build a beach house on T-city. There is a 10 percent chance that the house will be totally destroyed by a typhoon. Anna's utility of wealth schedule is given in the table above. What is the minimum amount that the insurance company would require Anna to pay for an insurance policy that pays \$100,000 if her beach house is destroyed by a hurricane? (Assume the insurance company has no other costs.)
 (A) \$10,000 (B) \$30,000 (C) \$40,000 (D) \$60,000
17. Following Question 16, What is the maximum amount that Anna would be willing to pay for an insurance policy that pays \$100,000 if her beach house is destroyed by a typhoon?
 (A) \$10,000 (B) \$30,000 (C) \$40,000 (D) \$60,000
18. Suppose that there are only two types of used cars, peaches and lemons. The used cars are pure experience goods. Peaches are worth \$10,000, and lemons are worth \$6,000. Three-fourths of all used cars are peaches, and one fourth are lemons. In a market with no signals, for instance, a market without warranties, the average value of cars actually sold will be
 (A) \$6,000. (B) \$7,000. (C) \$9,000. (D) \$10,000.
19. Which of the following statement is ALWAYS true in a perfectly competitive market?
 (A) If a firm produces some outputs, the equilibrium price is higher than the average variable cost in the short run.

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(B) If firms exist from or enter into the market, the average cost of the remaining firms will be changed.

(C) The equilibrium price is always higher than the marginal cost in the short run.

(D) None of the above is correct.

20. Which of the following is a characteristic of a monopoly?

(A) The firm faces competition from a few other firms.

(B) The firm produces a product that has many close substitutes.

(C) There are barriers to enter the market.

(D) The firm's demand curve is perfectly elastic.

21. Which of the following can create a monopoly?

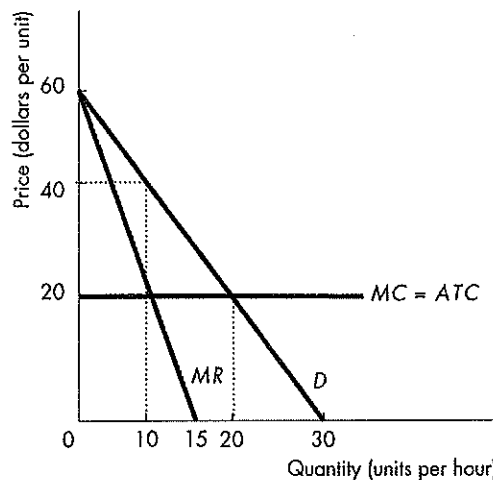
I. high prices II. public franchise III. patent IV. government license

(A) I and II

(B) I and III

(C) I, II and III

(D) II, III and IV



22. The above figure shows the demand and cost curves for a monopolist. If the monopolist can perfectly price-discriminate consumers, what is the maximum economic profit this firm can make?

(A) zero

(B) \$400

(C) \$100

(D) \$200

23. For a single-price monopolist to sell one more unit of a good, it must

(A) lower the price on just the last unit sold.

(B) lower the price on all units sold.

(C) raise the price on just the last unit sold.

(D) raise the price on all units sold.

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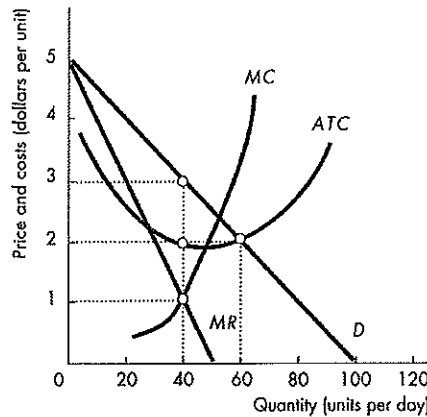
24. The key feature of monopolistic competition that distinguishes it from the perfect competition is
- (A) many sellers.
 - (B) barriers to entry.
 - (C) interdependency.
 - (D) product differentiation.
25. The general message of the folk theorems in the game theory is that
- (A) Nash equilibria may not be sustainable over many replications of a game.
 - (B) Payoffs that are unambiguously preferred to Nash equilibria may be sustainable over many replications of a game.
 - (C) Just plain folk play the best games.
 - (D) None of the above is correct.
26. Suppose that there are two firms, firm 1 and firm 2 in the market. Each of them respectively produces q_1 and q_2 units of homogenous goods. The inverse demand function is $p = 100 - q_1 - q_2$, and there is no production cost. If both firms independently and simultaneously choose q_1 and q_2 , what is the Nash equilibrium quantities in the game? That is, $q_1 = q_2 =$
- (A) 23.3. (B) 33.3. (C) 43.3. (D) 13.3.
27. Following Question 26, let firm 1 decide q_1 first, followed by firm 2 making a decision on q_2 . What is the subgame-perfect Nash equilibrium quantities in the game?
- (A) $q_1 = 50, q_2 = 25$. (B) $q_1 = 40, q_2 = 30$. (C) $q_1 = 42, q_2 = 29$. (D) $q_1 = 46, q_2 = 27$.
28. A trigger strategy is one in which a player
- (A) cooperates in the current period if the other player cooperated in the previous period, but cheats in the current period only if the other player cheated in the previous period.
 - (B) cheats in the current period if the other player cooperated in the previous period, but cooperates in the current period if the other player cheated in the previous period.
 - (C) cooperates in the current period if the other player has always cooperated, but cheats forever if the other player ever cheats.
 - (D) cheats in the current period if the other player has always cheated, but cooperates forever if the other player has ever cooperated.

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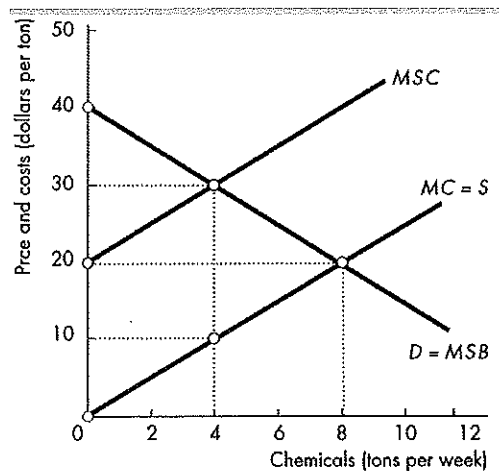
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29. In the above figure, the firm is in monopolistic competition. Choose the correct statement.

- (A) It can not be equilibrium in the long run.
- (B) It induces entry of potential firms and the average cost curve will be moved upward.
- (C) It induces the exit of incumbent firms.
- (D) None of the above statements is correct.



30. A chemical factory and a fishing club share a lake. Producing chemicals creates water pollution that harms the fish. The marginal social cost(MSC), private marginal cost(MC), and marginal social benefit (MSB)from producing chemicals are in the figure above. Choose the correct statement.

- (A) If polluting is legal and no one owns the lake into which waste is dumped, then the number of chemicals produced each week will be 4 tons.
- (B) If polluting is legal and no one owns the lake into which waste is dumped, but now they begin to damage the fishing boats as well, then the marginal benefit curve shifts leftward.
- (C) If transaction costs are low and the chemical factory is given ownership of the lake, then the number of chemicals produced each week will be 4 tons.
- (D) None of the above answers is correct.

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二、填空题 (每格 5 分，共 30 分)：

(1) 共有6個空格，請不要使用作答區第一頁「選擇題作答區」作答。於「選擇題作答區」下方自行製作如下1-6格答題區。

第1格		第4格	
第2格		第5格	
第3格		第6格	

(2) 填空题不需計算過程，僅依答案格內的答案對錯給分。

(3) 若無特別說明，請將答案約分至最簡分數。

- Jack's utility function is $U = \min\{4x, 2y\} + z$. Suppose $p_x = 4$, $p_y = 2$, and $p_z = 3$. If Jack's income is 60, his optimal consumption bundle is $(x, y, z) = \underline{\hspace{2cm}} (1) \underline{\hspace{2cm}}$.
- Lucy's utility function is $U = \sqrt{m}$, where m is her income. She initially has \$100, and her objective is to maximize the expected utility level. Suppose that she can bet her \$100 in a game: with a 50% chance she loses it and has \$0, and with a 50% chance she wins it and has \$ x . What is the minimal value of x that she will take the bet? $\underline{\hspace{2cm}} (2) \underline{\hspace{2cm}}$.
- A consumer has a utility function $U = x^{1/3}y^{2/3}$ and his budget constraint is $p_x x + p_y y = m$.
 (A) Derive his demand function for x . $\underline{\hspace{2cm}} (3) \underline{\hspace{2cm}}$.
 (B) What is the slope of the Engel curve of x ? (put x on the horizontal axis) $\underline{\hspace{2cm}} (4) \underline{\hspace{2cm}}$.
- The inverse demand function of ice cream is $P = 30 - Q^D$, and the inverse supply function is $P = 5Q^S$. If the government imposes a \$6 excise tax, the deadweight loss of this policy is $\underline{\hspace{2cm}} (5) \underline{\hspace{2cm}}$.
- A firm produces the output y with two inputs, x_1 and x_2 , and the production function is $y = x_1^{1/4}x_2^{3/4}$. If the price of x_1 is 3 and the price of x_2 is 6, then the cheapest way to produce the output requires using the two inputs in the ratio $x_1/x_2 = \underline{\hspace{2cm}} (6) \underline{\hspace{2cm}}$.