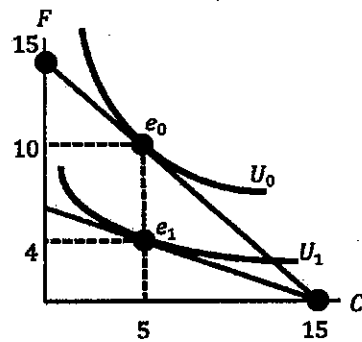


請依題號順序於「選擇題作答區」內作答。不必提供理由或過程。

單選題，共 25 題，每題 4 分。

1. Miranda uses all her money in buying two goods, clothes (C) and food (F). Currently, the prices of clothes and food are p_c and p_f , respectively, and her income is \$300. As shown in the following figure, her current choice is e_0 , from which she obtains a utility represented by the indifference curve U_0 . However, she expects a change to occur in the economy, which will make her choose e_1 later.



Which of the following statements is CORRECT?

- (A) We can only know the relative price p_c/p_f from the figure but not the individual price for each good, because there are many possible combinations of p_c and p_f .
- (B) The reason that will cause the change in her choices is due to an increase of p_f from \$20 to \$40.
- (C) There will be no income effect caused by this change in terms of the consumption in clothes.
- (D) Clothes are a normal good for Miranda.
- (E) Miranda's demand for food violates the law of demand.
2. Which of the following statements regarding a profit-maximizing monopoly that uses price discrimination is TRUE?
- (A) The monopoly always causes a deadweight loss to the society.
- (B) The output level produced by the monopoly is always less than that under the competitive market.
- (C) The monopoly cannot earn a lower profit when it can use price discrimination than it does when it cannot use price discrimination.
- (D) The monopoly has a supply curve that is equal to its marginal cost curve.
- (E) The monopoly always produces at the output level that is on the elastic part of the demand curve.
3. Rebecca likes shopping along the 5th Avenue and she plans to buy two things, clothes (C) and shoes (S). Her preference is represented by the following utility function:
- $$U(C, S) = C^2 + 2S^2.$$
- The price of clothes is \$20 and the price of a pair of shoes is \$80. Currently, she has \$720 in her purse. Which of the following statements is CORRECT?
- (A) She will spend all her money on clothes.
- (B) She will buy 4 clothes and 8 pairs of shoes.
- (C) She will have some money left unspent.
- (D) Suppose that, other things being equal, the price of clothes increases from \$20 to \$40. Then she will buy more pairs of shoes because they become relatively cheaper than before.
- (E) Suppose that, other things being equal, she suddenly receives a \$500 gift certificate which allows her to shop more. Then her consumption of each good will more than double.

4. Suppose that the market for beer is perfectly competitive. The demand and supply functions are given by:

$$\text{Demand: } P = 120 - 6Q,$$

$$\text{Supply: } P = 40 + 2Q.$$

The government considers imposing a tax of \$16 per unit of beer on the sellers. Which of the following statements is CORRECT?

- (A) The equilibrium price before the tax is imposed is \$80.
 - (B) The equilibrium quantity after the tax is imposed will be 10 units.
 - (C) The price received by the sellers after the tax is imposed will be \$56.
 - (D) The total tax revenue collected by the government will be \$160.
 - (E) The deadweight loss caused by this tax will be \$16.
5. A firm has a technology that can be described by the following production function:
- $$f(L_u, L_s) = \sqrt{L_u} + \sqrt{L_s},$$
- where L_u is the number of unskilled workers hired and L_s is the number of skilled workers hired. Which of the following statements is CORRECT?
- (A) This technology exhibits increasing returns to scale.
 - (B) The marginal product of unskilled workers is diminishing in the number of skilled workers hired.
 - (C) The marginal rate of technical substitution of unskilled workers for skilled workers (in absolute value) is invariant with respect to the number of unskilled workers hired.
 - (D) The long-run total cost function derived by this production function is concave in output.
 - (E) In the long run, the firm will hire more unskilled workers than skilled workers if the wage of unskilled workers is lower than that of skilled workers.
6. Consider the labor market in the handmade-drink industry. Suppose that it is perfectly competitive and that it is currently in the equilibrium. Which of the following changes is the MOST POSSIBLE reason that can cause both wage and employment to decrease in this labor market, holding other things equal?
- (A) All of sudden, the weather becomes very hot so that more people buy handmade drinks.
 - (B) The new environmental policy requires consumers to pay an extra dollar for the plastic straw, which makes some of them switch to buying drinks in the convenience stores.
 - (C) After June, many students who worked part time in handmade-drink stores before have to find full-time jobs after their graduation, so they quit this labor market.
 - (D) The government raises the minimum wage requirement from \$120 to \$140 per hour.
 - (E) More middle-aged women enter this labor market trying to launch a second career.
7. A restaurant is located in some populous area, which is the only supplier around the neighborhood. Although it serves many kinds of foods to the consumers, it also produces some pollutants that can harm their health. The restaurant's marginal cost function is $MC(Q) = 20 + 4Q$, and the marginal external cost caused by the pollutants is $MC_e = Q$. The market demand function is $P = 160 - 2Q$. Which of the following statements is CORRECT?
- (A) The optimal price set by the restaurant is $1160/9$.
 - (B) The optimal output for the society is $70/3$.
 - (C) The restaurant produces too much output relative to the social optimum.
 - (D) The total external cost caused by the pollutants is $1225/8$.
 - (E) The deadweight loss caused by the restaurant is $100/3$.

8. A book seller is a monopoly in a small town. It sells two types of books: new books and used books. The demand functions are:

$$\text{New books: } P_N = 120 - 2Q_N$$

$$\text{Used books: } P_U = 80 - Q_U.$$

The total cost of selling books for the monopoly is:

$$TC = 10 + 2(Q_N + Q_U)^2.$$

The monopoly can set different prices for different types of books. Which of the following statements is CORRECT?

- (A) The total output produced in these two markets is 17.5 units.
 (B) The optimal price for a new book is \$100.
 (C) The optimal price for a used book is \$70.
 (D) In the optimum, the monopoly earns a profit of \$1000 in these two markets.
 (E) In the optimum, the price elasticity of demand (in absolute value) in the market for new books is higher than that in the market for used books.

9. A market for instant noodles is perfectly competitive, which has the following demand function:

$$Q = 360 - 20P.$$

There are two types of firms in this market: domestic firms and foreign firms. Every firm of each type has the following total cost function, respectively:

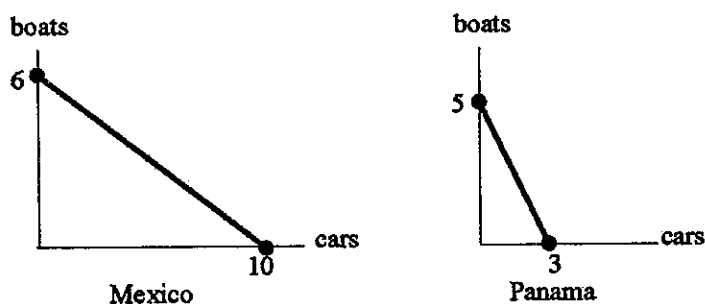
$$\text{Domestic firm: } TC_d = 2Q^2 + Q + 10.$$

$$\text{Foreign firm: } TC_f = Q^2 + 4Q + 4.$$

There are currently 40 firms of each type operating in the short run, i.e., there are totally 80 firms. Which of the following statements is CORRECT regarding the short-run equilibrium?

- (A) The market price is \$10.
 (B) A domestic firm produces less than a foreign firm does.
 (C) The total quantity produced in the market is 200 units.
 (D) Every domestic firm makes a loss and thus will quit the market.
 (E) A domestic firm earns a higher profit than a foreign firm does.
10. In a smartphone market, there is already an incumbent Firm 1 selling its products. A potential entrant Firm 2 considers entering the market. The game proceeds as follows. Firm 2 first decides whether or not to enter the market. If it enters, the two firms simultaneously choose their outputs, q_1 and q_2 . However, in this case, Firm 2 also needs to invest a fixed cost F in advertising its products. Firm 1 does not have to consider the fixed cost here because that cost has been spent and is sunk. If Firm 2 does not enter, it earns zero profit and Firm 1 remains a monopoly in this market. Suppose that the demand function is $P = 100 - Q$, and the total variable costs for Firm 1 and Firm 2 are $10q_1$ and $10q_2$, respectively. Which of the following statements is CORRECT about the equilibrium outcome in the subgame perfect Nash equilibrium?
- (A) Regardless of F , Firm 2 will enter the market anyway.
 (B) If $F = 1200$, then Firm 2 will enter the market.
 (C) If $F = 1000$, then the market price will be \$40.
 (D) If $F = 800$, then Firm 1 will be a monopoly in the market.
 (E) If $F = 500$, then the total output in the market is 60 units.

11. Two countries, Mexico and Panama, produce two goods: cars and boats. The following figures show their production possibilities curves:



Which of the following statements is FALSE?

- (A) Mexico has an absolute advantage in producing boats.
 (B) Panama has a comparative advantage in producing boats.
 (C) The opportunity cost of producing boats for Panama is 5/3 cars.
 (D) Mexico should specialize in producing only one of the goods.
 (E) A possible term of trade that both countries can agree on is 1.
12. Dave is a college student who relies on the allowance given by his dad to live for two years before his graduation. He receives \$1000 and \$2020 in Year 1 and Year 2, respectively. The money is put in the bank, which currently has the interest rate with $r = 1\%$. His consumptions in these two years are C_1 and C_2 , and his utility function is $U(C_1, C_2) = \sqrt{C_1 C_2}$. Which of the following statements is TRUE?
 (A) With the current interest rate and the allowance, Dave is a saver in Year 1.
 (B) With the current interest rate and the allowance, Dave chooses $C_1 = C_2$ in the optimum.
 (C) With the current allowance, Dave will become a saver in Year 1 if the interest rate increases to be 5%.
 (D) With the current interest rate, Dave will become a saver in Year 1 if his dad gives him an extra \$500 in Year 1.
 (E) With the current allowance, Dave's utility must increase if the interest rate decreases.
13. Two families, A and B, are building a backyard playground for their kids. Once the playground is built, it becomes a public good. To build the playground, each family has to contribute an amount of money $x_i \geq 0$, $i = A, B$. The total size of the playground will be $X = x_A + x_B$. The utility for Family i is $\theta_i \sqrt{X} - x_i$, where θ_i is the number of kids in Family i . Suppose that Family A has more kids than Family B, i.e., $\theta_A > \theta_B > 0$. Consider a game where the two families make the decisions upon x_i simultaneously. Which of the following statements is TRUE?
 (A) The social optimal size of the playground that maximizes the total utility of the two families is equal to $\theta_A + \theta_B$.
 (B) In the Nash equilibrium, $x_A = \theta_A^2/4$.
 (C) In the Nash equilibrium, the public good will not be built because of the free-rider problem.
 (D) In the Nash equilibrium, the equilibrium size of the public good is $x_A + x_B = (\theta_A^2 + \theta_B^2)/4$.
 (E) In the Nash equilibrium, the bigger family has to contribute more (i.e., $x_A > x_B$), but their contributions per kid are the same (i.e., $x_A/\theta_A = x_B/\theta_B$).

14. A German citizen buys an automobile produced in the United States by a Japanese company. As a result,
- (A) U.S. net exports increase, U.S. GDP is unaffected, Japanese GNP increases, German net exports decrease, and German GNP and GDP are unaffected.
 - (B) U.S. net exports and GDP increase, Japanese GNP increases, German net exports decrease, German GNP is unaffected, and German GDP decreases.
 - (C) U.S. net exports and GDP increase, Japanese GNP increases, German net exports decrease, and German GNP and GDP are unaffected.
 - (D) U.S. net exports and GDP are unaffected, Japanese GNP increases, and German net exports, GNP, and GDP decrease.
 - (E) None of the above.
15. Suppose that some people are counted as unemployed when, to maintain unemployment compensation, they search for work only at places where they are unlikely to be hired. If these individuals were counted as out of the labor force instead of as unemployed, then
- (A) both the unemployment rate and labor-force participation rate would be higher.
 - (B) both the unemployment rate and labor-force participation rate would be lower.
 - (C) the unemployment rate would be lower, and the labor-force participation rate would be higher.
 - (D) the unemployment rate would be higher, and the labor-force participation rate would be lower.
 - (E) None of the above.
16. In an imaginary economy, consumers buy only sandwiches and magazines. The fixed basket consists of 20 sandwiches and 30 magazines. In 2016, a sandwich cost \$4 and a magazine cost \$2. In 2017, a sandwich cost \$5. The base year is 2016. If the consumer price index in 2017 was 125, then how much did a magazine cost in 2017?
- (A) \$0.83.
 - (B) \$2.25.
 - (C) \$2.75.
 - (D) \$3.00.
 - (E) None of the above.
17. There is evidence that the rate at which money changed hands rose during the German hyperinflation. This means that
- (A) velocity rose. If monetary neutrality holds, the rise in velocity increased the ratio M/P .
 - (B) velocity rose. If monetary neutrality holds, the rise in velocity decreased the ratio M/P .
 - (C) velocity fell. If monetary neutrality holds, the fall in velocity increased the ratio M/P .
 - (D) velocity fell. If monetary neutrality holds, the fall in velocity decreased the ratio M/P .
 - (E) None of the above.

見背面

18. Suppose that the economy is in long-run equilibrium. If there is a sharp increase in the minimum wage as well as an increase in taxes, then in the short run, real GDP will
- (A) rise and the price level might rise, fall, or stay the same. In the long run, the price level might rise, fall, or stay the same but real GDP will be unaffected.
 - (B) fall and the price level might rise, fall, or stay the same. In the long run, the price level might rise, fall, or stay the same but real GDP will be unaffected.
 - (C) rise and the price level might rise, fall, or stay the same. In the long run, the price level might rise, fall, or stay the same but real GDP will be lower.
 - (D) fall and the price level might rise, fall, or stay the same. In the long run, the price level might rise, fall, or stay the same but real GDP will be lower.
 - (E) None of the above.
19. World War II resulted in the destruction of much of the United Kingdom's physical capital stock. Assuming that the country was in steady-state equilibrium before the war and nothing else changed, what does the Solow Model predict about the years following World War II in the United Kingdom?
- (A) A new steady-state equilibrium would emerge, with the current level of physical capital.
 - (B) A new steady-state equilibrium would emerge, with a level of physical capital between the current level and the pre-war level.
 - (C) The economy would never again reach a steady-state equilibrium.
 - (D) The economy would eventually return to the old steady-state equilibrium, with the original level of physical capital.
 - (E) None of the above.
20. The reason for the differences in the growth stories of North Korea and South Korea that can be viewed approximately as a natural experiment or an experiment of history is that
- (A) the culture in both countries was changing radically, while the geography and institutions remained largely unchanged.
 - (B) the geography in both countries was changing radically, while the culture and institutions remained largely unchanged.
 - (C) the institutions in both countries were changing radically, while the geography and culture remained largely unchanged.
 - (D) the institutions, geography, and culture in both countries were changing radically.
 - (E) None of the above.
21. If saving is less than domestic investment, then
- (A) there is a trade deficit and $Y > C + I + G$.
 - (B) there is a trade deficit and $Y = C + I + G$.
 - (C) there is a trade surplus and $Y = C + I + G$.
 - (D) there is a trade surplus and $Y < C + I + G$.
 - (E) None of the above.

22. Lawland imports cell phones worth \$1,000 billion, and exports coffee worth \$820 billion in a year. If Lawland's net factor payments from abroad equal zero and net transfer payments from abroad are negative, then
- (A) Lawland is likely to experience a current account deficit.
 - (B) Lawland is likely to experience a current account surplus.
 - (C) Lawland is likely to experience a net outflow of assets.
 - (D) Lawland is likely to stop trading with its trading partners.
 - (E) None of the above.
23. If the Fed conducts open-market sales, which of the following quantities will increase?
- (A) Interest rates, prices, and investment spending.
 - (B) Interest rates and prices, but not investment spending.
 - (C) Interest rates and investment, but not prices.
 - (D) Interest rates, but not investment or prices
 - (E) None of the above.
24. A Big Mac in Japan costs 400 yen while it costs \$4.50 in the U.S. The nominal exchange rate is 100 yen per dollar. Which of the following would both make the real exchange rate move towards purchasing-power parity?
- (A) The price of Big Macs in the U.S. falls, and the nominal exchange rate falls.
 - (B) The price of Big Macs in the U.S. falls, and the nominal exchange rate rises.
 - (C) The price of Big Macs in the U.S. rises, and the nominal exchange rate falls.
 - (D) The price of Big Macs in the U.S. rises, and the nominal exchange rate rises.
 - (E) None of the above.
25. Which of the following statements is TRUE?
- (A) It is easier to defend an overvalued currency than an undervalued currency, since it is possible to print domestic currency but not foreign currency.
 - (B) It is easier to defend an overvalued currency than an undervalued currency, since it is possible to hold large reserves of foreign currencies.
 - (C) It is easier to defend an undervalued currency than an overvalued currency, since it is possible to print domestic currency.
 - (D) It is easier to defend an undervalued currency than an overvalued currency, since it is illegal to print domestic currency.
 - (E) None of the above.

