

- 請依題號順序於「選擇題作答區」內作答。
 - 單選題, 共20題, 每題5分。
1. Steve's utility function is $\min\{x, 5y + 2z\}$. The price of x is \$1, the price of y is \$15, and the price of z is \$7. Steve's income is \$44. How many units of x does Steve demand?
 - (a) 11
 - (b) 9.78
 - (c) 5
 - (d) 3
 2. A student spends all of her income on pizza and books. When pizzas cost \$3 each and books cost \$10 each, she consumed 30 pizzas and 3 books per month. The price of pizzas fell to \$2.90 each while the price of books rose to \$11 each. The price change
 - (a) made her worse off.
 - (b) left her exactly as well off as before.
 - (c) left her at least as well off as before and possibly helped her.
 - (d) might have helped her, might have harmed her. We can not tell which unless we observe what she consumed after the price change.
 3. Consider the indifference curve map and budget constraint for two goods, beef and potatoes. Suppose the good measured on the horizontal axis, potatoes, is a Giffen good. Beef is measured on the vertical axis and is a normal good. When the price of potatoes increases, the substitution effect causes
 - (a) an increase in the consumption of potatoes, and the income effect causes a decrease in the consumption of potatoes. The substitution effect is greater than the income effect.
 - (b) a decrease in the consumption of potatoes, and the income effect causes an increase in the consumption of potatoes. The substitution effect is less than the income effect.
 - (c) an increase in the consumption of potatoes, and the income effect causes a decrease in the consumption of potatoes. The substitution effect is less than the income effect.
 - (d) a decrease in the consumption of potatoes, and the income effect causes an increase in the consumption of potatoes. The substitution effect is greater than the income effect.

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4. A monopolist faces the demand curve $Q = 90 - \frac{P}{2}$, where Q is the number of units sold and P is the price in dollars. He has fixed costs C , and constant marginal cost \$20 per unit of output. What is the largest value of C for which he would be willing to produce positive output (i.e., $Q > 0$)?
- (a) \$3,200
 - (b) \$2,560
 - (c) \$4,800
 - (d) \$3,840
5. Which of the following statements is **not** correct?
- (a) Tradable pollution permits have an advantage over corrective taxes if the government is uncertain as to the optimal size of the tax necessary to reduce pollution to a specific level.
 - (b) Both corrective taxes and tradable pollution permits provide market-based incentives for firms to reduce pollution.
 - (c) Both corrective taxes and tradable pollution permits reduce the cost of environmental protection and thus should increase the public's demand for a clean environment.
 - (d) Corrective taxes set the maximum quantity of pollution, whereas tradable pollution permits fix the price of pollution.
6. An industry has two colluding firms that act to maximize total profit in the industry and then split the profits equally. Firm 1 has cost function $C(q_1) = 8q_1$ while firm 2 has cost function $C(q_2) = q_2^2$, where q_1 and q_2 are units produced by firm 1 and firm 2 respectively. Market demand is given by $Q(p) = 56 - P$, where P is the price. How many units should each firm produce?
- (a) Firm 1 should produce 10 units and firm 2 should produce 10 units.
 - (b) Firm 1 should produce 20 units and firm 2 should produce 4 units.
 - (c) Each firm should produce 12 units.
 - (d) Firm 1 should produce 24 units and firm 2 should produce 2 units.
7. Two stores are located side by side. They attract customers to each other and to themselves by advertising. The profit functions of the two stores are $(45 + a_2)a_1 - 2a_1^2$ for store 1 and $(75 + a_1)a_2 - 2a_2^2$ for store 2, where a_1 and a_2 are total advertising expenditures by stores 1 and 2 respectively. If each store sets its advertising expenditures independently (as in Nash equilibrium), how much would store 1 spend on advertising?

(a) \$14

(b) \$19

(c) \$22

(d) \$17

8. Consider a lake stocked with fish. The total value of fish caught at the lake depends on the number of fishers, as shown in the following table. The fishers are identical, and the opportunity cost of a day at the lake is \$18 for each fisher.

| Number of Fishers | Total Value of Fish Caught |
|-------------------|----------------------------|
| 0 | \$0 |
| 1 | 36 |
| 2 | 66 |
| 3 | 90 |
| 4 | 108 |
| 5 | 120 |
| 6 | 126 |
| 7 | 126 |
| 8 | 120 |

Which of the following statements is correct?

- (a) If use of the lake is nonexcludable, 5 fishers will use the lake.
- (b) The socially optimal number of fishers at the lake is 4.
- (c) The social gain at the optimum is \$32.
- (d) Collecting an entry fee of \$5 per fisher can achieve the optimal outcome.
9. If firms are competitive, then labor-market discrimination
- (a) cannot exist in either the short run or the long run.
- (b) will be more of a problem than if the market were monopolistic or imperfectly competitive.
- (c) likely will not be a long-run problem unless customers exhibit discriminatory preferences or government maintains discriminatory policies.
- (d) likely will be more of a problem in the long run than in the short run due to the zero-profit condition that characterizes long-run equilibrium for competitive firms.

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10. Suppose that a bright student can get through college for a cost of \$A, a dull student can get through college for a cost of \$B, and that it is worth \$C to convince an employer that you are bright. Suppose also that nothing of value is learned in college. In which of the following circumstances would only bright students go to college.
- (a) $A > B > C$
 - (b) $A > C > B$
 - (c) $C > B > A$
 - (d) $B > C > A$
11. According to the *Foreign Exchange Policies of Major Trading Partners of the United States* by U.S. Department of the Treasury on October 14, 2016, Taiwan has been included on the Monitoring List for unfair currency practices. In the following, which is NOT the reason to put Taiwan on the list?
- (a) A significant bilateral trade surplus with the United States.
 - (b) A material current account surplus.
 - (c) Persistent one-sided intervention in the foreign exchange market.
 - (d) None of the above.
12. In the efficiency wage model, there can be equilibrium unemployment because
- (a) some unemployed workers are unwilling to work at the efficiency wage rate.
 - (b) it is inefficient for employers to reduce the real wage rate, even if there is an excess supply of labor.
 - (c) it is inefficient for unemployed workers to accept employment at the efficiency wage rate, even if there is an excess supply of labor.
 - (d) unemployed workers are unwilling to accept employment at a wage that is less than the efficiency wage.
13. Let R_t and r_t denote the nominal and real interest rate, respectively. What is the real return of money?
- (a) 0
 - (b) r_t
 - (c) $r_t - R_t$
 - (d) $R_t - r_t$

14. Under a flexible exchange rate, an increase in the domestic money supply leads to
- (a) a devaluation of the domestic currency.
 - (b) a revaluation of the domestic currency.
 - (c) a depreciation of the domestic currency.
 - (d) an appreciation of the domestic currency.
15. The New Keynesian transmission mechanism for monetary policy is characterized by
- (a) helicopter drops of money.
 - (b) money having an impact on the real interest rate.
 - (c) banks using money injections for business loans.
 - (d) the government buying goods with fresh money.

For Questions 16 to 20: Consider a two-period small open endowment economy with durable consumption goods. Purchases of durable consumption goods in period 1, denoted C_1 , continue to provide utility in period 2. The service flow households receive from the stock of durables in period 2 depends on new purchases of durables in period 2, C_2 , and on the un-depreciated stock of durables purchased in period 1. Durable consumption goods are assumed to depreciate at the rate $\delta \in (0, 1)$. Household preferences are described by the following utility function:

$$U(C_1, C_2) = \log(C_1) + \beta \log(C_2 + (1 - \delta)C_1)$$

They receive endowments Y_1 and Y_2 in periods 1 and 2, respectively. Let B_t be the stock of foreign assets inherited from period $t - 1$, and assume that $B_1 = B_3 = 0$. The global interest rate is given by $r_t = r$. The current account at time t is thus defined as $CA_t = \Delta B_{t+1} = B_{t+1} - B_t$.

16. The intertemporal budget constraint is
- (a) $C_1 + C_2 = Y_1 + Y_2$.
 - (b) $(1 + r)C_1 + C_2 = (1 + r)Y_1 + Y_2$.
 - (c) $C_1 + (1 + r)C_2 = Y_1 + (1 + r)Y_2$.
 - (d) None of the above.

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17. In equilibrium, the first-period consumption C_1^* is

(a) $C_1^* = \frac{1}{(1+\beta)(\delta+r)}Y_1 + \frac{r}{(1+\beta)(\delta+r)}Y_2.$

(b) $C_1^* = \frac{r}{(1+\beta)(\delta+r)}Y_1 + \frac{1}{(1+\beta)(\delta+r)}Y_2.$

(c) $C_1^* = \frac{1}{(1+\beta)(\delta+r)}Y_1 + \frac{1+r}{(1+\beta)(\delta+r)}Y_2.$

(d) None of the above.

18. In equilibrium, the first-period current account CA_1^* is

(a) $CA_1^* = \frac{\beta r + (1+\beta)\delta - 1}{(1+\beta)(\delta+r)}Y_1 - \frac{r}{(1+\beta)(\delta+r)}Y_2.$

(b) $CA_1^* = \frac{\beta r + (1+\beta)\delta - 1}{(1+\beta)(\delta+r)}Y_1 - \frac{1}{(1+\beta)(\delta+r)}Y_2.$

(c) $CA_1^* = \frac{\beta r + (1+\beta)\delta - 1}{(1+\beta)(\delta+r)}Y_1 - \frac{1+r}{(1+\beta)(\delta+r)}Y_2.$

(d) None of the above.

19. In equilibrium, the condition for CA_1^* to be countercyclical is

(a) $\delta < \frac{1-\beta r}{1+\beta}.$

(b) $\delta > \frac{1-\beta r}{1+\beta}.$

(c) $\delta < \frac{1+\beta r}{1+\beta}.$

(d) $\delta > \frac{1+\beta r}{1+\beta}.$

20. Now suppose that $\delta = 1$, i.e., consumption is not durable. Then in equilibrium, CA_1^* is

(a) countercyclical

(b) procyclical

(c) irrelevant to the business cycle

(d) persistent over the business cycle

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