

科目：經濟學

適用：財金系

編號：251

考生注意：

1. 依次序作答，只要標明題號，不必抄題。
2. 答案必須寫在答案卷上，否則不予計分。
3. 限用藍、黑色筆作答；試題須隨卷繳回。

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**Multiple Choices (4 points each)**

1. Which of these utility functions represent the same preferences as  $U(x, y) = \sqrt{xy}$ ?  
(A)  $U(x, y) = x + y$   
(B)  $U(x, y) = \ln x + \ln y$   
(C)  $U(x, y) = xy$   
(D)  $U(x, y) = 10\sqrt{xy}$ .  
(E) All of the above represent the same preferences.
2. Suppose a teenager has \$20 and likes both rap music (R) and country music (C) with a set of preferences so that  $U = C^{1/2}R^{1/2}$ . Suppose that the iTunes price of a rap music song is  $P_R = 2$  and the price of a country music song is  $P_C = 1$ . What level of utility is unaffordable?  
(A)  $\sqrt{32}$   
(B) 6  
(C) 7  
(D)  $\sqrt{50}$   
(E) 8
3. If goods  $X$  and  $Y$  are complements, then the cross price elasticity of demand between them will be  
(A) positive.  
(B) negative.  
(C) zero.  
(D) one.  
(E) infinity.
4. Which of the following functional forms for utility suggests the greatest substitution effect when starting at the point where  $P_X = P_Y$ ?  
(A)  $U = \min(X, Y)$ .  
(B)  $U = X + Y$ .  
(C)  $U = X^{1/2}Y^{1/2}$ .  
(D)  $U = X^{1/4}Y^{3/4}$ .  
(E)  $U = 2X + Y$ .

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5. Consider the following three statements. Which of these following statements is true?
- I. Two goods,  $X$  and  $Y$ , are substitutes if an increase in  $P_Y$  causes less  $Y$  to be bought.
  - II. Two goods,  $X$  and  $Y$ , are complements if an increase in  $P_Y$  causes less  $Y$  to be bought.
  - III. Assume  $X$  and  $Y$  are the only two goods a person consumes. If after a rise in  $P_X$  the quantity demanded of  $Y$  increases, one could say the substitution effect dominates the income effect for  $Y$ .
- (A) I. (B) II.  
(C) III. (D) I, III.  
(E) I, II, III.
6. Suppose you were to believe that "money illusion" exists that is as prices and incomes both rise proportionally, people buy more. Which of the following characteristics of demand does that cause you to doubt?
- (A) demand functions are downward sloping.
  - (B) demand has a positive vertical intercept.
  - (C) demand has a positive horizontal intercept.
  - (D) demand functions are homogeneous of degree zero.
  - (E) demand functions are homogeneous of degree one.
7. Suppose  $U = \min\{X, Y\}$  and the price of  $X$  is 1, the price of  $Y$  is 1 and income is \$12. If the price of  $X$  increases to 2, which of the following is correct?
- (A) the income effect (in terms of units of  $X$  bought) is 2.
  - (B) the income effect (in terms of units of  $X$  bought) is -2.
  - (C) the substitution effect is 2.
  - (D) the substitution effect is -2.
  - (E) the income effect is 0.
8. Suppose the production function for good  $q$  is given by  $q = 3K + 2L$  where  $K$  and  $L$  are capital and labor inputs. Consider three statements about this function:
- I. The function exhibits constant returns to scale.
  - II. The function exhibits diminishing marginal productivities to all inputs.
  - III. The function has a constant rate of technical substitution.
- Which of these statements is true?
- (A) only I. (B) only II.  
(C) I and II but not III. (D) I and III but not II.  
(E) All of them.

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9. Suppose a family has saved enough for a 10 day vacation (the only one they will be able to take for 10 years) and has a utility function  $U = V^{1/2}$  (where  $V$  is the number of healthy vacation days they experience). Suppose they are not a particularly healthy family and the probability that someone will have a vacation-ruining illness ( $V=0$ ) is 20%. Which of the following is correct?
- (A) The expected value of  $V$  is 2.
- (B) Their expected utility is  $0.8\sqrt{10} + 0.2 \times \sqrt{2}$ .
- (C) The greatest (integer) number of vacation days the family would be willing to give up in order to guarantee a healthy vacation is 3.
- (D) Suppose a risk neutral insurance company exists to provide vacation insurance and each vacation day requires a constant expenditure which is standard across everybody. The least the insurance company would charge (in terms of vacation days) is 3.
- (E) None of above is correct.
10. Suppose pigs ( $P$ ) can be fed corn-based feed ( $C$ ) or soybean-based feed ( $S$ ) such that the production function is  $P = 2C + 5S$ . The price of corn feed is \$4 and the price of soybean feed is \$5. Which of the following is correct?
- (A) The cost minimizing combination of producing  $P = 200$  is  $C = 50, S = 20$ .
- (B) The cost minimizing combination of producing  $P = 100$  is all points on the  $P = 100$  isoquant, including those listed in a-c would cost the same.
- (C) The expansion path depends on neither the price of corn based or soybean based feed.
- (D) The cost minimizing combination of producing  $P = 200$  is  $C=100$ .
- (E) None of above is correct.
11. Suppose a production function is  $q = K^{1/2}L^{1/3}$  and in the short run capital ( $K$ ) is fixed at 100. If the wage is \$10 and the rental rate on capital is \$20. Which of the following is mostly correct?
- (A) The short run production function is  $q = 10L^{1/3}$ .
- (B) The fixed cost is \$2,000.
- (C) The short run average cost is  $SAC = \frac{2000}{q} + \frac{q^2}{100}$ .
- (D) The short run marginal cost is  $\frac{3q^2}{100}$ .
- (E) All of above is correct.

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12. A monopolist has total cost  $TC = .1Q^2 - 2Q + 100$  and marginal cost  $MC = .2Q - 2$ . Market demand is  $Q = 86 - P$ , implying that the firm's marginal revenue is  $MR = 86 - 2Q$ . Which of the following is correct?
- (A) Its profit-maximizing output is 20.
  - (B) The firm's profit will be 1,760.
  - (C) The deadweight loss (compared to a single firm behaving as if it were perfectly competitive) is about 667.
  - (D) The deadweight loss (compared to a single firm behaving as if it were perfectly competitive) is about 333.
  - (E) None of above is correct.
13. Suppose there are two firms, Boors and Cudweiser, each selling identical-tasting nonalcoholic beer. Consumers of this beer have no brand loyalty so market demand can be expressed as  $P = 5 - 0.001 \cdot (Q_B + Q_C)$ . Boors marginal revenue function can be written  $MR_B = 5 - .001(2Q_B + Q_C)$  (and symmetrically for Cudweiser). Boors operates with out of date technology and has constant cost of ( $MC = AC$ ) \$2 per unit where as Cudweiser has constant cost of \$1 per unit. Which of the following is correct?
- (A) Cudweiser produce in the Nash equilibrium is about 667 units of beer.
  - (B) Boors produce in the Nash equilibrium is about 1667 units of beer.
  - (C) Assuming the firms behave as Cournot competitors, Cudweiser's best-response function is  $Q_C = 1500 - 0.5 \cdot Q_B$ .
  - (D) Assuming the firms behave as Cournot competitors, Boor's best-response function is  $Q_B = 1500 - 0.5 \cdot Q_C$ .
  - (E) None of above is correct.

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14. Assume many more stores agree to accept credit and debit cards. Which of the following will be a likely outcome?
  - (A) the money multiplier will decrease
  - (B) the money multiplier will increase
  - (C) money supply will decrease, given a fixed monetary base
  - (D) the currency-deposit ratio will increase
  - (E) the reserve-deposit ratio will decrease
15. During the financial crisis that started in 2008, the Fed
  - (A) lowered short-term interest rates until they reached almost zero percent
  - (B) bought some non-traditional assets to intervene in long-term markets and drive long-term interest rates down
  - (C) started to pay interest to banks on the reserves they held with the Fed
  - (D) all of the above
  - (E) none of the above
16. Residential investment is affected by monetary policy since
  - (A) changes in the real interest rate affect the rate of return on residential investment
  - (B) changes in the nominal interest rate affect the ability of many potential homebuyers to pay for a home or meet monthly mortgage payments
  - (C) tighter monetary policy may induce mortgage lenders to ration credit
  - (D) changes in interest rates may affect the ability of housing developers to get financing
  - (E) all of the above
17. According to the simplified life-cycle theory of consumption, a retired person with zero income from labor would
  - (A) only consume the interest on accumulated wealth
  - (B) consume a fraction of accumulated wealth based upon her/his life expectancy
  - (C) have to decrease consumption sharply in order not to run out of funds too soon
  - (D) expect to be financially supported by her/his children
  - (E) consume more than during her/his working years since she/he does not expect to live much longer

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18. Which of the following is TRUE in a free market economy with perfect capital mobility?
- (A) a nation's exchange rate will tend to equalize the cost of buying traded goods at home with the cost of buying the same goods abroad
  - (B) a nation's exchange rate will tend to equalize the interest rate received on a government bond at home and a similar bond abroad
  - (C) exchange rates are influenced by differentials in the inflation rates of different countries
  - (D) exchange rates are influenced by interest rate differentials among countries and the resulting capital flow
  - (E) all of the above
19. In a normal IS-LM framework, if government purchases and taxes are both increased by the same amount, the level of output
- (A) will increase by exactly that amount
  - (B) will remain the same but its composition will change
  - (C) will not change and neither will the composition of output
  - (D) will increase as will the interest rate
  - (E) will increase but only if this fiscal policy is accommodated by expansionary monetary policy
20. Which of the following event(s) most likely will leave prices relatively unchanged while increasing output?
- (A) an increase in money supply combined with an income tax increase
  - (B) expansionary monetary policy in response to an adverse supply shock
  - (C) expansionary fiscal policy employed after a favorable supply shock
  - (D) restrictive monetary policy in response to an oil price decrease
  - (E) none of these
21. Okun's law states that if the unemployment rate increases by 1 percentage point, then
- (A) real GDP will fall by about 2 percent
  - (B) real GDP will also fall by about 1 percent
  - (C) real GDP will fall by about 0.5 percent
  - (D) the rate of inflation will decline by about 2 percent
  - (E) the rate of inflation will decline by about 0.5 percent

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22. If the interest rate increases,
- (A) consumption of non-durable goods will decrease substantially
  - (B) saving will increase substantially
  - (C) consumption of durable goods will increase substantially
  - (D) both (B) and (C)
  - (E) none of the above
23. If interest rates in the U.S. increase but they stay the same in the rest of the world, then
- (A) the exchange rate of foreign currency to U.S. dollars will increase
  - (B) the exchange rate of U.S. dollars to foreign currency will increase
  - (C) the U.S. dollar will depreciate
  - (D) U.S. bond prices are likely to increase
  - (E) U.S. stock market values are likely to increase sharply
24. Under flexible exchange rates, if the domestic currency depreciates, net exports will most likely
- (A) increase in both the short run and the long run
  - (B) decrease in both the short run and the long run
  - (C) increase in the short run but decrease in the long run
  - (D) decrease in the short run but increase in the long run
  - (E) increase in the short run, but remain unchanged in the long run
25. Which of the following is FALSE?
- (A) in the short run, the rate of monetary growth and the rate of inflation always follow the same pattern
  - (B) in the short run, a change in the growth rate of money can affect the level of output
  - (C) in the short run, factors other than an increase in the growth rate of money can cause inflation to increase
  - (D) in the long run, a sustained increase in the growth rate of money will cause the inflation rate to increase
  - (E) in the long run, a sustained increase in the growth rate of money will have no effect on the level of output