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一、Multiple Choice (1 point each)

Identify the letter of the choice that best completes the statement or answers the question.

1. Beef is a normal good. You observe that both the equilibrium price and quantity of beef have fallen over time. Which of the following explanations would be most consistent with this observation?

   A. Consumers have experienced an increase in income, and beef-production technology has improved.

   B. The price of chicken has risen, and the price of steak sauce has fallen.

   C. New medical evidence has been released that indicates a negative correlation between a person's beef consumption and life expectancy.

   D. Beef producers, concerned about the health of their customers, decided to produce relatively less beef.

2. Suppose a tax of $4 per unit is imposed on a good, and the tax causes the equilibrium quantity of the good to decrease from 2,000 units to 1,700 units. The tax decreases consumer surplus by $3,000 and decreases producer surplus by $4,400. The deadweight loss of the tax is

   A. $ 200.

   B. $ 400.

   C. $ 600.

   D. $ 1,200.

3. When a tax is levied on sellers of tea, buyers of a good bear the larger share of the tax burden when the

(i) supply is more elastic than the demand for the product.

(ii) demand in more elastic than the supply for the product.

(iii) tax is placed on the sellers of the product.

(iv) tax is placed on the buyers of the product.

   A. (i) only

   B. (ii) only

   C. (i) and (iii) only

   D. (i) and (iv) only

備　　　註	一、作答於試題上者，不予計分。 二、試題請隨卷繳交。

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4. The substitution effect of an increase in the interest rate will result in an increase in

    A. consumption when young and increase in savings when young.

    B. consumption when old and an increase in savings when young.

    C. consumption when young and an increase in savings when old.

    D. savings when old and an increase in consumption when old.

5. Assume that goods X and Y are not Giffen goods. If the price of good X falls, a consumer will definitely

    A. consume more of good X because her budget constraint has rotated outward.

    B. consume more of good X because her budget constraint has shifted outward.

    C. consume more of good Y because her budget constraint has rotated outward.

    D. consume more of good Y because her budget constraint has shifted outward.

6. Thirsty Thelma owns and operates a small lemonade stand. When Thelma is producing a small quantity of lemonade she has few workers and her equipment is not being fully utilized. Because she can easily put her idle resources to use,

    A. the marginal cost of an extra worker is large.

    B. the marginal product of an extra worker is small.

    C. The marginal cost of one more glass of lemonade is small.

    D. Her lemonade stand is likely to be crowded with workers.

7. When total revenue is less than total variable cost, a firm in a competitive market will

    A. shut down.

    B. continue to operate as long as average revenue exceeds marginal cost.

    C. continue to operate as long as average revenue exceeds average fixed costs.

    D. always exit the industry.

8. In a competitive market, a firm's supply curve dictates the amount it will supply. In a monopoly market

    A. the same is true.

    B. the decision about how much to supply is impossible to separate from the demand curve it faces.

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C. the supply curve conceptually makes sense, but in practice is never used.

D. the supply curve will have limited predictive capacity.

9. Equilibrium quantity in markets characterized by oligopoly are

A. lower than in monopoly markets and higher than in perfectly competitive markets.

B. lower than in monopoly markets and lower than in perfectly competitive markets.

C. higher than in monopoly markets and higher than in perfectly competitive markets.

D. higher than in monopoly markets and lower than in perfectly competitive markets.

10. In the long run, a profit-maximizing firm in a monopolistically competitive market operates at

A. efficient scale.

B. the point where demand equals marginal cost.

C. the point where revenue is also maximized.

D. some point along the downward sloping portion of its average total cost curve.

11. Which of the following statements is correct if a country has adopted fixed exchange rate regime?

A. If the currency is overvalued with respect to the fixed parity, the central bank has to intervene e.g. by increasing the interest rate.

B. The central bank has to offset the effects of capital outflow on the exchange rate e.g. by buying domestic currency and paying with foreign reserves.

C. If, in order to reduce excess supply of the domestic currency, the central bank buys domestic currency at the target exchange rate, this will necessarily cause inflation in the home country.

D. Measures taken by the central bank to keep the exchange rate fixed will not affect the domestic interest rate.

12. Take a graph with the unemployment rate on the horizontal axis and the inflation rate on the vertical axis. Which of the following will shift the Phillips curve towards the northeast?

A. A positive aggregate demand shock

B. Contractionary monetary policy

C. A negative aggregate supply shock

D. A decrease in expected inflation

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13. Which of the following statements is necessarily false:

A. Monetary policy can be conducted through open market operations, setting the minimum reserve requirement and through changing the refinancing rate at which banks can borrow money from the central bank.

B. In the short run, an increase in money supply causes a proportional increase in prices. Over time the latter decrease again.

C. Unemployment benefits are automatic stabilizers.

D. The positive effect of expansionary fiscal policy on production is reduced by crowding out.

14. According to the theory of sticky wages:

A. prices adjust slowly to a decrease in nominal wages. Firms face lower wages and since prices stay high they increase the level of production and thus employment. This results in higher aggregate supply.

B. wages adjust slowly to a decrease in prices. Firms face lower prices and since the costs of production stay high they have to decrease production and thus employment. This decreases aggregate supply.

C. not all firms immediately adjust their prices in reaction to a decrease in the price level. These firms face higher prices and thus they increase production, which increases aggregate supply.

D. prices react more than proportionally to increases in nominal wages. Producers face higher wages, but since prices increase more than wages they want to increase production. This results in higher aggregate supply.

15. According to the AS-AD model an increase of public investment

A. might decrease GDP in the short run because of crowding out.

B. decreases prices in the short run which stimulates an economic recovery.

C. does not change long run aggregate supply.

D. increases aggregate supply which is depicted as a shift of the AS curve to the right.

16. Which of the following is the most important variable for judging an economy's long-run performance?

A. growth in nominal GDP

B. growth in real GDP

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C. growth in real GDP per capita

D. growth in potential GDP

17. Assume that the currency-deposit ratio is 32%, the required reserve-deposit ratio is 7%, the excess reserve-deposit ratio is 1%, and total money supply is $1,320 billion. What is the amount of high-powered money?

　A. $132 billion

　B. $165 billion

　C. $330 billion

　D. $400 billion

18. When the central bank intervenes in the foreign exchange market by purchasing foreign currency, it also routinely engages in open market sales of government securities. Why?

　A. it has to sell securities to acquire the necessary funds

　B. to avoid a recession that may be caused by the reduction in money supply resulting from the purchase of foreign currency

　C. to prevent its intervention in the foreign exchange market from having a direct effect upon the domestic money supply

　D. it wants to isolate the domestic economy from foreign competition

19. According to the Baumol-Tobin transaction demand model, money demand for transactions

　A. depends only on the level of income

　B. depends only on the cost of illiquidity

　C. varies inversely with both the interest rate and the level of income

　D. increases as the interest rate decreases or income increases

20. Which are the three channels by which the Central Bank can reduce money supply?

　A. buy government securities, lower reserve requirements, and lower the discount rate

　B. buy government securities, raise reserve requirements, and raise the discount rate

　C. buy government securities, lower reserve requirements, and raise the discount rate

　D. sell government securities, raise reserve requirements, and raise the discount rate

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二、Problems and Short-essay Questions

Please answer the following questions IN SEQUENCE. All questions may be answered in either Chinese or English.

1. Suppose there is a railway that runs coal-burning steam locomotives through a farming area and caused fires in the crop fields at harvest time. The crop damage from each train run is $200. To run trains, the railway company incurs a private marginal cost of $100n$, where n denotes the number of train runs. For simplicity, assume there are no fixed costs. The revenue from a train run is $400.

   A. (4 points) What is the socially optimal number of train runs?

   B. (4 points) How many trains would the railway company run if no compensation is required for crop damage and the transaction cost is high enough to prevent the parties from bargaining? How much profit does the company make?

   C. (6 points) How many trains would the railway company run if no compensation is required for crop damage but the negotiations between the company and the farmers are free of any transaction costs? How much profit does the company make?

   D. (6 points) Now assume the railway company is legally liable for the damage caused. That is, it is required to pay the farmer $200 for each train run. How many trains would the company run? How much profit does it make?

2. There are two large countries H and F. Each country can choose its trade policy between free trade and protection. If both countries choose free trade, the welfare is (welfare of H, welfare of F)=(20, 20). If H chooses free trade but F chooses protection, according to the optimal tariff theory, F can obtain more gains from trade at the expense of H, so that (welfare of H, welfare of F)=(−20, 30). On the contrary if H chooses protection while F chooses free trade, the welfare is (welfare of H, welfare of F)=(30, −20). However, if both countries choose protection, the welfare level moves down toward that near autarky. Therefore, (welfare of H, welfare of F)=(−10, −10). Answer the following questions.

   A. (10 points) If two countries choose trade policy simultaneously, what is the possible policy combination they will choose?

   B. (10 points) What is the value of a bilateral trade agreement?

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3. Consider an economy with the following aggregate demand and aggregate supply functions:

$$\begin{cases} \text{Aggregate Demand function:} \quad Y = 100 + 0.5 \times \frac{M}{P}, \\ \text{Aggregate Supply function:} \quad Y = \bar{Y} + 25 \times (P - P^e), \end{cases}$$

where Y represents the output, $\bar{Y}$ is the potential output, P is the price level, P^e is the expected price level, M is the nominal money supply. Furthermore, assume that $M = 400$ and $\bar{Y} = 200$.

　A. (6 points) Compute the equilibrium price and the equilibrium output, given that the expected price level is exactly equal to the actual price level.

　B. (7 points) Suppose that the central bank dramatically increases the nominal money supply to 750 while the general public maintains exactly the same expected price level, what would be the new equilibrium price and the new equilibrium output?

　C. (7 points) Compute the equilibrium price and the equilibrium output if the aforementioned expansionary monetary policy of the central bank is fully anticipated by the public.

4. Consider the following structural macroeconomic model:

- Production function: $Y = F(N, K)$; $F_N > 0, F_K > 0$.

- Labor demand: $\frac{W}{P} = F_N(N, K)$; $F_{NN} < 0, F_{KK} < 0$.

- Consumption: $C = C(Y - T, r)$; $1 > C_y > 0, C_r < 0$.

- Investment: $I = I(r, y)$; $I_y > 0, I_r < 0$.

- Goods market equilibrium: $Y = C + I + G$.

- Money market equilibrium: $\frac{M}{P} = m(r, y)$; $m_r < 0, m_y > 0$.

The terms Y(nominal GDP), y(real GDP), N(employment level), P(price level), C(consumption), r(interest rate), I(investment) are endogenous variables while K(capital stock), W(nominal wage), T(tax), G(government purchase), M(money supply) are exogenous variables.

　A. (6 points) Is there an equilibrium in this model? If so, is it unique?

　B. (7 points) Is there a stable equilibrium? If instability is possible, what is the sufficient condition for instability? (7%)

　C. (7 points) What are the effects of an increase in government spending on y, r and P? What are the effects of an increase in money supply on y, r and P? (7%)

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