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Multiple choices (80%)

1. Suppose a hat contains 100 index cards of equal size. Each card has a different number on it between 1 and 100. You draw 2 index cards from the hat. If the numbers on both cards are even or odd, you win $5.00. If one number is even and the other number is odd, you lose $4.00. This game is played under conditions of

A) risk because you know the probability of drawing two even or odd cards and the probability of drawing an odd card and an even card.

B) risk because you do not know the probability of drawing two even or odd cards or of drawing an odd card and an even card.

C) uncertainty because you know the probability of drawing two even or odd cards and the probability of drawing an odd card and an even card.

D) uncertainty because you do not know the probability of drawing two even or odd cards or of drawing an odd card and an even card.

2. In a von Neumann-Morgenstern (VNM) utility function, which of the following statements is true?

A) Different monetary values are attached to different outcomes.

B) Different amounts of utility are attached to different outcomes.

C) Each outcome must occur with the same probability.

D) The probabilities must be determined objectively.

3. Suppose you are a participant in a nationally televised game show. The show has a three-part structure, during which you have to successfully complete one part in order to proceed to the next part. The first part involves answering a true/false question. You have a 70% chance of getting the question correct. If you do not answer the question correctly, you are finished with the game but you leave with $500 to cover your travel expenses. If you answer the question correctly, you can proceed to the second part of the game. In the second part, you have to hop on one foot from one end of the stage to the other end of the stage 4 times, each time wearing a silly hat. The contestant that successfully completes part two of the game in the shortest amount of time is the winner. You are in good physical shape and probably have a 60% chance of winning this part. The winner goes home with $2,000. The losing contestants receive nothing. What is the expected value of your participation in the game show?

A) $150

(背面仍有題目,請繼續作答)

B) $500

C) $990

D) $2000

4. Jon von Neumann and Oskar Morgenstern predicted that an individual will always choose the gamble with the highest

A) monetary value.

B) probability.

C) payoff.

D) expected utility.

5. Isoquants are usually convex because

A) the marginal rate of technical substitution diminishes as we move down the isoquant from northwest to southeast.

B) the increase in output diminishes as we move from one isoquant to the next isoquant in a plane.

C) labor is being used less efficiently as we move down the isoquant from northwest to southeast.

D) capital is being used less efficiently as we move down the isoquant from northwest to southeast.

6. Which of the following statements is true?

A) The law of diminishing marginal returns is a long-run concept and decreasing returns to scale is a short-run concept.

B) The law of diminishing marginal returns is a short-run concept and decreasing returns to scale is a long-run concept.

C) Both the law of diminishing marginal returns and decreasing returns to scale are short-run concepts.

D) Both the law of diminishing marginal returns and decreasing returns to scale are long-run concepts.

7. Suppose the von Neumann-Morgenstern utility function is U(Y) square root of Y. The risky gamble has a 75 percent probability of Y $200 and a 25 percent probability of Y $1000. The sure thing pays $343. If an individual chooses the risky gamble, then the individual is

A) risk-neutral.
B) risk-averse.
C) risk-loving.
D) rational.

8. "In a competitive exchange economy, all Pareto-improving moves will be made ensuring that the economy will be Pareto-efficient in its final equilibrium." This statement refers to

A) the contract curve.
B) the social welfare function.
C) the second theorem of welfare economics.
D) the first theorem of welfare economics.

9. The accompanying table gives the total cost of producing cheesecakes at Chessie's Cheesecake Palace. The market price of cheesecakes increases from $6 each to $8 each. Suppose Chessie is currently producing 6 cheesecakes. What should she do and why?

A) Chessie should continue to produce six cheesecakes because she maximizes her profit at that output level.
B) Chessie should increase the number of cheesecakes that she produces because marginal cost has decreased.
C) Chessie should decrease the number of cheesecakes that she produces because marginal revenue has decreased.
D) Chessie should increase the number of cheesecakes that she produces because marginal revenue has increased.

10. For an individual who is risk-averse, the von Neumann-Morgenstern utility function is

A) linear.
B) concave.
C) convex.
D) negatively sloped.

11. A competitive firm:

A) is small relative to the market in which it trades.
B) has to charge a lower price when it wants to sell more goods.

C) has several large competitors with whom it engages in fierce competition.
D) can set the wage at which it hires workers.

12. If velocity is constant and, in addition, the factors of production and the production function determine real GDP, then:
A) the price level is proportional to the money supply.
B) real GDP is proportional to the money supply.
C) the price level is fixed.
D) nominal GDP is fixed.

13. In the small open economy in equilibrium:
A) saving is fixed and investment is determined by the investment function and the world interest rate.
B) investment is fixed and saving is determined by the saving function and the world interest rate.
C) saving is fixed and investment is determined by the trade balance.
D) investment is fixed and saving is determined by the trade balance.

14. In the IS-LM model when M remains constant but P rises, in short-run equilibrium, in the usual case, the interest rate _____ and output _____.
A) rises; falls
B) rises; rises
C) falls; rises
D) falls; falls

15. An increase in the money supply:
A) increases income and lowers the interest rate in both the short and long runs.
B) increases income in both the short and long runs, but leaves the interest rate unchanged in the long run.
C) lowers the interest rate in both the short and long runs, but leaves income unchanged in the long run.
D) lowers the interest rate and increases income in the short run, but leaves both unchanged in the long run.

16. The production function feature called "constant returns to scale" means that if we:
A) multiply capital by z1 and labor by z2, we multiply output by z3.
B) increase capital and labor by 10 percent each, we increase output by 10 percent.

C) increase capital and labor by 5 percent each, we increase output by 10 percent.
D) increase capital by 10 percent and increase labor by 5 percent, we increase output by 7.5 percent.

17. An increase in the trade deficit of a small open economy could be the result of:
A) an increase in taxes.
B) an increase in government spending.
C) a decrease in the world interest rate.
D) the expiration of an investment tax-credit provision.

18. Assume that the economy starts from long-run equilibrium. If the Federal Reserve increases the money supply, then _____ increase(s) in the short run and _____ increase(s) in the long run.
A) prices; output
B) output; prices
C) output; output
D) prices; prices

19. In the IS-LM model when government spending rises, in short-run equilibrium, in the usual case, the interest rate _____ and output _____.
A) rises; falls
B) rises; rises
C) falls; rises
D) falls; falls

20. To determine whether an economy is operating at its Golden Rule level of capital stock, a policymaker must determine the steady-state saving rate that produces the:
A) largest MPK.
B) smallest depreciation rate.
C) largest consumption per worker.
D) largest output per worker.

21. The neoclassical theory of distribution explains the allocation of:
A) output between goods and services.
B) output among consumption, investment, and government spending.
C) income among factors of production.
D) income between saving and investment.

22. According to the quantity theory of money, ultimate control over the rate of inflation in the United States is exercised by:
A) the Organization of Petroleum Exporting Countries (OPEC).
B) the U.S. Treasury.
C) the Fed.
D) private citizens.

23. In a country with a small open economy, the real interest rate will always be:
A) above the world real interest rate.
B) below the world real interest rate.
C) equal to the world real interest rate.
D) equal to the world nominal interest rate.

24. In the Solow model, it is assumed that a(n) _____ fraction of capital wears out as the capital-labor ratio increases.
A) smaller
B) larger
C) constant
D) increasing

25. In the Baumol-Tobin theory of the transactions demand for money, the number of trips to the bank will:
A) increase as the interest rate decreases.
B) increase as the interest rate increases.
C) decrease as expenditure increases.
D) increase as wealth increases.

26. The neoclassical theory of distribution:
A) was developed by Karl Marx.
B) is rejected by most economists today.
C) shows that the national income of an economy is not equal to total output.
D) is a theory of how national income is divided among the factors of production.

27. An economy in the steady state will have:
A) investment exceeding depreciation.
B) no depreciation.
C) saving equal to consumption.

D) no change in the capital stock.

28. If the demand for money increases, but the Fed keeps the money supply the same, then in the short run output will:
A) fall and in the long run prices will remain unchanged.
B) remain unchanged and in the long run prices will fall.
C) remain unchanged and in the long run prices will remain unchanged.
D) fall and in the long run prices will fall.

29. When bond traders for the Federal Reserve seek to increase interest rates, they _____ bonds, which shifts the _____ curve to the left.
A) buy; IS
B) buy; LM
C) sell; IS
D) sell; LM

30. The size of monetary base is determined by:
A) the Federal Reserve.
B) the Federal Reserve and banks.
C) preferences of households about the form of money they wish to hold.
D) business policies of banks and the laws regulating banks.

31. In Irving Fisher's two-period model, if the consumer is initially saving in period one and the real interest rate rises, then first-period consumption will:
A) certainly fall.
B) certainly rise.
C) remain constant.
D) either rise or fall.

32. Milton Friedman argued that, on average, consumption is:
A) proportional to income.
B) a fraction of permanent income that rises as permanent income rises.
C) a fraction of permanent income that falls as permanent income falls.
D) proportional to permanent income.

33. Tobin's q equals the:
A) cost of buying and renting out one unit of capital measured in units of the economy's output.

B) marginal product of capital minus the cost of capital.
C) ratio of the replacement value of installed capital to the market value of installed capital.
D) ratio of the market value of installed capital to the replacement cost of installed capital.

34. Economic booms should stimulate investment spending because during booms:
A) the real interest rate increases.
B) corporate tax rates usually increase.
C) the purchase price of capital increases.
D) higher levels of employment increase the marginal product of capital.

35. Bank reserves equal:
A) gold kept in bank vaults.
B) gold kept at the central bank.
C) currency plus demand deposits.
D) deposits that banks have received but have not lent out.

36. Advocates of the rational expectations approach predict that a credible policy to lower inflation will _____ the sacrifice ratio.
A) raise
B) lower
C) not change
D) sometimes raise and sometimes lower

37. If firms are earning a profit, then this raises the _____ value of installed capital and implies a _____ value of Tobin's q.
A) market; low
B) market; high
C) replacement; low
D) replacement; high

38. During a banking crisis and credit crunch, the _____ curve shifts leftward, resulting in a(n)_____ in aggregate demand, production, and employment.
A) IS; increase
B) IS; decrease
C) LM; increase
D) LM; decrease

39. When the Fed makes an open-market sale, it:
A) increases the money multiplier (m).
B) increases the currency-deposit ratio (cr).
C) increases the monetary base (B).
D) decreases the monetary base (B).

40. If the short-run aggregate supply curve is steep, the Phillips curve will be:
A) flat.
B) steep.
C) backward-bending.
D) unrelated to the slope of the short-run aggregate supply curve.

Problems (20%):

1. Suppose that wealth for an agent is W_0 at time $t = 0$. The agent is going to invest all his wealth W_0 in an investment strategy. The outcomes can be W_1 with probability p or W_2 with probability (1-p) at time $t = 1$, where $W_1 < W_0 < W_2$ and $pW_1 + (1-p)W_2 = W_0$. Use a risk-averse utility function to describe the reason why it is worse-off to take such a risk for a risk-averse agent graphically (use wealth as horizontal axis and utility as vertical axis) (10%)

2. Assume that the *LM* curve for a small open economy with a fixed exchange rate is given by $Y = 200r - 200 + 2(M/P)$. This *IS* curve is given by $Y = 400 + 3G - 2T + 3NX - 200r$. The function for the net exports is $NX = 200 - 100e$, where e is the exchange rate. The price level is fixed at 1.0, the world interest rate is $r^* = 2.0$ percent, and the exchange rate is initially 1.0.
   a. If $M = 100$, $G = 100$, and $T = 100$, solve for the equilibrium short-run values of Y and NX. Is the initially given exchange rate equal to the equilibrium exchange rate? (5%)
   b. If the Fed buys bonds in order to raise the money supply, will equilibrium Y increase? (5%)