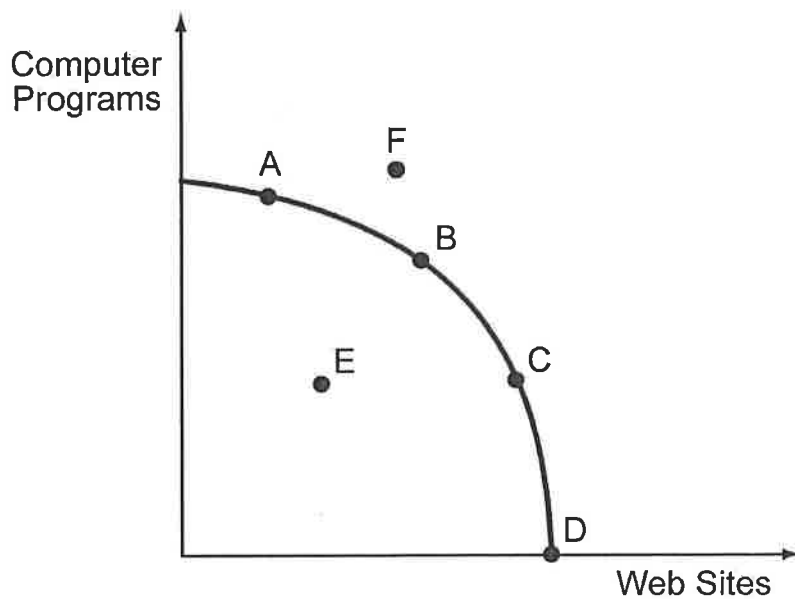| 科目名稱	經濟學	類組代碼	共同考科
		科目碼	E0021

※本項考試依簡章規定各考科均「不可以」使用計算機　　　本科試題共計　13　頁

I　單選題, 每題 3 分, 共 78 分。

作答時請由左至右依序答題, 每回答五題後, 換至下一行。

1. Figure 1 depicts a production possibilities curve. If the market economy moves from point A to point C, _____.

Figure 1: Production Possibilities Curve

(A) there is unemployment in the computer programs industry

(B) the opportunity cost of producing an additional Web site increases

(C) technological change has made the production of Web sites more efficient

(D) society values Web sites more than computer programs

背面有題,請繼續作答๑

2. Why do economists study perfectly competitive markets even though few, if any, markets in the real world are perfectly competitive?

   (A) Because insights we gain from studying the perfectly competitive market are directly applicable to real markets, even though they are not perfectly competitive.

   (B) Because the behavior of buyers and sellers can be studied theoretically only in the perfectly competitive market model.

   (C) Because the perfectly competitive market is a good approximation to many markets in the real world and helps us understand how real markets work.

   (D) Because the perfectly competitive market is the most relevant model for actual government economic policies.

3. Suppose Apple raises the cost of downloading a song from iTunes from $0.99 per song to $1.49 per song. This price increase will cause a(n) _____.

   (A) increase in demand

   (B) decrease in demand

   (C) increase in quantity demanded

   (D) decrease in quantity demanded

4. Which of the following is true of a progressive tax system?

   (A) High-income households pay a higher percentage of their income in taxes.

   (B) Low-income households pay a higher percentage of their income in taxes.

   (C) All households pay the same amount of taxes irrespective of their income.

   (D) All households pay the same percentage of their income in taxes.

5. The King of Shoes has won a pair of sneakers in an online auction. This implies that his willingness to pay for the sneakers was _____.

(A) higher than its market price

(B) lower than its market price

(C) higher than that of the other bidders

(D) lower than that of at least one bidder

6. Daniel and Amos are two classmates who form a study group to do Econ homework and write Lab reports. Figure 2 shows the production possibilities curves for each of them.

Figure 2: Production Possibilities Curves
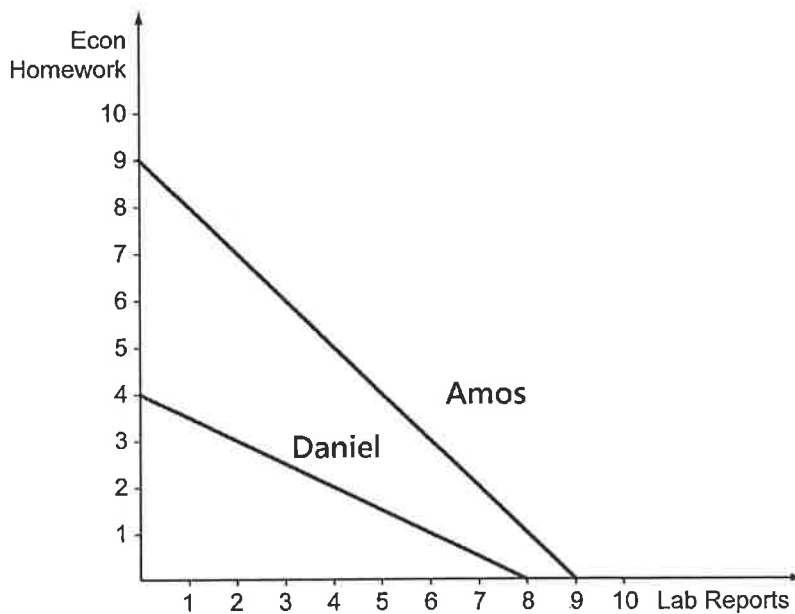
(A) Daniel's opportunity cost of writing Lab reports is higher than that of Amos, whereas Amos's opportunity cost of doing Econ homework is higher than that of Daniel.

(B) Amos has a comparative disadvantage in both activities.

(C) Amos's opportunity cost of writing Lab reports is higher than Daniel's opportunity cost of writing it.

背面有題，請繼續作答。

(D) Daniel has a comparative disadvantage in both activities.

7. The value of Taiwan's GDP per capita in U.S. dollars will increase if _____.

   (A) the New Taiwan Dollar appreciates

   (B) the New Taiwan Dollar depreciates

   (C) the U.S. income per capita increases

   (D) the value of Taiwan's income per capita in New Taiwan Dollar decreases

8. The real interest rate is equal to _____.

   (A) the nominal interest rate adjusted for tax rates

   (B) the nominal interest rate adjusted for inflation

   (C) the nominal interest rate adjusted for income changes

   (D) the nominal interest rate adjusted for changes in exchange rate

9. Ten years ago, the Kingdom-of-Far-Far-Away's GDP per capita was 80 percent of Taiwan's GDP per capita. If both countries experience growth of 3 percent, The Kingdom-of-Far-Far-Away's GDP per capita will now be what percentage of Taiwan's GDP per capita?

   (A) lower than 80 percent

   (B) exactly 80 percent

   (C) higher than 80 percent

   (D) all of the above are possible

10. Which of the following is true of a country with a managed exchange rate system?

   (A) The central bank of the country actively intervenes to influence the exchange rate.

(B) The central bank of the country always pursues a contractionary monetary policy.

(C) The current account balance of the country is always positive.

(D) The current account balance of the country is always negative.

11. If the utility function (U) between goods X and Y can be represented as $U = \sqrt{XY}$, the marginal utility of X

(A) is not positive.

(B) does not diminish as X increases.

(C) is not affected by Y.

(D) increases as one obtains Y.

12. Total product is maximized where

(A) average product is maximized.

(B) marginal product is maximized.

(C) average product is equal to 0.

(D) marginal product is equal to 0.

13. A special license is required to operate a gas company. The number of licenses is restricted. More people want licenses than are issued. This describes a non-perfectly competitive market because

(A) firms cannot freely enter and exit the market.

(B) gas services are very different.

(C) transaction costs are high.

(D) the government generates revenue from the licenses.

14. If the inverse demand curve a monopoly faces is $p = 100 - 2Q$, then profit maximization

(A) is achieved when 25 units are produced.

(B) is achieved by setting price equal to 25.

(C) is achieved only by shutting down in the short run.

(D) cannot be determined solely from the information provided.

15. Figure 3 shows Ada's indifference curves and budget lines for goods X and Y. Which of the following statements is TRUE?

(A) X is an inferior good.

(B) Y is an inferior good.

(C) Neither X nor Y is an inferior good.

(D) Both X and Y are inferior goods.

Figure 3: Ada's indifference curves and budget lines
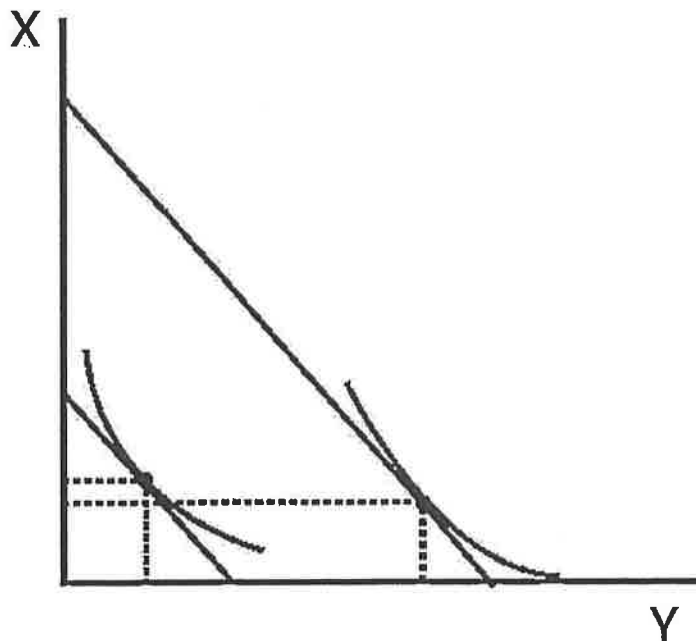
16. Figure 4 depicts the Edgeworth box for two individuals, Amos and Daniel. If the endowment is at point a and trade is possible, which of the following statements is TRUE?

(A) Points a and c are possible equilibria.
(B) Points a and d are possible equilibria.
(C) Points c and d are possible equilibria.
(D) Points a, c and d are possible equilibria.

Figure 4: Edgeworth box
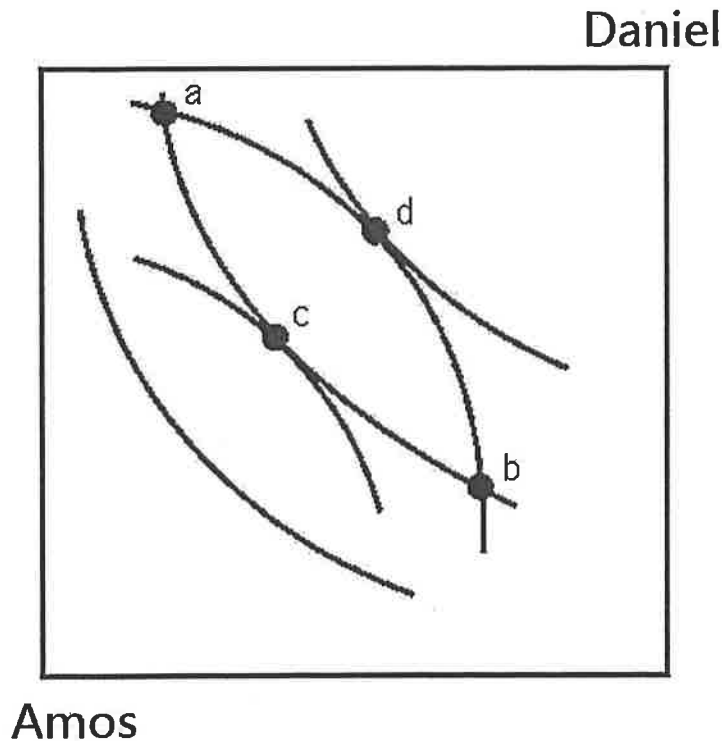
17. Figure 5 shows supply and demand curves for gasoline in Taiwan. If the government passes a law that establishes $35 per liter as the legal maximum price, the consumer's net gain in surplus from this policy equals

(A) c - f.

(B) b - f.

(C) d - f.

(D) The answer cannot be determined from the information given.

Figure 5: Supply and demand curves for gasoline
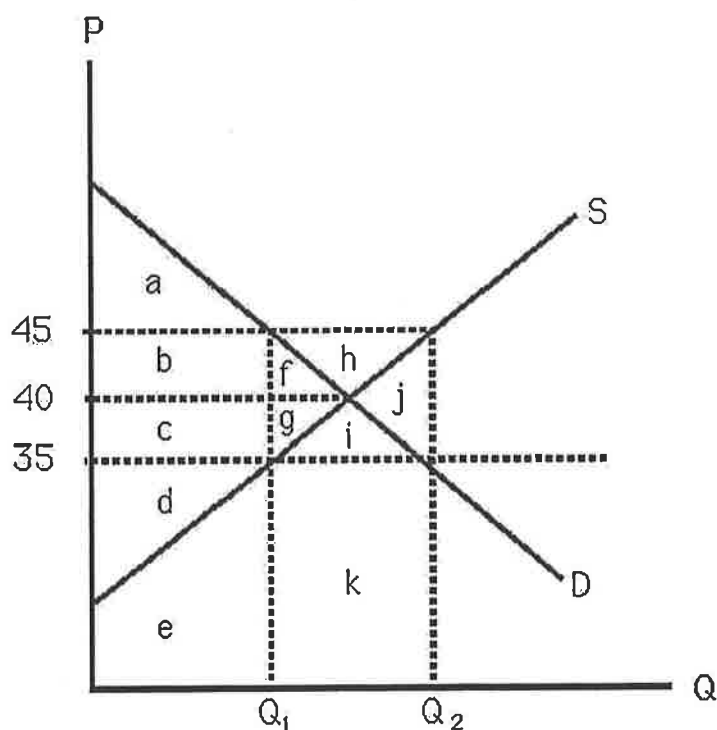
18. After analyzing his opponent a tennis player decides to serve 10% of his serves to the left, 50% of his serves to the right, and 40% of his serves at the body of his opponent. This illustrates a

(A) deterministic strategy.

(B) dominant strategy.

(C) mixed strategy.

(D) non-game theoretic problem.

19. In the short run, which one of the following causes a competitive firm to hire more labor?

(A) an increase in wage rate

(B) a specific tax imposed on the firm's output

(C) a decrease in the output price

(D) an increase in the output price

20. Macroeconomic forecasting is made more difficult due to the fact that

(A) deviations from trend in real GDP are persistent.

(B) turning points are hard to predict.

(C) there is no regularity in comovements.

(D) consumption is smooth.

21. If N is the working-age population, Q is the labor force, and U is the number of unemployed, then the unemployment rate is measured as

(A) $U/(N - Q)$

(B) $U/(Q - U)$

(C) U/N

(D) U/Q

背面有題，請繼續作答。

22. In the steady state of Solow's exogenous growth model, an increase in the savings rate

    (A) increases output per worker and increases capital per worker.
    (B) increases output per worker and decreases capital per worker.
    (C) decreases output per worker and increases capital per worker.
    (D) decreases output per worker and decreases capital per worker.

23. The Ricardian equivalence theorem says

    (A) whatever the level of government expenses, consumption is the same.
    (B) whatever the timing of taxes, consumption is the same.
    (C) higher government expenses reduce consumption.
    (D) an increase in current consumption has to lead to a decrease in future consumption.

24. An increase in the value of collateral for the consumer

    (A) has no effect if the consumer's collateral constraint binds.
    (B) increases current consumption if the collateral constraint binds.
    (C) reduces consumption if the collateral constraint binds.
    (D) increases income if the collateral constraint does not bind.

25. The New Keynesian transmission mechanism for monetary policy is characterized by

    (A) helicopter drops of money.
    (B) banks using money injections for business loans.
    (C) money having an impact on the real interest rate.
    (D) the government buying goods with fresh money.

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26. What do countercyclical fiscal and monetary policies have in common?

    X. They are both used to reduce economic fluctuations.

    Y. They both work by shifting the labor supply curve.

    (A) X and Y are both true.

    (B) X and Y are both false.

    (C) X is true and Y is false.

    (D) X is false and Y is true.

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II 問答題, 第一題 12 分, 第二題 10 分, 共 22 分。

Problem 1 (12%)

Consider a duopoly market in which a dominant firm (the leader) moves first and a subordinate firm (the follower) moves second.

Let q_d and q_s denote the quantities of a homogeneous product produced by the dominant firm and the subordinate firm, respectively. Let $P(Q) = a - Q$ be the market-clearing price when the aggregate quantity on the market is $Q = q_d + q_s$. More precisely, $P(Q) = a - Q$ for $Q < a$, and $P(Q) = 0$ for $Q > a$. Assume that the total cost to firm i of producing quantity q_i is $C_i(q_i) = cq_i$, $i \in \{d, s\}$. That is, there are no fixed costs and the marginal cost is constant at c, where we assume $c < a$. Under complete information, the timing is as follows:

1. dominant firm chooses a quantity $q_d \geq 0$

2. subordinate firm observes q_d and then chooses a quantity $q_s \geq 0$

3. the profit of each firm then depends on the market-clearing price and aggregate quantity, which is given by the following profit function:

$$\pi_i = q_i[P(Q) - c].$$

Both firms want to earn as much as possible. Find the optimal producing quantity q_i and the corresponding profit π_i for each firm.

Problem 2 (10%)

Consider a consumer who survives two periods only. The consumer receives income of y_0 at the beginning of period $t = 0$, and decides to save or borrow b with the interest rate r. In the next period $t = 1$, the consumer also obtains income of y_1 but he or she is not allowed to borrow. Denote c_0 as the consumption at time $t = 0$ and c_1 as the consumption at time $t = 1$. We can write down the budget constraints for each period as

$$c_0 + b = y_0$$
$$c_1 = y_1 + (1 + r)b.$$

The consumer's preferences over consumption during the two-periods are described by

$$\log(c_0) + \beta \log(c_1).$$

where $0 < \beta < 1$ determines how patient or impatient the consumer is. Suppose that the consumer's income $y_0 = 34$ and $y_1 = 25$, and $\beta = 0.8$ and $r = 0.25$. Find the consumer's optimal choices c_0^* and c_1^*.