

# 臺灣綜合大學系統

107 學年度 學士班

轉學生聯合招生考試

## 試 題

類組：A12/A14/A16/B02/

B10/B21/C06

科目名稱：經濟學

科目代碼：E0021

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※本項考試依簡章規定各考科均「不可以」使用計算機

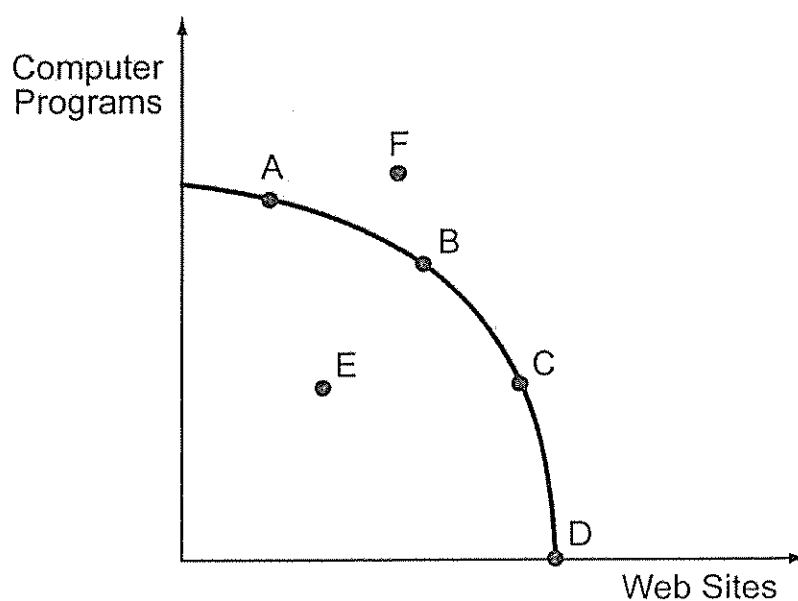
本科試題共計 13 頁

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

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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 \_\_\_\_\_.

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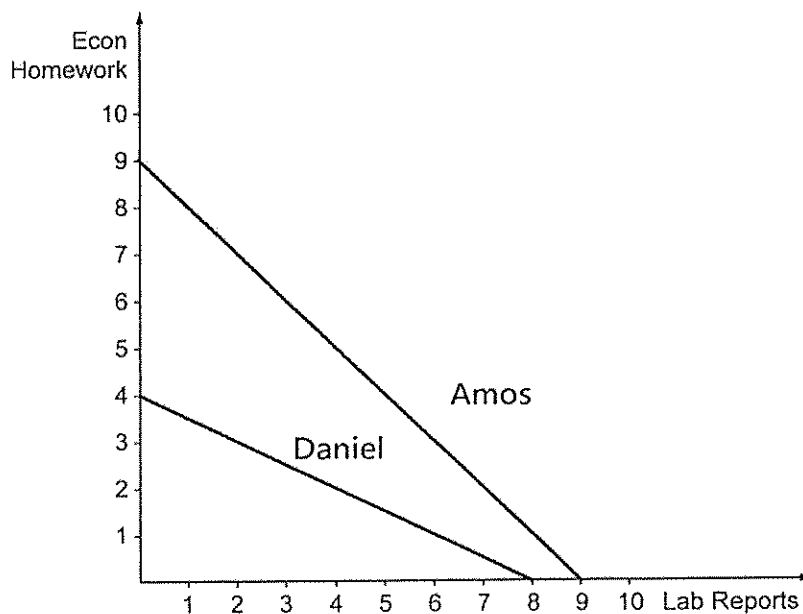
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- (A) higher than its market price
- (B) lower than its market price
- (C) higher than that of the other bidders
- (D) lower than that of at least one bidder

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.

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(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.

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<p>(B) The central bank of the country always pursues a contractionary monetary policy.</p> <p>(C) The current account balance of the country is always positive.</p> <p>(D) The current account balance of the country is always negative.</p> <p>11. If the utility function (<math>U</math>) between goods <math>X</math> and <math>Y</math> can be represented as <math>U = \sqrt{XY}</math>, the marginal utility of <math>X</math></p> <p>(A) is not positive.</p> <p>(B) does not diminish as <math>X</math> increases.</p> <p>(C) is not affected by <math>Y</math>.</p> <p>(D) increases as one obtains <math>Y</math>.</p> <p>12. Total product is maximized where</p> <p>(A) average product is maximized.</p> <p>(B) marginal product is maximized.</p> <p>(C) average product is equal to 0.</p> <p>(D) marginal product is equal to 0.</p> <p>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</p> <p>(A) firms cannot freely enter and exit the market.</p> <p>(B) gas services are very different.</p> <p>(C) transaction costs are high.</p> <p>(D) the government generates revenue from the licenses.</p> <p>14. If the inverse demand curve a monopoly faces is <math>p = 100 - 2Q</math>, then profit maximization</p>			

背面有題，請繼續作答。

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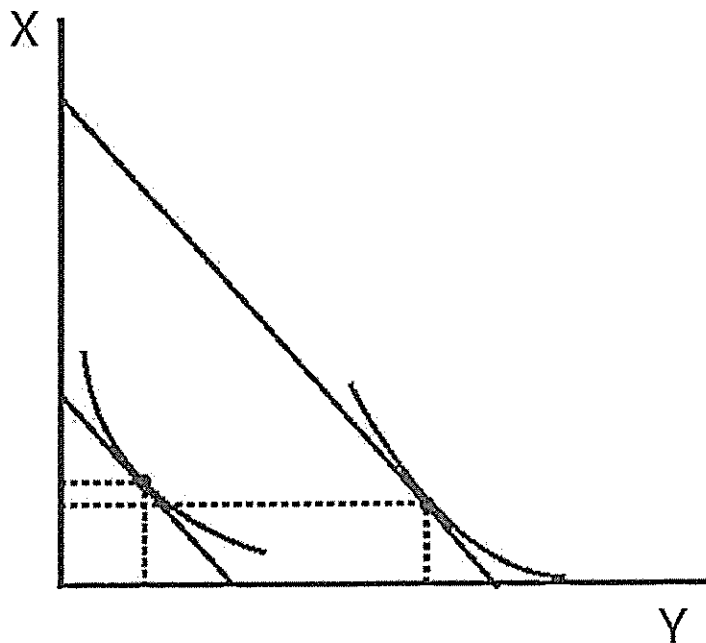
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- (A) is achieved when 25 units are produced.
- (B) is achieved by setting price equal to 25.
- (C) is achieved only by shutting down in the short run.
- (D) cannot be determined solely from the information provided.

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



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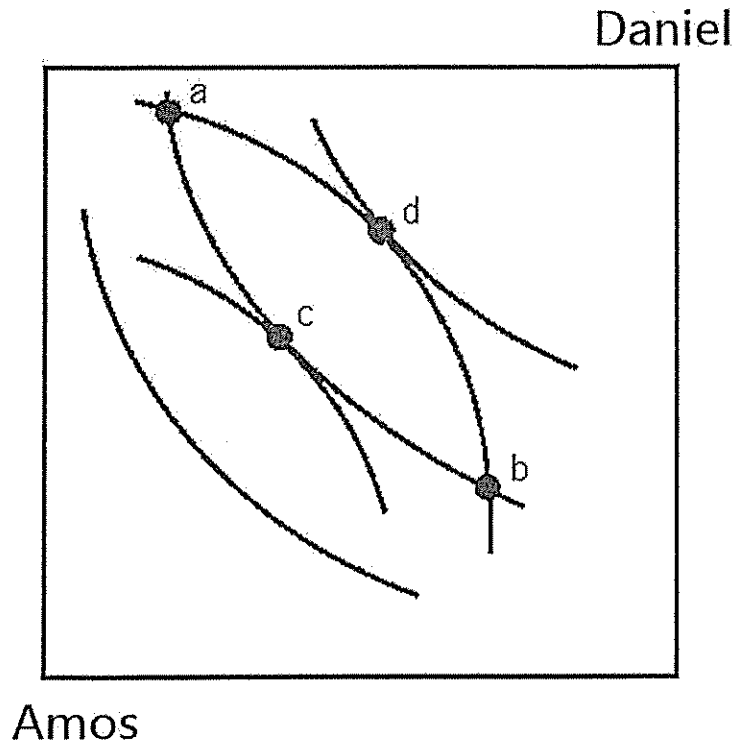
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16. Figure 4 depicts the Edgeworth box for two individuals, Amos and Daniel. If the endowment is at point a and trade is possible, which of the following statements is TRUE?

- (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



背面有題，請繼續作答。



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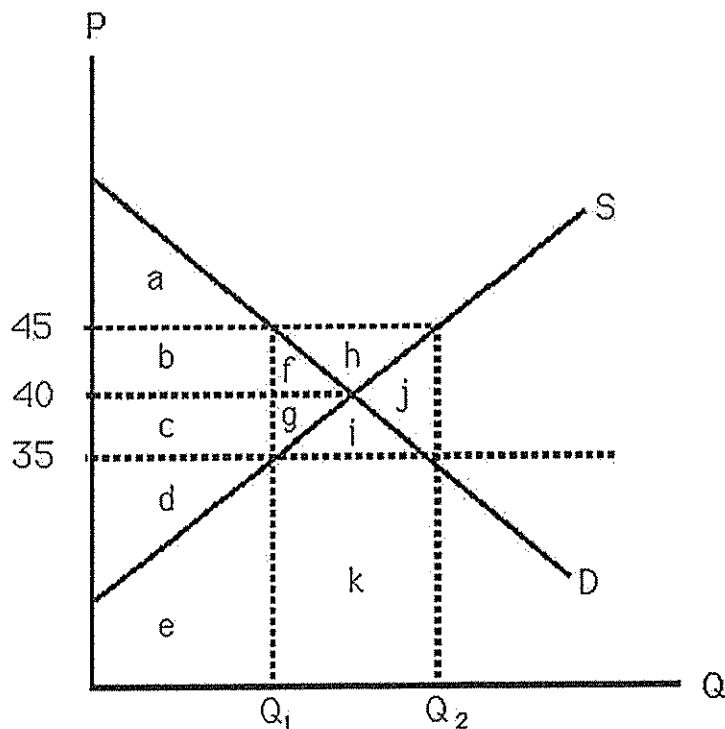
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17. Figure 5 shows supply and demand curves for gasoline in Taiwan. If the government passes a law that establishes \$35 per liter as the legal maximum price, the consumer's net gain in surplus from this policy equals

- (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

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- (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。

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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.

背面有題，請繼續作答。

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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  $\pi_i$  for each firm.

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**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  $c_1^*$ .