考試時間:100分鐘 統計學研究所風險管理組 是否使用計算機:否

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### Part I: Choose the best one answer for each of the following questions. (4% each)

- 1. Which of the following statements is true?
  - (a) Imports lower aggregate spending on domestically produced goods and services.
  - (b) Exports lower aggregate spending on domestically produced goods and services.
  - (c) An increase in net exports lowers aggregate spending on domestically produced goods and services.
  - (d) Imports and exports have no effect upon aggregate spending on domestically produced goods and services.
- 2. Which of the following is not a good store of nominal value?
  - (a) Checking deposit,
  - (b) Savings deposit,
  - (c) A 2-year bond,
  - (d) A 3-month CD (certificate of deposit).
- 3. A recessionary gap exists when
  - (a) aggregate supply exceeds aggregate demand,
  - (b) the aggregate spending line intersects the 45° line at an output level to the right of the full-employment level of output,
  - (c) the aggregate spending line intersects the 45° line at an output level to the left of the full-employment level of output,
  - (d) the aggregate spending line intersects the aggregate supply curve at a lower price level.
- 4. The demand curve facing the monopolistic competitor is
  - (a) negatively sloped and highly elastic,
  - (b) negatively sloped and highly inelastic,
  - (c) horizontal,
  - (d) infinitely elastic.
- 5. Increasing costs indicate that
  - (a) all resources are equally efficient,
  - (b) all resources are equally inefficient,
  - (c) the output of a good can be increased only by giving up larger and larger quantities of alternative goods,

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(d) the output of a good can be increased only by using more economic resources.

- 6. Suppose equilibrium output is  $y_0$ , which is below the full-employment level, and the price level is  $p_0$  for an aggregate demand and Keynesian aggregate supply curve. An increase in government spending will result in
  - (a) an increase in the equilibrium level of output and the price level,
  - (b) an increase in the equilibrium level out output and a decrease in the price level,
  - (c) an increase in the price level and no change in equilibrium output,
  - (d) an increase in the equilibrium level of output and no change in the price level.
- 7. Which of the following statements is false?
  - (a) GDP (gross domestic product) is greater than personal income.
  - (b) Personal disposable income is greater than personal income.
  - (c) GDP (gross domestic product) is greater than national income.
  - (d) National income is greater than personal disposable income.
- 8. A perfectly competitive firm in long-run equilibrium produces the output at which
  - (a) P = lowest SAC (short-run average cost),
  - (b) P = lowest LAC (long-run average cost),
  - (c) P = SMC (short-run marginal cost),
  - (d) all of the above.
- 9. When the firm is an imperfect competitor rather than a perfect competitor in the product market, its demand for the variable resource (other things being equal) is
  - (a) more elastic,
  - (b) less elastic,
  - (c) infinitely elastic,
  - (d) unitary elastic.
- 10. Monetarists contend that an increase in the money supply has
  - (a) a predictable effect upon nominal GDP, as do Keynesians,
  - (b) a predictable effect upon nominal GDP, while Keynesians contend that the effect is uncertain,
  - (c) an unpredictable effect upon nominal GDP, as do Keynesians,
  - (d) an unpredictable effect upon nominal GDP, while Keynesians contend that the effect is certain.

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- 11. The public debt imposes a burden on future generations when
  - (a) the government balances the budget over the business cycle,
  - (b) it is completely owed to citizens of the issuing country,
  - (c) it is largely owed to foreigners,
  - (d) taxes do not have to be increased in the future to cover higher interest payments on the debt.
- 12. Table 1 shows the marginal utility (MU) that an individual receives from consuming various units of X and Y per unit of time.

Units of Commodities MU of X MU of Y 10 6 2 8 5 4 3 6 4 4 3 5 2

Table 1

At what combinations is the condition  $MU_x/P_x = MU_y/P_y = common MU of the last $ spent$ on each commodity satisfied in Table 1?

- (a) 1X and 2Y,
- (b) 3X and 4Y,
- (c) 4X and 5Y,
- (d) all of the above.

#### Part II: Answer the following problems.

- 1. Suppose that a tailor working alone can make 2 suits per month; 2 tailors working in the same shop can produce 5 suits; 3 tailors, 10 suits; 4 tailors, 14 suits; 5 tailors, 17 suits; and 6 tailors, 19 suits.
  - (a) Find the marginal product of labor  $(MP_L)$ . (3%)
  - (b) When does the law of diminishing returns begin to operate? Why do you have increasing returns up to that point? (4%)
  - (c) Why do diminishing returns eventually set in? (3%)
- 2. From the hypothetical market demand schedule in Table 2, find the elasticity of market demand between points
  - (a) A' and B',

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- (b) B' and E',
- (c) E' and C', and
- (d) C' and F'. (12%)

Table 2

| Quantity Demanded |                       |             |  |
|-------------------|-----------------------|-------------|--|
| Price             | in the Market         | Alternative |  |
| (\$ per bu)       | (billion bu per year) | or Point    |  |
| \$5               | 3.5                   | A'          |  |
| 4                 | 4.2                   | B'          |  |
| 3                 | 5.0                   | E'          |  |
| 2                 | 6.0                   | C'          |  |
| 1                 | 7.5                   | F'          |  |

Note: \$ per bu: \$ per bushel.

- 3. Suppose the money supply is \$250, the average price of output is \$4.25, and Q is 400. (16%)
  - (a) Find nominal GDP and V.
  - (b) Find P and Q when V is constant and there is a 15% increase in output and a 20% increase in the money supply.
  - (c) Find P and Q when V increases to 7 and there is a 15% increase in output and a 20% increase in the money supply.
  - (d) Could stable prices (average price of \$4.25) be achieved in situations (b) and (c)?

#### **Note:**

- (i). V is the velocity of money (the average number of times a unit of money is used during a one-year period to purchase final goods and services),
- (ii). GDP is the nominal value of final domestic output of goods and services,
- (iii). P is a weighted average of the prices of final output,
- (iv). Q is the quantity (units) of final output.
- 4. Market demand and market supply schedules for wheat appear in Table 3.
  - (a) What is the relationship of quantity demanded and quantity supplied at prices per bushel of \$5, \$4, \$3, \$2, and \$1? Is there a market surplus or shortage at these prices? (4%)
  - (b) What effect does a surplus of wheat have upon the price of wheat? (3%)

Table 3

| Price       | $Q_d$                  | $Q_s$                  |
|-------------|------------------------|------------------------|
| (\$ per bu) | (million bu per month) | (million bu per month) |

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| 5 | 2.25 | 3.75 |
|---|------|------|
| 4 | 2.50 | 3.50 |
| 3 | 3.00 | 3.00 |
| 2 | 4.00 | 2.00 |
| 1 | 5.50 | 0.50 |

- 5. How do the following events affect a  $(C + I + X_n + G)$  aggregate spending line?
  - (a) A \$15 increase in government spending. (2%)
  - (b) A \$15 decrease in net tax revenues when the marginal propensity to consume is 0.80. (5%)

### **Note:**

- (i). G is government spending,
- (ii). I is investment spending,
- (iii). C is consumer spending.