國立中央大學 110 學年度碩士班考試入學試題

所別： 企業管理學系 碩士班 工商管理甲組(一般生)
企業管理學系 碩士班 工商管理乙組(一般生)

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科目： 經濟學

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＊請在答案卷(卡)內作答

一、簡答題(共 42 分，每題 7 分)：請針對各題**選出選項**並請**說明理由**。每題至少有一個選項為正確答案，答案全對始予計分，答錯不倒扣。**若無計算式或說明理由，該題將不予計分**。

1. What the following statements is (are) correct?

(1) The deadweight loss is the decrease in total surplus that results from an inefficient level of production. When a firm practices price discrimination, the economy must exist the deadweight loss.

(2) The short run is a time frame in which the quantity of at least one factor of production is fixed. The long run is a time frame in which the quantity of all factors of production can be varied.

(3) Rent seeking is lobbying for special treatment by the government to create economy profit or to divert consumer surplus or producer surplus away from others.

(4) The average cost pricing rule sets price equal to average total cost. With this rule the firm produces the quantity at which the average total cost curve cuts the demand curve. This rule results in the firm making zero economic profit.

(5) A free rider enjoys the benefits of a good or service without paying for it. The free-rider problem is that the economy provides an inefficient small quantity of a public good.

2. What the following statements is (are) **not** correct?

(1) In a perfectly competitive market, the process of entry and exit will end when price equals minimum marginal cost.

(2) An example of adverse selection is man who tries to sell his used car without disclosing that it needs a new transmission.

(3) In a duopoly if the firms have agreed to jointly maximize profits, then each firm can increase its current profits by producing more.

Use the following table to answer question (4) and (5). Listed in the table are the long-run total costs for two firms.

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Quantity	1	2	3	4	5
Firm 1	5	5	5	5	5
Firm 2	5	6	7	8	9

(4) Firm 1 is experiencing constant returns to scale.

(5) Firm 2 is experiencing constant returns to scale.

3. What the following statements is (are) **not** correct?

(1) Suppose that an increasing-cost industry is currently in long-run equilibrium. The market price is $200, and there are 50 firms in the industry. In the short run, the number of firms will equal 50, but in the long run, the number of firms will increase.

(2) AAA company produces and sells computers. The firm has determined that if it hires 5 workers, it can produce 12 computers per week. If it hires 6 workers, it can produce 15 computers per week. It sells each computer for $500, and it pays each of its workers $800 per week. For the 6th worker, the marginal profit is $1,500.

(3) Jack and Rose are competitors in a local market. Each is trying to decide if it is better to advertise on TV, on radio, or not at all. If they both advertise on TV, each will earn a profit of $3,000. If they both advertise on radio, each will earn a profit of $6,000. If neither advertises at all, each will earn a profit of $9000. If one advertises on TV and other advertises on radio, then the one advertising on TV will earn $6,000 and the other will earn $5,500. If one advertises on TV and the other does not advertise, then the one advertising on TV will earn $10,000 and the other will earn $3,000. If one advertises on radio and the other does not advertise, then the one advertising on radio will earn $11,000 and the other will earn $5,000. If both follow their dominant strategy, then Jack will advertise on radio and earn $6,000.

(4) A tax on a market with elastic demand and elastic supply will shrink the market more than a tax on a market with inelastic demand and inelastic supply will shrink the market.

(5) If the price elasticity of demand for a good is 0.8, then a 4 percent decrease in the quantity of the good demanded might result from a 3.2 percent increase in the price of the good.

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4. What the following statements is (are) correct?

(1) The unemployment resulting from wage rigidity and job rationing is sometimes called structural unemployment.

(2) The marginal product of labor (MPL) diminishes as the amount of labor increases, this curve slopes downward. For any given real wage, the firm hires up to the point at which the MPL equals the real wage. Hence, the MPL schedule is also the firm's labor demand curve.

(3) In the Solow model, if the saving rate is low, the economy will have a large capital stock and a high level of output in the steady state.

(4) Because employed workers help to produce goods and services, increases in the unemployment rate should be associated with decreases in real GDP. This negative relationship between unemployment and GDP is called Okun's law.

(5) Consider a firm that experiences temporary booms and buts in sales. Rather than adjusting production to match the fluctuations in sales, the firm may find it cheaper to produce goods at a steady rate. When sales are low, the firm produces more than it sells and puts the extra goods into inventory. When sales are high, the firm produces less than it sells and takes goods out of inventory. This motive for holding inventories is called production smoothing.

5. What the following statements is (are) **not** correct?

(1) If you spend $3,000 per year in cash, each trip to the bank costs you $5 in lost time, and the yearly interest rate on your bank account, expressed as a fraction, is 0.03, the Baumol–Tobin model suggest you should go to the bank 2 times a year.

(2) Assume that the monetary base is $100 billion, the reserve–deposit ratio is 0.1, and the currency–deposit ratio is 0.1. The money supply is $500 billion.

(3) When capital increases by ΔK units, output increases by $MPL \times \Delta K$ units.

(4) 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 largest consumption per worker.

(5) If the money supply increases 10 percent, velocity decreases 3 percent, and the price level increases 3 percent, then the change in real GDP must be 5 percent.

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6. What the following statements is (are) correct?

(1) To end a hyperinflation, a government trying to reduce its reliance on seigniorage would raise taxes and cut spending.

(2) Suppose that 1 percent of the employed lose their jobs each month and 20 percent of the unemployed find a job each month. Then the steady-state rate of unemployment is 3%.

(3) The COVID-19 crisis is having a devastating effect on all economic sectors. Suppose that governments around the world begin to engage in expansionary fiscal policy (run large budget deficits) in order to stimulate economic activity in their countries. The fiscal expansion in the rest of the world would raise the world interest rate and lower domestic investment. As a result, the exchange rate will depreciate and the trade balance will move toward surplus. (Assume that the country starts from a position of trade balance.)

(4) If the per-worker production function is given by $y = k^{2/3}$, the saving ratio is 0.3, and the depreciation rate is 0.1, then the steady-state ratio of output per worker (y) is 27.

(5) Assume that the consumption function is given by $C = 25 + 0.6(Y - T)$ and the tax function is given by $T = t_0 + t_1 Y$. If t_0 increases by 1 unit, then consumption decreases by 0.4 units.

二、是非題(共 10 分)：請針對以下各題回答「對」或「錯」，並說明理由，若無解釋該題將不予計分。

1. (1) The price charged for goods produced is $15. The intersection of the marginal revenue and marginal cost curves occurs where output is 150 units and marginal revenue is $10. The socially efficient level of production is 160 units. The demand curve is linear and downward sloping, and the marginal cost curve is constant. The deadweight loss due to profit-maximizing monopoly pricing under the following conditions is $20. (2%)

(2) Assume that a monopolist decides to maximize revenue rather than profit. This operating objective will increase the size of the deadweight loss. If you are a "benevolent" manager of a monopoly firm and are interested in reducing the deadweight loss of monopoly, you maximize profit rather than maximize revenue. (3%)

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2. Assume that the following equations characterize a large open economy:

$$Y = C + I + G + NX;$$

$$CF = -100r; \ CF = NX;$$

$$Y = 3{,}000; \ C = 1/2(Y - T); \ I = 800 - 100r; \ NX = 250 - 150e;$$

$$G = 1{,}600; \ T = 1{,}000.$$

Where NX is net exports, CF is net capital outflow, and e is the real exchange rate. Then we can find that $C = 1{,}000$, $I = 600$, $NX = -200$, $r = 2\%$, and $e = 3$. (5%)

三、計算與問答題(共 48 分)：若無計算式或說明理由，該題將不予計分。

1. Draw a diagram containing three of James's indifference curves and place good X on the horizontal axis and good Y on the vertical axis.

(1) For James, good Y and good X are perfect complements, but in a ratio of 1:3; that is, for each unit of good Y, James wants exactly three units of good X. (2%)

(2) James gets utility only from his caffeine intake. He can consume good Y or good X, and good Y contains twice as much caffeine as good X. (2%)

James has an income of M a month. The price of good X is Px per unit, and the price of good Y is Py per unit. What is James' budget line? (2%)

What is the optimal choice of James for good Y and good X? (4%)

2. Lisa must consume some good X at least the amount of X_0 every day. The utility function of Lisa is $U(X,Y)=(X-X_0)^\alpha Y^\beta$, and $\alpha + \beta = 1$. Lisa has an income of M. The price of good X is Px, and the price of good Y is Py. When $M > Px * X_0$, what is the optimal choice of Lisa for good X and good Y? (5%)

3. Mary spends \$150 to buy a new car. She gets utility from the value of her assets (X). We can know the utility function of Mary is $U(X)=50+2X$. The probability of a car accident is 20%. If Mary gets into a car accident, she would lose \$50.

(1) If Mary can use \$5 to purchase the insurance to avoid her loss. Should Mary purchase the insurance? (3%)

(2) Mary drives less carefully after purchasing the insurance. The probability of a car accident increases to 30%. The insurance company also increases Mary's insurance fee from \$5 to \$20. Should Mary purchase the insurance? (3%)

What is the fair insurance fee in this condition? (3%)

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4. In the IS-LM model, we have following equations:

IS:　$Y = C(Y-T) + I(r) + G$,

LM:　$M/P = L(r, Y)$.

(1) Consider an increase in government purchases of ΔG. What the magnitude of the level of income is raised at any given interest rate by this change in policy. (3%)

(2) Consider a decrease in taxes of ΔT. What the magnitude of the level of income is raised at any given interest rate. (3%)

Please illustrate the two equations of IS and LM on a graph to show the impact on the interest rate and income by new taxes policy. (3%)

5. What is the impossible trinity? (4%)

Please use Mundell-Fleming Model to explain and illustrate on a graph. (5%)

6. The central bank announces an unexpected monetary expansion resulting in the economy with an unexpected increase in aggregate demand (AD). The aggregate supply can be described by the equation $Y = \bar{Y} + \alpha(P - P^e)$. Please illustrate AD and AS on a graph to show short-run monetary nonneutrality and long-run monetary neutrality. (6%)

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