I.　Multiple Choice Questions（單選題）（35%）

1.　In the Solow model, the steady-state capital-labor ratio will decline if
(A) productivity increases.
(B) the saving rate per worker increases.
(C) the consumption rate per worker declines.
(D) population growth increases.

2.　Suppose you read in the paper that the Federal Reserve plans to expand the money supply. The Fed is most likely to do this by?
(A) selling government bonds to the public.
(B) buying new government bonds directly from the government itself.
(C) printing more currency and distributing it.
(D) purchasing government bonds from the public.

3.　Suppose the economy's production function is $Y = (300L - L^2)$, where L represents the amount of labor employed. Suppose that the supply of labor is $L_s = 0.5w + 130$. What is the equilibrium output level?
(A) 21600　　　(B) 22100　　　(C) 22400　　　(D) 22500

4.　A financial account surplus necessarily implies
(A) a balance of payments surplus.
(B) a current account deficit.
(C) an increase in the nation's official reserve assets.
(D) a current account surplus.

5.　Assume that a competitive firm's short-run total cost curve is TC= $Q^3 - 6Q^2 + 15Q + 20$. What is this firm's short-run shutdown price?
(A) 3　　　(B) 6　　　(C) 9　　　(D) 15

6.　On a given evening, Jack enjoys the consumption of cigars (c) and brandy (b) according to the function

$$U(c, b) = 20c - c^2 + 18b - 3b^2.$$

Jack has been advised by his doctors that he should limit the sum of glasses of brandy and cigars consumed to 5. Assume that cost is no object to him. In order to maximize his utility, how many glasses of brandy will Jack consume under these circumstances?
(A) 1　　　(B) 2　　　(C) 3　　　(D) 4

7.　Considering short-run cost curves, which of the following statements is TRUE?
(A) The marginal cost curve is always increasing.
(B) The average cost curve rises where it lies below the marginal cost curve.
(C) The average cost curve cuts the marginal cost curve at its minimum.
(D) The average fixed cost curve is U-shaped.

II. Definitions（名詞解釋）（15%）

1. Equivalent Variation

2. Purchasing Power Parity

3. Monetary Neutrality

III. Short Answer Questions （簡答題）（50%）

1. （15%）Suppose that the inverse market demand curve for cloth is $P = 150 - 2Q$, the private marginal cost（unregulated competitive market supply）is $MC^p = 75 + Q$, and the marginal damage from pollution is $MC^d = 2Q$.

   a. What is the unregulated competitive equilibrium quantity and price?

   b. What is the social optimal quantity and price?

   c. What specific tax rate t （per unit） would result in the social optimum?

2. （10%）Consider the Solow growth model without technological change. The production function is $Y = K^{1/3}L^{2/3}$, where K and L represent the total capital and workers used, respectively. The parameters of the model are given by $s = 0.36$（savings rate） and $d = 0.04$ （depreciation rate）. Let k denote capital per worker; y output per worker; c consumption per worker; i investment per worker. Find the steady-state level of the capital-labor ratio, k^*, if the population grows at fixed rate $n = 5\%$.

3. （10%）Use the classical AD-AS model to analyze the following statement, and show what would happen in the long run if such advice were followed by the Central Bank:

   The increase in the stock market has increased people's wealth. As a result, their consumption has increased, increasing aggregate demand and output. Hence the Central Bank needs to increase the money supply, since with higher income, people's demand for real money balances will be higher.

4. （15%）Suppose the utility function for goods x and y is given by

$$U(x, y) = xy + y.$$

   a. Let P_x and P_y be the price of x and y. Calculate the expenditure function for x and y.

   b. Compute the compensated demand functions for goods x and y.

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