

作答說明：下列共有 20 格的填充題，每格 5 分。回答時須在答案紙上依下列之格式寫出題號(①至⑳)及對應之答案，無須列出計算過程。答錯不倒扣。

①	②	③	④	⑤
①之答案	②之答案			
⑥	⑦	⑧	⑨	⑩
⑪	⑫	⑬	⑭	⑮
⑯	⑰	⑱	⑲	⑳

1. A gasoline market has two firms, the CPC and FPC. The demands are  $Q_{CPC} = 4200 - 2P_{CPC} + P_{FPC}$  and  $Q_{FPC} = 4200 - 2P_{FPC} + P_{CPC}$ , and the costs of these two firms are zero. If CPC set prices first and FPC is the second mover (to set price after observing the CPC's price), then FPC must set a maximize-profit price level equal to ①. And the difference of their total revenue (the revenue of CPC-the revenue of FPC) is ②.

2. Mr. Anderson only buys two products, the sunglass ( $s$ ) and black suit ( $b$ ). The utility function of Mr. Anderson is  $U(s, b) = \ln(s^8 \cdot b^7)$ . If Mr. Anderson's budget is  $I = 900$  and the prices are  $p_s = 4$  and  $p_b = 6$ . Then we know Mr. Anderson will buy ③ units of sunglass ( $s$ ) and ④ units of black suit ( $b$ ).

3. Assume that the GOLF course is a monopoly. And the demand function is  $p = 4000 - 160q$  where  $q$  is the number of rounds. The monopolist bears a marginal cost  $mc = 800$  and no other costs. The monopolist will charge a single price equal ⑤ to maximize his profit. If a student needs to pay a membership fee  $M$  to join the GOLF program, and pay a use fee  $p_U$  (per round). If the monopolist uses this policy  $(M, p_U)$  to maximize profit, then the policy is ⑥ ( , ).

4. A normal form game is as below,

		B	
		green	blue
A	green	$(\pi_A, \pi_B) = (5 + a, 5)$	$(\pi_A, \pi_B) = (10, 20 + b)$
	blue	$(\pi_A, \pi_B) = (20, 10)$	$(\pi_A, \pi_B) = (5, 5)$

\*Two firms A and B, and their production strategy {green, blue}.

The mixed-strategy probability used by B is  $\Pr(\text{green}) = 1/2$ , and according this information we can figure out that  $a$  must be equal to ⑦. The mixed-strategy probability used by A is  $\Pr(\text{blue}) = 2/3$ , then  $b$  must be equal to ⑧.

5. A firm produces one unit product at a marginal cost  $mc = 2$ , and this firm also pollutes the air at a marginal damage  $md = 5q$ , where  $q$  is the quantity. If the firm faces an inverse market demand,  $p = 20 - q$ , in a perfect competition market, then we know that this firm will produce ⑨ units of product. And for an optimal social welfare, the government should impose a Pigouvian tax equal to ⑩ per unit product.

6. Consider a small open economy described by the following equations:

$$GDP = C + I + G + NX,$$

$$GDP = 5,000,$$

$$G = 1,200,$$

$$T = 1,000,$$

$$C = 100 + 0.8(GDP - T),$$

$$I = 1,000 - 5,000r,$$

$$NX = 500 - 500e,$$

$$r = r^* = 5\%,$$

$$e = \varepsilon \times (P^*/P),$$

where  $C$  denotes the consumption expenditure,  $I$  the private investment,  $G$  the government purchase,  $NX$  the net export,  $T$  the tax,  $\varepsilon$  the real interest rate,  $r^*$  the interest rate determined by the world market,  $e$  the nominal interest rate,  $P^*$  the world price level, and  $P$  the domestic price level. The world inflation rate is 5% higher than the domestic inflation rate. Suppose  $r^*$  rises from 5% to 10%, then the exchange rate in the new equilibrium real will change by ⑪ percent when compared with that in the original equilibrium (what is  $\Delta e/e$ ?). The changes in  $\varepsilon$  and price level will lead to a change in the equilibrium nominal exchange rate by ⑫ percent (what is  $\Delta e/e$ ?).

7. You are given the following data of nation income in the year of 2013.

Item	Amount
Consumption expenditure	6,950
Corporate income tax and social security contributions	950
Depreciation (consumption of fixed capital)	1,000
Export	1,100
Government purchase of goods and services	1,700
Government transfer and interest payments	1,400
Indirect business taxes	650
Inventory change	50
Import	1,500
Net fixed investment	700
Personal taxes	1,150
Undistributed corporate profits (retained earnings)	150

The gross domestic product (GDP) is ⑬. The disposal personal income is ⑭.

8. Consider the following Solow model. The production function is given by:

$Y = K^{0.5}L^{0.5}$ , where  $Y$  is the output,  $K$  the capital input and  $L$  the labor input. The evolution of capital per worker,  $k$ , is given by  $\Delta k = sy - \delta k$ , where  $s$  is the saving rate,  $y$  the output per worker, and  $\delta$  the depreciation rate. Suppose  $L$  remains constant over time,  $s = 0.25$ , and  $\delta = 0.125$ . The  $k^*$  in the steady state is (15). The optimal saving rate to maximize the consumption per worker  $(1-s)y$  in the steady state (the Golden Rule) is (16).

9. Suppose that a Phillips curve is given by  $\pi_t = \pi_t^e + 0.1 - 2u_t$ , where  $\pi$  is the inflation rate,  $\pi^e$  the expected inflation rate, and  $u$  the unemployment rate. Accordingly, the nature rate of unemployment,  $u_n$ , is (17). Consider the following special case where  $\pi_t^e = \pi_{t-1}$ . Suppose further that half of workers have indexed labor contracts. That is, nominal wages in those contracts move one for one with variations in the actual price level. In the special case, the Phillips curve becomes  $\pi_t - \pi_{t-1} = -\alpha(u_t - u_n)$ , and  $\alpha =$  (18).

10. Assume the following equations from an IS-LM model summarize the structure of an economy.

$$C = 270 - 1,000r + 0.85(Y - T),$$

$$T = 200 + 0.2Y,$$

$$I = 1,400 - 3,000r,$$

$$G = 1,700,$$

$$NX = 600 - 0.08Y,$$

$$(M/P)^d = 0.25Y - 2,500r,$$

$$M/P = 2,075,$$

where  $C$  denotes the consumption expenditure,  $I$  the private investment,  $G$  the government purchase,  $NX$  the net export,  $T$  the tax,  $(M/P)^d$  the real money demand,  $M$  the money supply,  $P$  the price level, and  $r$  the interest rate.

(i) The equilibrium interest rate  $r^*$  is (19).

(ii) If the government spending increases by 160, the amount of autonomous spending (means spending that unrelated to income level) that is crowded out by the expansionary fiscal policy is (20).

試題隨卷繳回