

國立清華大學命題紙

99 學年度 計量財務金融學系甲組(財務金融組)、乙組(財務工程組) 碩士班入學考試

科目 經濟學 科目代碼 4502、(4602) 共 7 頁, 第 1 頁 *請在【答案卷卡】作答

1. Assume the aggregate production function $Y = AK^{1-\theta}L^\theta$, where A denotes technology, K denotes capital, and L denotes labor. The labor's share of income is θ and the capital's share of income is $(1 - \theta)$. The growth accounting equation can be expressed as

[A] $\Delta Y/Y = (1 - \theta) \times \Delta L/L + \Delta K/K + \theta \times \Delta A/A$

[B] $\Delta Y/Y = (1 - \theta) \times \Delta L/L + \theta \times \Delta K/K + \Delta A/A$

[C] $\Delta Y/Y = \Delta L/L + \theta \times \Delta K/K + (1 - \theta) \times \Delta A/A$

[D] $\Delta Y/Y = \theta \times \Delta L/L + (1 - \theta) \times \Delta K/K + \Delta A/A$

[E] None of the above.

2. Define the per capita income and per capita capital as $y = Y/L$ and $k = K/L$, respectively. The growth accounting equation expressed in per capita terms is

[A] $\Delta y/y = \Delta k/k + (1 - \theta) \times \Delta A/A$

[B] $\Delta y/y = \Delta k/k + \theta \times \Delta A/A$

[C] $\Delta y/y = \theta \times \Delta k/k + \Delta A/A$

[D] $\Delta y/y = (1 - \theta) \Delta k/k + \Delta A/A$

[E] None of the above.

3. Assume an endogenous growth model in which per capita income y is proportional to the per capita capital k such that $y = ak$, where a is a constant. Let n be the population growth rate and δ be the capital depreciation rate. Assume that the savings rate s is given exogenously. The growth rate of per capita income can be expressed by

[A] $sa - (n + \delta)k$

[B] $sa + (n + \delta)k$

[C] $sa - (n + \delta)$

[D] $sa + (n + \delta)$

[E] None of the above.

4. If nominal GDP increased from \$8000 billion in the base year to \$8800 billion in the following year and real GDP stayed the same, which of the following statements is true?

[A] GDP deflator increased from 100 to 110.

[B] GDP deflator increased from 90 to 100.

[C] GDP deflator increased from 80 to 100.

[D] GDP deflator stayed at 100.

[E] GDP deflator stayed at 110.

國立清華大學命題紙

99 學年度 計量財務金融學系甲組(財務金融組)、乙組(財務工程組) 碩士班入學考試
科目 經濟學 科目代碼 4502、4602 共 7 頁, 第 2 頁 *請在【答案卷卡】作答

5. John Taylor's rule for monetary policy is expressed as: $i_t = 2 + \pi_t + 0.5 \times (\pi_t - \pi_t^*) + 0.5 \times (\bar{y}_t)$, where i_t is nominal interest rate, π_t is inflation rate, π_t^* is the target inflation rate, and \bar{y}_t is output gap. When GDP goes up one percent above the potential output, how should central bank adjust its interest rate?

- [A] raise real interest rates by 0.5 percent
- [B] raise nominal interest rates by 0.5 percent
- [C] raise real interest rates by 1.5 percent
- [D] raise nominal interest rates by 1.5 percent
- [E] keep interest rates constant

6. Assume that there is a short-run trade-off between inflation and unemployment as suggested by the short-run Phillips curve, but there is no long-run trade-off. The policymaker targets an output level that is higher than the potential output.

- [A] The economy ends up with lower unemployment.
- [B] Both inflation and output remain unchanged.
- [C] The economy ends up with higher inflation.
- [D] The economy ends up with output that is higher than potential output.
- [E] The economy ends up with lower inflation and higher output.

7. Which of the following statements about $IS - LM$ model is true?

- [A] Money supply and government purchases are endogenous variables of the model.
- [B] Output and interest rate are exogenous variables of the model.
- [C] An increase in money supply will shift the IS curve to the right.
- [D] An increase in government purchases will shift the LM curve to the left.
- [E] A reduction in taxes will shift the IS curve to the right.

8. Which of the following statements is false?

- [A] An adverse supply shock shifts the aggregate supply curve leftward.
- [B] Fiscal policy actions are more rapid than monetary policy actions.
- [C] Assuring the independence of central bank can minimize the problem of time inconsistency.
- [D] The sacrifice ratio is the percentage of output loss for each one point reduction in inflation rate.
- [E] Okun's law describes the relation between change in unemployment rate and GDP growth.

國立清華大學命題紙

99 學年度 計量財務金融學系甲組(財務金融組)、乙組(財務工程組) 碩士班入學考試
科目 經濟學 科目代碼 4502、4602 共 7 頁，第 3 頁 *請在【答案卷卡】作答

9. Crowding out occurs in an $IS - LM$ model because expansionary fiscal policy

- [A] causes interest rates to decline, thereby reducing private investment
- [B] causes interest rates to decline, thereby reducing government purchases
- [C] causes interest rates to rise, thereby reducing private investment
- [D] causes interest rates to rise, thereby reducing government purchases
- [E] None of the above.

10. Assume that government budget deficit decreased by \$25 billion, private domestic saving decreased by \$20 billion, exports increased by \$15 billion, and imports increased \$20 billion. By how much did private domestic investment change?

- [A] Private domestic investment increased by \$10 billion.
- [B] Private domestic investment increased by \$20 billion.
- [C] Private domestic investment increased by \$30 billion.
- [D] Private domestic investment did not change at all.
- [E] The change in private domestic investment cannot be determined from this information.

11. Which of the following statements is false?

- [A] Purchasing power parity implies that real exchange rate is equal to one.
- [B] Monetary policy is powerless under fixed exchange rates with perfect capital mobility.
- [C] For an open economy, saving-investment gap must equal to its capital account.
- [D] Balance of payments is defined as the sum of current account and capital account.
- [E] Under fixed exchange rates, balance of payments must equal to the changes in official reserves.

12. A country finds itself with unemployment can intervene to depreciate the nominal exchange rate and thus increase net exports. Such policies are known as

- [A] Bailouts
- [B] Beggar-thy-neighbor policies
- [C] Sterilization policies
- [D] Capital controls
- [E] Open market operations

國立清華大學命題紙

99 學年度 計量財務金融學系甲組(財務金融組)、乙組(財務工程組) 碩士班入學考試
科目 經濟學 科目代碼 4502、4602 共 7 頁，第 4 頁 *請在【答案卷卡】作答

13. Let S denote the price of foreign currency in terms of domestic currency, P denote domestic price level and P^* denote foreign price level. Which of the following statements is false?

- [A] Real exchange rate, defined as the number of foreign good a unit of domestic good can exchange for, is calculated as $q \equiv SP^*/P$.
- [B] Terms of trade are equal to the inverse of real exchange rate.
- [C] A depreciation of real exchange rate makes domestic goods more competitive.
- [D] According to the theory of relative purchasing power parity, the change in the nominal exchange rate is determined by price level changes in both domestic and foreign countries.
- [E] Under flexible exchange rates, changes in nominal exchange rate account for most of the changes in real exchange rate.

14. Which of the following statements is false?

- [A] The gains from trade are based on comparative advantage, not absolute advantage.
- [B] Beethoven recordings have less elastic demand than classical music recordings in general.
- [C] Economists find that spending on restaurant meals declines more during economic downturns than does spending on food to be eaten at home.
- [D] Because bread and butter are often eaten together, they are substitutes.
- [E] Catchup and hamburger buns are complements to hamburger, and if they are priced low enough, consumption of hamburger may rise.

15. Suppose that Tom's demand schedule for compact discs is as follows:

Price	\$8	\$10	\$12	\$14	\$16
Quantity demanded	40	32	24	16	8

Use the midpoint method to calculate elasticity. What is Tom's price elasticity of demand as the price of compact discs increases from \$14 to \$16?

- [A] 1
- [B] 2
- [C] 3
- [D] 4
- [E] 5

國立清華大學命題紙

99 學年度 計量財務金融學系甲組(財務金融組)、乙組(財務工程組) 碩士班入學考試
科目 經濟學 科目代碼 4502、4602 共 7 頁，第 5 頁 *請在【答案卷卡】作答

16. Given the following supply and demand functions:

$$Q^S = 4P$$

$$Q^D = 600 - 2P$$

Suppose that a tax of T is placed on buyers, so the new demand function is

$$Q^D = 600 - 2(P + T)$$

The deadweight loss of the tax is

- [A] $\frac{3}{4}T$
- [B] $\frac{3}{4}T^2$
- [C] $\frac{2}{3}T$
- [D] $\frac{2}{3}T^2$
- [E] None of the above.

17. Which of the following statements is false?

- [A] Pollutions are negative externalities.
- [B] Technology spillovers are positive externalities.
- [C] Positive externalities cause the socially optimal quantity in a market to be less than the equilibrium quantity.
- [D] Coase theorem states that if private parties can bargain without cost over the allocation of resources, they can solve the problem of externalities on their own.
- [E] Taxes enacted to correct the effects of negative externalities are called Pigovian taxes.

18. Consider the following table of long-run total production cost for two different firms:

	Quantity					
	1	2	3	4	5	6
Firm A	\$60	\$70	\$80	\$90	\$100	\$110
Firm B	\$12	\$26	\$50	\$70	\$92	\$115

- [A] Firm A experiences constant returns to scale.
- [B] Firm A experiences diseconomies of scale.
- [C] Firm B experiences diseconomies of scale.
- [D] Both Firm A and Firm B experience economies of scale.
- [E] None of the above.

國立清華大學命題紙

99 學年度 計量財務金融學系甲組(財務金融組)、乙組(財務工程組) 碩士班入學考試
 科目 經濟學 科目代碼 4502、4602 共 7 頁, 第 6 頁 *請在【答案卷卡】作答

19. Which of the following statements about perfectly competitive market is false?

- [A] Firm are able to make a non-zero profit in a perfectly competitive market.
- [B] Firms can enter the market freely.
- [C] Firms can exit the market freely.
- [D] Firms are price takers.
- [E] Marginal cost of production of a firm is equal to the market price.

20. Suppose the payoffs to alternative trade policies between the United States and Mexico are as follows:

		Mexico's Decision	
		Low Tariffs	High Tariffs
United States' Decision	Low Tariff	I (25, 25)	II (10, 30)
	High Tariffs	III (30, 10)	IV (20, 20)

The first number in each parenthesis is the payoff to the United States while the second number is the payoff to Mexico.

- [A] The dominant strategy for the United States is low tariffs.
- [B] The dominant strategy for Mexico is low tariffs.
- [C] The Nash equilibrium for trade policy is *IV*.
- [D] The Nash equilibrium for trade policy is *II*.
- [E] None of the above is true.

21. Which of the follows is not an attribute of monopolistic competition?

- [A] Many sellers
- [B] Product differentiation
- [C] Free entry
- [D] Decreasing marginal cost of production
- [E] Price exceeds marginal cost of production

22. If hiring an additional worker would increase a firm's total revenue by more than it would increase a firm's total cost, then the firm should

- [A] hire the additional worker
- [B] not hire the additional worker
- [C] only hire the worker if another worker quits
- [D] decrease the current number of workers
- [E] None of the above.

國立清華大學命題紙

99 學年度 計量財務金融學系甲組(財務金融組)、乙組(財務工程組) 碩士班入學考試
科目 經濟學 科目代碼 4502、4602 共 7 頁, 第 7 頁 *請在【答案卷卡】作答

23. Let $P(Y)$ denote a monopoly's demand function, Y denote output, $C(Y)$ denote total cost of production, and ϵ denote the demand elasticity. Profit maximization of the monopoly implies

- [A] $P(Y)[1 + \epsilon] = C'(Y)$
- [B] $P(Y)[1 + 1/\epsilon] = C'(Y)$
- [C] $P(Y)[1 + \epsilon] = C(Y)$
- [D] $P(Y)[1 + 1/\epsilon] = C(Y)$
- [E] None of the above.

24. Suppose that firm A and firm B have the following inverse demand curves

$$P_A = 20 - 2Q_A - Q_B$$

$$P_B = 20 - 2Q_B - Q_A$$

Both firms have cost function $C(Q) = 5Q$. Suppose that the two firms simultaneously choose quantities Q_A and Q_B (Cournot competition). The profit of firm A is

- [A] 14
- [B] 16
- [C] 18
- [D] 20
- [E] None of the above.

25. Continue the previous question. Now consider the Stackleberg competition. Let firm A be the leader and firm B be the follower. Firm A 's profit maximizing strategy is to choose

- [A] $Q_A = 7/45$
- [B] $Q_A = 14/45$
- [C] $Q_A = 45/7$
- [D] $Q_A = 45/14$
- [E] None of the above.