厦门大学《经济学原理》课程试卷

王亚南经济研究院 2022 年级经济学本科国际化试点班

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试卷类型：（A 卷）

PRINCIPLES OF ECONOMICS

FINAL EXAMINATION

1

Part I
Multiple Choices (2 points each)

1. When a U.S. citizen buys $500 of Chinese-made parts for a motorcycle

   (a) U.S. consumption falls by $500, U.S. net exports decline by $500, and U.S. GDP declines by $1000.

   (b) U.S. consumption does not change, U.S. net exports decline by $500, and U.S. GDP declines by $500.

   (c) U.S. consumption increases by $500, U.S. net exports remain the same, and U.S. GDP increases by $500.

   (d) U.S. consumption increases by $500, U.S. net exports decline by $500, and U.S. GDP remains the same.

2. If the prices of all goods and services produced in the economy rose while the quantity of all goods and services stayed the same, which would rise?

   (a) both real GDP and nominal GDP.

   (b) real GDP but not nominal GDP.

   (c) nominal GDP but not real GDP.

   (d) neither nominal GDP nor real GDP

3. Which of the following would not be considered physical capital?

   (a) a new factory building.

   (b) a computer used to help Mercury Delivery Service keep track of its orders

   (c) on-the-job training

   (d) a desk used in an accountant's office

4. If in a closed economy Y = $11 trillion, which of the following combinations would be consistent with national saving of $2.5 trillion?

   (a) **C = $8 trillion, G = $0.5 trillion**

   (b) C = $6.5 trillion, G = $3 trillion

   (c) C = $8.5 trillion, G = $2 trillion

   (d) None of the above

5. Suppose there are only two firms in an economy: Rolling Rawhide produces rawhide and sells it to Chewy Chomp, Inc., which uses the rawhide to produce and sell dog chews. With each $2 of rawhide that it buys from Rolling Rawhide, Chewy Chomp, Inc. produces a dog chew and sells it for $5. Neither firm had any

inventory at the beginning of 2008. During that year, Rolling Rawhide produced enough rawhide for 1000 dog chews. Chewy Chomp, Inc. bought 75% of that rawhide for $1500 and promised to buy the remaining 25% for $500 in 2009. Chewy Chomp, Inc. produced 750 dog chews during 2008 and sold each one during that year for $5. What was the economy's GDP for 2008?

  (a) $3750

  (b) $4250

  (c) $5250

  (d) $5750

6. A positive externality arises when a person engages in an activity that has

  (a) an adverse effect on a bystander who is not compensated by the person who causes the effect.

  (b) an adverse effect on a bystander who is compensated by the person who causes the effect.

  (c) a beneficial effect on a bystander who pays the person who causes the effect.

  (d) **a beneficial effect on a bystander who does not pay the person who causes the effect.**

7. When an externality is present, the market equilibrium is

  (a) efficient, and the equilibrium maximizes the total benefit to society as a whole.

  (b) efficient, but the equilibrium does not maximize the total benefit to society as a whole.

  (c) inefficient, but the equilibrium maximizes the total benefit to society as a whole.

  (d) **inefficient, and the equilibrium does not maximize the total benefit to society as a whole.**

8. Which of the following statements is correct?

  (a) Government should tax goods with either positive or negative externalities.

  (b) **Government should tax goods with negative externalities and subsidize goods with positive externalities.**

  (c) Government should subsidize goods with either positive or negative externalities.

  (d) Government should tax goods with positive externalities and subsidize goods with negative externalities.

9. When the social cost curve is above a product's supply curve,

(a) the government has intervened in the market.

(b) **a negative externality exists in the market.**

(c) a positive externality exists in the market.

(d) the distribution of resources is unfair.

10. Private solutions may not be possible due to the costs of negotiating and enforcing these solutions. Such costs are called

(a) **transaction costs.**

(b) corrective costs.

(c) input costs.

(d) private costs.

11. Which of the following is not a public good?

(a) national defense.

(b) **patented technological knowledge.**

(c) general knowledge.

(d) the elimination of poverty.

12. At the local park there is a playground that anyone may use. There is rarely anyone using the playground, so children who use the playground receive full enjoyment from its use. The playground is

(a) rival in consumption and is excludable.

(b) not rival in consumption, but is excludable.

(c) rival in consumption, but is not excludable.

(d) **not rival in consumption nor is it excludable.**

13. Because of the free-rider problem,

(a) **private markets tend to undersupply public goods.**

(b) the federal government spends too many resources on national defense and not enough resources on medical research.

(c) fireworks displays have become increasingly popular.

(d) market is more efficient in allocating resources than other allocation methods

14. Imagine a 2,000-acre park with picnic benches, trees, and a pond. Suppose it is publicly owned, and people are invited to enjoy its beauty. When the weather is nice, it is difficult to find parking on summer afternoons. Otherwise, it is a great place. An efficient solution to the parking problem would be to

   (a) prohibit parking near the park.

   (b) **charge higher prices for parking at busy times.**

   (c) police the parking area and ticket cars that are parked illegally.

   (d) do nothing because the market is already efficient.

15. Consider a small town with only three families, the Greene family, the Brown family, and the Black family. The town does not currently have any streetlights so it is very dark at night. The three families are considering putting in streetlights on Main Street and are trying to determine how many lights to install. The table below shows each family's willingness to pay for each streetlight.

	The Greene Family	The Brown Family	The Black Family
1st streetlight	$340	$480	$420
2nd streetlight	260	380	400
3rd streetlight	160	260	340
4th streetlight	40	130	240
5th streetlight	0	50	100
6th streetlight	0	0	20

   Suppose the cost to install each streetlight is $360. How many streetlights should the town install to maximize total surplus from the streetlights?

   (a) 0 streetlights.

   (b) 2 streetlights.

   (c) **4 streetlights.**

   (d) 6 streetlights.

16. In the economy, consumers buy only eggs and apples. The fixed basket consists of 10 eggs and 30 apples. In 2019, an egg costs $1 and an apple costs $5. In 2020, an egg costs $2, and an apple costs $4. Use 2019 as a base year. What is the CPI in 2020?

   (a) **87.5**

   (b) 114.2

   (c) 120

   (d) 80

17. The CPI increased from 120 to 140 from year 2004 to 2005. This implies

   (a) Welfare of the people deteriorated.

   (b) Welfare of the people improved.

(c) Producer price index will go up.

(d) **None of the above.**

18. If Saudi Arabia increase the price of oil, what will happen to the CPI and the GDP deflator of China?

    (a) Both the CPI and the GDP deflator increase.

    (b) Neither the CPI nor he GDP deflator increases.

    (c) **The CPI increases.**

    (d) The GDP deflator increases.

19. Which of the following is true?

    (a) The producer price index is better than the GDP deflator to calculate the price of the goods produced.

    (b) The producer price index is closer to value of the GDP delaftor than the consumer price index.

    (c) **The rise in the producer price index will signal the future rise in the consumer price index.**

    (d) None of above.

20. Some food companies silently reduce the quality of the food using low quality ingredients, without changing the price. When this happens, CPI

    (a) is constant, but the cost of living is decreasing.

    (b) is increasing, and the cost of living is also increasing.

    (c) is decreasing, but the cost of living is constant.

    (d) **is constant, but the cost of living is increasing.**

Part II
Problems

Problem 1 (20 points)

Consider a closed economy. Use appropriately labeled diagrams to answer each of the following questions.

1. Draw and label a graph showing equilibrium in the market for loanable funds. What is the supply side? What is the demand side? Explain why the demand for loanable funds slopes downward. (5 Points)

2. Consider an investment tax credit that gives a tax advantage to any firm building a new factory or buying a new piece of equipment. Specifically, it directly reduces the tax bills of those firms. What is the effect of an investment tax credit on the equilibrium interest rate and investment? (5 points)

3. Let T denote the amount of tax and G denote government spending. Assume we beginwith a balanced budget where T = G. But suddenly G increases while T remains the same, so we run into a budget deficit. Assuming private saving and investment demand also remain the same. What is the impact of this increase in G on the equilibrium interest rate and investment? (10 points)

Ans:

1. **The supply side is national saving. The demand side is investment from private borrowers. The real interest rate is the cost of borrowing. The higher the interest rate, the lower the quantity demanded of borrowing.**

2. **The investment tax credit would shift the demand curve to the right. Other things equal, both equilibrium interest rate and private investment would increase**

3. **As G increases, national saving would decrease, so supply curve shifts to the left. Then the equilibrium real interest would increase, and private investment would decrease.**

Problem 2 (10 points)

There are three poluting firms in a Village. Firm A initially pollute 90 units, and its cost of reducing pollution is $30. Firm B initially pollute 80 units, and its cost of reducing pollution is $20. Firm C initially pollute 70 units, and its costs of reducing pollution by 1 unit is $10. The government wants to reduce the total pollution to 90 units (reduce the total polution by 150 units).

1. Initially, the government announce regulations that require every firm to pollute no more than 30 units. What is the total costs of pollution reduction for all the three firms?

2. Now government allocate each firm 30 units of tradable pollution permits. Which firm will buy the permits? How much will the buyer buy? Which firm will sell the permits? How much will the seller sell? In the end, how much is the total costs of pollution reduction for all the three firms?

3. Instead of allocating tradable pollution permits, the government decides to impose a pollution tax to reach its pollution-reduction targets in a way that incur the least pollution-reduction costs for all the firms as a whole. What is the tax (or the range of it) per unit of pollution that the government will impose?

Ans:

1. $(90 - 30) * 30 + (80 - 30) * 20 + (70 - 30) * 10 = 1800 + 1000 + 400 = 3200$. **(2 point)**

2. **Firm A will buy 60 permits. (2 points) Firm B will sell 30 permits. (1 points) Firm C will sell 30 permits. (1 points) The total pollution reduction costs is** $80 * 20 + 70 * 10 = 1600 + 700 = 2300$. **(2 points)**

3. **The corrective tax could range between 20 and 30 per unit. (2 points)**

Problem 3 (15 points)

		Rival in consumption?	
		Yes	No
Excludable?	Yes	A	B
	No	C	D

1. The boxes labeled A, B and C represent what type of good? (7 points)

2. In which box A, B, C, or D ? does each of the following types of roads belong? (Consider each type of road separately.) (8 points)
   an uncongested toll road.
   an uncongested nontoll road.
   a congested toll road.
   a congested nontoll road.

Ans:

1. **Box A represents private goods, B club good, C common resource**

2. **B; D; A; C.**

Problem 4 (15 points)

An economy consists of Coca-Cola and Pepsi. In 2005, the price of Coca-Cola and Pepsi are $2 and $4 dollars, respectively. In 2005, a representative consumer spends $28 on Cola and $12 dollars on Pepsi. In 2006, the price of Coca-Cola is now $2 and the price of Pepsi is $6.

1. We use this consumer's consumption bundle as a basket. What is the composition of this basket?

2. We use 2005 as a base year. What is the CPI in 2006?

3. We calculated the CPI for 2005 and 2006. Is the CPI in 2006 correctly measuring the cost of living (compared to 2005)? If yes, explain the reason. If not, explain the reason and describe if the CPI is overestimating or underestimating the actual cost of living.

Ans:

1. **This consumer buys 14 units of Caca-Cola and 3 units of Pepsi.**

2. **In 2005, the basket costs $2 * 14 + 4 * 3 = 40$ dollars. In 2006, the basket costs $2 * 14 + 6 * 3 = 46$ dollars. So the CPI for 2006 is $46/40 * 100 = 115$.**

3. **No. Given that Coca-Cola and Pepsi are close substitute, the consumer will substitute her consumption from Pepsi to Coca-Cola. The actual cost of living in 2006 is much lower than CPI.**