

Econ 4545: First Midterm_First Half. Fall 2015

Answer on scantron.

This is Version 1 of the exam. On your scantron make sure to indicate it is Version 1 (Version A)

This part of the exam consists of 22 true/false and multiple-choice questions.

(Not that sometimes true will be option A and sometimes true will be option B.)

I have commented on the questions that people had the most trouble with.

1. When the allocation of resources and the distribution of goods is efficient, it is still often possible to make some members of society better off.

- A) **True**
- B) False

The inability of people to understand that this statement is true is crazy making. At an efficient allocation one can, of course make some members of society better off, but it requires that some other member or members be made worse off. Look at an utility-possibilities frontier for two people and move from a point on the frontier to another point.

2. Boulder Colorado, wants to reduce it emissions of Guber gas by 10 unites. Two firms in town emit Guber gas. For Firm 1 they can always decrease their emission of GG by one unit at a cost of \$5. In contrast, for Firm 2, it costs \$1 to eliminate the first unit, \$3 to eliminate the second unit, \$6 for the third unit, \$10 for the 4th unit, \$17 for the fifth unit, etc. The-cost minimizing way to reduce these ten units is _____, and the total cost will be _____. If each firm reduces 5 units the total cost of the 10 unit reduction with be _____.

- A) For Firm 1 to reduce 10 units; \$50; \$60
- B) For Firm 2 to reduce two units and Firm 1 to reduce 8 units: \$65; \$62
- C) For each firm to reduce five units: \$65; \$65
- D) For Firm 2 to reduce two units and Firm 1 to reduce 8 units; \$44; \$62

3. Goods are redistributed between George and Fred such that after the redistribution Fred is better off and George is worse off. Given this, we know that before the redistribution, the distribution of goods between Fred and George was efficient.

- A) True
- B) False

4. Roads that are open-access (common-property resources) often have an inefficient amount of traffic congestion. This happens because
- A) the marginal social cost of any one individual's use of the roads equals the individual's marginal cost.
 - B) the marginal social cost of any one individual's use of the roads is less than the individual's marginal cost.
 - C) it is impossible to compare the marginal social cost of any one individual's use of the roads with the individual's marginal cost.
 - D) the marginal social cost of any one individual's use of the roads is greater than the individual's marginal cost.
5. Imagine Boulder is required by the Federal Government to reduce its toxic emissions by 20%. These emissions come from many different sources. The Boulder City Council achieves this goal by requiring every such facility in Boulder that emits this toxin to reduce their emissions of it by 20%. Which alternative most likely and most fully describes the result?
- A) The requirement is achieved, but not at minimum cost
 - B) The requirement is achieved at minimum cost
 - C) The requirement is achieved, but inefficiently
 - D) The requirement is achieved efficiently
6. A necessary condition for successful Coasian bargaining is property rights are well defined for the scarce resources in question
- A) True
 - B) False
7. The market will fail in the allocation of a resource that is congestible and common property, but not scarce.
- A) There is not enough information to answer the question
 - B) Yes, it will fail.
 - C) **No, it will not fail**

If the resource is congestible but not scarce efficiency dictates that everyone consume as much as they want (there is an unlimited supply) so the efficient-inducing price is zero, which is what the price will be if the resource is common property.

8. Which of the following is both correct and most explanatory as an ending for the sentence? The cost of producing another unit of a public good
- A) is zero because once that unit is available for one individual it is there for everyone.
 - B) is typically positive but once another unit produced, the cost of supplying it to additional individuals is zero
9. A firm faced with a per-unit tax on the amount of a pollutant it emits, will continue to pollute its current amount if the tax is less than the cost of reducing pollution by an additional unit. Said another way, it will not reduce emissions further if the marginal abate-ments cost is greater than the tax.
- A) False
 - B) True
10. In the threesome discussed in class -- John, Thelma, and Barbed Wire-- which of the following best describes, **in economic terms**, the situation before John arrived, before Barbed arrived, and after Barbed arrived.
- A) John was treated poorly by Thelma.
 - B) The farm while "owned" was effectively a public good/commodity, everyone could use it. The arrival of John eliminated the public good aspect of the farm, but at a high cost. Barbed could eliminate the public good-problem more cheaply than could John.
 - C) The farm while "owned" was effectively a common-property resource from the perspective of cattle drives. John's arrival eliminated the CP problem, but at a high cost. Barbed could enforce the property right at a lower cost than could John.
 - D) The farm while "owned" was effectively a common-property resource from the perspective of cattle drives. John's arrival eliminated the CP problem, but at a high cost. John got dumped.
11. In a society that consists of one individual, which statement best describes the allocation of resources that is socially optimal
- A) The allocation is efficient
 - B) It is an equilibrium
 - C) The individual is doing well
 - D) **The individual is doing the best she can, given her constraints.**
- C is not necessarily the case, but A, B are D are all correct. My view is that D is the most informative, but one could quibble. Of course you won't quibble.
12. Externalities and external effects are the same thing.
- A) True
 - B) False

13. Consider Adam and Eve, the only two members of society. Consider them at home in the Garden of Eden **before** God kicked them out. Adam and Eve could harvest from the Garden to their hearts content--it was a garden of plenty. (Choose the answer that is most likely to be correct.)
- A) Assuming Adam and Eve were utility maximizers, an efficient amount of the Garden's resources were harvested.
 - B) Because the Garden was a CP resource, Adam and Eve harvested an inefficient amount of its resources.
 - C) Because the resources in the Garden are public goods, Adam and Eve harvested an inefficient amount of them.
14. Excess market power typically causes the market system to fail
- A) True
 - B) False
15. More efficient is always preferred to less efficient.
- A) True
 - B) False
16. Bluefin tuna travel in schools throughout the world's oceans. Fishing boats from many nations harvest Bluefin tuna as the schools migrate through international waters. The schools of Bluefin tuna are best described as:
- A) a common-property resource.
 - B) a private good.
 - C) a public good.
 - D) an artificially scarce resource.

17. Imagine the U.N. requires that carbon dioxide emissions by China and the U.S. be reduced by 100 units, a small percentage of each country's current carbon dioxide emissions. Imagine that in the 100 unit range, the cost, on the margin, of reducing carbon emission is always less in China than in the U.S. This is likely to be the case because China tends to produce heat and energy using more carbon intensely than does the U.S. Given all this, which of the following statements is both most likely and most informative.
- A) Efficiency requires that the 100 unit reduction be achieved by reducing emissions by 100 units in China and zero units in the U.S because labor is abundant in China.
 - B) The cost-effective way to achieve the required reduction is for some of the reduction to occur in the U.S. and for some of it to occur in China.
 - C) Reducing carbon dioxide emission by 100 units in China (zero units in the U.S.) will cost less in terms of the world's scarce resources because, in the relevant range, the marginal cost of abatement is always lower in China.
 - D) The cost-effective way to achieve the required reduction is for the reduction to occur in the U.S. because production is more efficient in the U.S. than in China.
18. Assume that people like to shoot bears – it is fun and the meat is tasty. This assumption implies that shooting bears is efficiency increasing.
- A) True
 - B) **False**

I was surprised that only half the class got this one correct. The assumption, by itself does not imply that shooting bears is efficiency increasing. It would be true if we added the assumption that the bears are not members of society.

19. Market failures are things that are inherent to the market that cause the market allocation to be inefficient
- A) True
 - B) False
20. Which of the following is an example of a common-property resource?
- A) A Miley Cyrus concert where the tickets are \$100 each, but seats are not assigned.
 - B) Two, but only two, of the other answers are correct.
 - C) A public beach with no entry fee.
 - D) The Boston Commons back in the day when anyone who lived in Boston could graze their livestock on it without paying a fee.
 - E) A highway to which access is granted only to those who pay a specified toll

21. Public goods differ from common-property resources in that:
- A) both are non-excludable, but public goods are non-rivalrous in consumption, while common-property resources are rivalrous in consumption.
 - B) both are non-rivalrous in consumption, but public goods are excludable, while common-property resources are non-excludable.
 - C) both are rival in consumption, but public goods are non-excludable, while common-property resources are excludable.
 - D) both are excludable, but public goods are non-rivalrous in consumption, while common-property resources are rivalrous in consumption.
22. Imagine a world where everyone has to pay for their own medical care. Suppose that smoking cigarettes creates no negative or positive external effects, but, as is well known, causes a lot of smokers to get lung cancer. If the government does not interfere in the cigarette market, then_____.
- A) The market equilibrium quantity of cigarettes smoked will be greater than the socially efficient number.
 - B) There is not enough information to answer the question.
 - C) **The market equilibrium quantity of cigarettes smoked will be the efficient number from society's perspective.**
 - D) The market equilibrium quantity of cigarettes smoked will be less than the socially efficient number.

Only half the class got this correct, and I am not sure why. The smokers are maximizing their utilities: smoking in spite of the fact that it increases their chances of lung cancer. If would efficiency decreasing to entice or force them to smoke less. The question assumed no external effects and fully informed consumers, so what would cause inefficiency?

Answer Key

1. A
2. D
3. B
4. D
5. A
6. A
7. C
8. B
9. B
10. C
11. D
12. B
13. A
14. A
15. B
16. A
17. C
18. B
19. A
20. B
21. A
22. C