

Econ 4545: First Midterm Fall 2017

This is Version 1. Make sure you indicate Version 1 on your scantron.

There are two questions that ask about the course. They will be marked correct if you answer them.

Your percentage grade on this part of the exam will be the number correct divided by 32.

Please read the questions carefully. Some of your neighbors will get some questions wrong because they did not read carefully. Notice words like “always” and necessarily”.

We will start as quickly as possible. Ideally everyone will be started by 12:30
You will put your answers on a scantron.

So, make sure you know your name and student number.

No electrical devices of any sort.

You have until 1:25 to finish (55 minutes). I need it by then so we can go over some answers.

Note that every concept asked about was asked about on a review question.

So, question 14 is probably too difficult. So, if you got it wrong it won't count against you.

There is also a slight issue with questions 22 and 32 taken together, and the word “might” that appears in 32 compared with “will not” in 22. The point of contention is whether Edward's plan to limit cares in RMNP to 3000 could, in theory, be a cost-minimizing way to reach the goal. (I know that it is not because I have thought about it, but you have not)

So, when calculating your percentage grade on this part of the exam, I will divide your number of correct answers by 30 rather than 32.

1. If you answer this question, you will get it correct. There is a review question in the first three sets that includes the word "aquifer".
 - A) No, there is not.
 - B) I don't know.
 - C) Yes, there is

2. Which of the following is **not** an example of a common-property resource?
- A) A highway that is not a toll road.
 - B) North Boulder Park.
 - C) The Ogallala Aquifer
 - 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 Miley Cyrus concert with free tickets but only the first 100 people in line are admitted.

Access to Miley (the wrecking ball) is restricted. For the other alternatives access is, or was, free.

3. The temperature outside could be inefficient from society's perspective. (Choose the answer that is both correct and most informative.)
- A) Yes, the temperature outside could be inefficient, but, for example, the timing of volcanic eruptions cannot be efficient or inefficient.
 - B) The weather is an act-of-god (outside of our control), so it can't be at an efficient nor inefficient level
 - C) Yes, the temperature outside could be inefficient.
 - D) The temperature outside can't be efficient or inefficient. Whoever said the above is wrong.

For better or worse, we now have some influence over the temperature (think global warming). But not yet volcanic eruptions. Think about snow avalanches?

4. The presence of external effects in market equilibrium implies that the market is failing.
- A) Incorrect
 - B) Correct
5. If you answer this question, you will get it correct. Which option best describes both your efforts and what you have learned from the lectures and the review questions.
- A) I'm trying but have not really learned much.
 - B) I have learned more from the lectures than the course materials, but only because I have spent much more time with the lectures than with the review questions.
 - C) I have not learned much but that is mostly because I have not put in the time and effort.
 - D) I have attended lectures and have spent substantial time on the review questions, and have learned more from the review questions.
 - E) I have attended lectures and have spent substantial time on the review questions, and have learned more from the lectures.

6. If action A makes you better off and me worse off, before action A is undertaken the allocation is
- A) There is not enough information to tell whether the allocation is efficient before A is undertaken.
 - B) Efficient
 - C) Inefficient

This could happen if before the action, there is efficiency. It could also happen if before the action there is inefficiency.

7. Imagine a situation where there is a factory adjacent to a gated community of rich people. The unregulated toxic emissions from this factory are dropping on the gated community, making its residents worse off. Luckily no one else lives or hangs out near this factory. Which of the following statements is both correct and most informative.
- A) Efficiency could increase if the residents choose to buy and run the factory
 - B) Neither of the other two alternatives are correct.
 - C) Efficiency would necessarily increase if the residents choose to buy the factory and shut it down. Shutting down the factory might decrease overall efficiency
8. Currently it costs Bob \$50 to ski at Snerd Valley and he chooses to ski there five days a season. Snerd Valley then raises its lift ticket price by \$10, raising his cost per day to \$60. Which statement is both correct and most informative.
- A) We know that Bob will ski less.
 - B) We know nothing about Bob's wtp to not have the price increased.
 - C) We know that Bob's per-season wtp to not have the price increased is \$50 or less.

The damage to him can't be more than \$50 ($\10×5), his damages if he did not change his behavior. That is, the worst that could happen to him is he pays an extra \$50. If Bob chooses to ski less at \$60 his damages will be less than \$50.

This is question 10 on the third set of review questions.

9. The travel-cost technique could be used to estimate the **total** damages from the BP oil spill in the Gulf of Mexico
- A) Incorrect
 - B) Correct

The TC technique does not estimate non-use damages, only use damages.

10. Assume your cv for some state change is zero. Which of the following statements is both correct and most informative.
- A) Your ev for this change is zero.
 - B) Your ev for this change might **not** be zero.
 - C) Your ev for this change equals your cv, and you are indifferent between the original state and the proposed state (the new state)

B is wrong, the ev must be zero (if the $cv=0$, the $ev=0$) A and C are both correct but C is more informative.

11. 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
12. All Potential Pareto improvements are efficiency increasing.
- A) This statement is incorrect.
 - B) This statement is correct
How could they not be efficiency increasing?

And the converse, if things are efficient, you can't have a PPI.

13. Materials balance says that every point in time the total weight of what is being moved from the environment into the production/consumption stream must equal the weight of what is then being moved from the production/consumption stream back into the environment. Choose the answer that is both correct and most informative.
- A) The statement is incorrect
 - B) The statement is incorrect because "materials balance" is about volumes not weights.
 - C) The statement is correct

Not at every point over time. I was surprised how many of your got this incorrect.

14. Public goods and common-property resources are both, by definition, noncongestible. (Choose the answer that is both correct and most informative.)
- A) This statement is incorrect.
 - B) This statement is incorrect because a public good (such as a road) could be congestible.
 - C) This statement is correct.
 - D) This statement is incorrect, but a specific CP resource could, in theory, be noncongestible.

Public goods are not congestible. A road is not a public good. CP simply means free access. CP are typically congestible, but there is nothing in the definition that requires this. We want public goods to be free access.

So, one might complain: The issue is the definition of a CP resource. Some would say that a resource that is not congestible, cannot be a CP resource. Most people likely implicitly assume this without thinking about it. So, let's say we skip this question in terms of grading.

Maybe, going forward I should simplify the presentation and simply say that, by MY definition, all CP resources are congestible. In which case the adjective CP would mean both unrestrictive free-access and congestible.

15. Your cv for S^0 to S^1 is **necessarily** your wtp to get to S^1 .
- A) **This statement is incorrect**
 - B) This statement is incorrect because your cv for S^0 to S^1 is necessarily your wta S^1 .
 - C) This statement is correct.

Whether your cv is wtp or wta depends on whether the change makes you better off or worse off.

It seems that many people did not believe that I would ask about money measures or utility changes.

16. Consider a situation where Bob's consumption of product X produces negative external effects for Wanda. Is the following statement correct or incorrect? When determining the efficient amount of product X Bob should consume from society's perspective (Bob and Wanda's perspective), the external damages to consider are the damages that Wanda would incur if she minimized the effects of the negative effects on her WB.
- A) This statement is not correct
 - B) **This statement is correct**

Consider the case where Wanda could greatly reduce the effect on her but by turning away, and we assumed the damages were as if she did not turn away.. The relevant damage to Wanda is how much she would be damaged given that she is maximizing her utility.

Going forward: this is something you need to understand if you are

17. There is some efficient amount of drunk driving, but it is not necessarily the current amount.
- A) False
 - B) **True**
18. The following are **definitely** examples of market failure.
- A) Both "not enough to eat" and "filthy rich" are definitely examples of market failures.
 - B) Not everyone has enough to eat.
 - C) Some people are filthy rich.
 - D) **Neither "not enough to eat" nor "filthy rich" are necessarily market failures.**

They might be but probably are not market failures. The market does not guarantee that everyone has enough to eat, or that there won't be rich dudes.

19. Assume a competitive firm is faced with a per-unit tax on the amount of a pollutant it emits. At its profit-maximizing level of pollution, the tax is less than or equal to the cost of reducing its pollution by an additional unit.
- A) His statement is incorrect. This could not happen at the profit-maximizing level of pollution
 - B) **This statement is correct**

He won't further reduce his level of pollution because the pollution-tax savings is less than the cost of achieving the reduction.

20. Boulder Colorado wants to reduce its emissions of Guber gas by 10 units. Only 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 \$10. 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, \$15 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 will be _____.
- A) Two of other answers are correct.
 - B) For Firm 2 to reduce 3 units and Firm 1 to reduce 7 units: \$80; \$100
 - C) For Firm 2 to reduce four units and Firm 1 to reduce 6 units; \$80; \$85
 - D) For Firm 1 to reduce 10 units; \$100; \$100
21. For market commodities, price is _____ and quantity is _____. For non-market commodities, _____ is exogenous.
- A) endogenous, exogenous, quantity
 - B) exogenous, endogenous, price
 - C) exogenous; endogenous; quantity
22. The famous economics professor, Edward, has correctly determined that the efficient number of cars in Rocky Mountain National Park is 3000/day. But the current number of cars is 5000, so the current number of cars is inefficient. Professor Morey's recommendation is that there is no entry fee or reservation fee but that every day the gate is closed after the 3000th car enters. Keep in mind that visitors to the Park come from all over the U.S. Which of the following answers is both correct and most informative.
- A) Edward's plan will achieve the efficient number of cars in the Park but it will not achieve this goal efficiently
 - B) Edward's plan will necessarily decrease efficiency.
 - C) Edward's plan will achieve the efficient number of cars in the Park.

A and C are both correct, but A is more informative.

One might argue that, in theory, Edward's plan might be the efficient (cost-minimizing) way to achieve the reduction. I know it won't be. I will reword a bit. See the note about this question at the beginning of the exam.

23. Jenny and I live together in, almost, marital bliss. We have a small apartment and it is illegal to go outside. Jenny greatly enjoys smoking a couple of packs of Camel cigarettes every day, so there is a lot of second-hand smoke, which I do not like. I do not smoke. While Jenny loves me, she does not take account of the effect of her smoke on me when she decides how much to smoke, so smokes an inefficient amount from the perspective of our two-person society. Given all this, efficiency can be achieved if the government intervenes by compensating me for my damages from the second-hand smoke such that, with the compensation, my level of WB is what it would have been if Jenny did not smoke.
- A) This is not enough information provided to determine whether this statement is correct or incorrect.
 - B) Correct
 - C) Incorrect

The inefficiency issue is that Jenny is smoking too much. Compensating me for the damages I incur does not motivate Jenny to smoke the efficient amount.

If an agent is consuming something that produces a negative external effect, and they do not have to take account of the effect on others, they will produce too much of it from an efficiency perspective. Giving something to another party (the damaged party or someone else) will not change the behavior of the producer of the external effect.

24. I am a firm that needs to dump my toxic waste in a stream, only one stream. I know that after I dump, I will be successfully sued by the Federal Government and forced to pay the use damages resulting from my dumping. I pay only use damages. Ignoring the varying cost of transporting the toxic waste to different streams, which of the following stream options would be my best choice if my intent is to minimize the use damages I pay.
- A) a pristine stream with few good substitutes because many anglers will then no longer care about fishing.
 - B) a polluted stream with few fish located near a good number of pristine trout streams.
 - C) a polluted stream with few fish, located near a good number equally polluted streams.
 - D) a pristine stream with a lot of good substitutes because many anglers will get almost as much utility by fishing at one of those close substitutes.

C.P. the more polluted the site is the less injury there is left to do. C.P. the more good substitutes there is for a commodity or activity the less one is damaged by an injury to that commodity or activity.

25. Assume all humans are members of society and that they all like to shoot bears - it's fun, the meat is tasty, and humans do not care about the WB (well being) of bears. But shooting bears is currently banned. Which of the following statements about efficiency is both correct and most informative?
- A) Allowing bear hunting (getting rid of the ban) will definitely be efficiency decreasing if the bears are also members of society.
 - B) Whether allowing bear hunting will increase, or decrease efficiency, might depend on whether the bears are also members of society.
 - C) Allowing bear hunting (getting rid of the ban) will definitely be efficiency increasing

Even if the bears are members of society, shooting them might be efficiency increasing rather than efficiency decreasing.

26. It is sometimes possible for two people to consume the same unit of the same good.
- A) False
 - B) True

Public goods have this property.

27. Society consists of only you and Bob. A policy is proposed that would make you better off and Bob worse off. To determine whether is policy is a potential Pareto improvement (efficiency increasing), I would need to know.
- A) Your wta not having the policy implemented and Bob's wta the implementation of the policy.
 - B) Your wtp for the policy and Bob's wta the policy.
 - C) Your wtp for the policy and Bob's wtp to stop the policy from being implemented.

Your wtp is the gain to the gainers, and Bob's wta is how much he would have to be compensated to be made whole.

28. Imagine a world where everyone is rational and everyone pays for their own medical care. Suppose that smoking cigarettes creates no negative or positive external effects, but, as everyone knows, smoking 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 less than the socially efficient number.
 - B) The market equilibrium quantity of cigarettes smoked will be the efficient number from society's perspective.
 - C) There is not enough information to answer the question.
 - D) The market equilibrium quantity of cigarettes smoked will be greater than the socially efficient number.

There is no market failure.

29. Imagine a restaurant that every day serves the same fixed-price meal for \$20, wine included. (Which statement is both correct and most informative?)
- A) No one would ever go more than once because it is always the same meal.
 - B) With data on how many of these meals everyone in your sample chose to buy, you can't estimate demand as a function of the cost of this meal because everyone faces the same price.
 - C) With data on how many of these meals everyone in your sample chose to buy, you could estimate demand as a function of the cost of this meal if there is variation across the individuals in your sample in terms of travel costs.
30. It costs both you and Bob \$50/day to ski at Snerd Valley. Given this you choose to ski Snerd Valley two days a season and Bob chooses to ski Snerd Valley 10 days a season. Choose the statement is, for sure, correct.
- A) At \$50/day, we do not know whether you or Bob get more consumer's surplus from skiing Snerd Valley.
 - B) At \$50/day, Bob get more consumer's surplus from skiing Snerd Valley than you do.
31. Assume there is an environmental resource that produces a large amount of non-use benefits. Can you come up with an example of a non-use environmental benefit that is congestible?
- A) No
 - B) Yes

I can't think of one, can you?

32. Imagine that you and your roommate both smoke cigarettes. You each enjoy your own smoke, but not so much your roommate's second-hand smoke. You have a meeting and decide to reduce the total number of cigarettes smoked in your apartment by 10 cigarettes. And, you decide that you will achieve your goal by each of you reducing your smoking by 5 cigarettes. You currently smoke 10 cigarettes a day in the apartment and your roommate smokes 20. (Choose the answer that is both correct and most informative.)
- A) This plan will minimize the cost of achieving the 10-cigarette reduction.
 - B) None of the other alternatives are correct.
 - C) This plan **might** minimize the cost of achieving the 10-cigarette reduction
 - D) The plan could not minimize the cost of the 10-cigarette reduction because your roommate is currently smoking twice as much as you.

Wrt C: But it probably won't Wrt D: the "could not" makes it wrong. See also question 22, and the note at the beginning of the exam.

Answer Key

1. *(No Answer Provided)*
2. E
3. A
4. A
5. *(No Answer Provided)*
6. A
7. A
8. C
9. A
10. C
11. B
12. B
13. A
14. D
15. A
16. B
17. B
18. D
19. B
20. C
21. C
22. A
23. C
24. B
25. B
26. B
27. B
28. B
29. C
30. A
31. A
32. C