Econ 4545 (Morey) Fall 2018
First Midterm (Version 1)
Oct 11, 2018

Read these instructions carefully

This exam has 56 questions and 13 pages. Make sure you have 56 questions.

When answering a true/false question ignore the words "true" and "false" on the bubble sheets. That is, sometimes "true" will be bubble A and sometimes "true" will be bubble B.

Make sure you mark your bubble sheet Version 1

Note that many of the questions on this exam are variations on the questions you have already encountered. So, if a question looks familiar it might not be identical to a previous question. Read the questions carefully.

1. Consider Penny, Fred, God, and the cigars from lecture. Assume that, initially, cigar smoking is unregulated and untaxed, and Penny is smoking an inefficient number of cigars (too many). Fred is damaged by the second-hand smoke. In theory, the inefficiency could be eliminated by compensating Fred for the damages from the smoke.
    A) No
    B) Yes
    So, 42% of you got this wrong. I am surprised. To achieve efficiency Penny has to change the number of cigars she smokes and giving money to Fred will not do this. Answering "No" suggests you are confusing efficiency and equity.

2. Society consists of all the bears and Joe (a human); no others are part of society, including the cows. Joe loves to hunt; bears are his favorite prey, followed by cows. Hunting either bears or cows would make Joe better off. No one wants to be hunted, but no one cares if other individuals are hunted. Bears and cows have no interest in hunting. Hunting is currently prohibited. Allowing Joe to hunt cows, but not bears, will be efficiency increasing even though the cows hate the idea.
    A) No
    B) Maybe
    C) Yes

3. A private good is:
    A) non-excludable and congestible in consumption.
    B) excludable and non-congestible in consumption.
    C) excludable and congestible in consumption.
    D) non-excludable and non-congestible in consumption.

4. Society's members cannot be excluded from receiving the benefits of:
   A) common-property resources.
   B) public goods and common-property resources.
   C) public goods.
   D) private goods.

   Some of you said C rather than B. Why? Let's discuss.

5. So, Fred and Wilma are retiring, selling their home in New Orleans and buying a house in Boulder. George, a longtime resident of Boulder has already rented but now has saved up enough money to buy the house of his dreams for $700K, the asking price. But he loses it to Fred and Wilma who agree to buy it for $710K. George has obviously been made worse off by the action of Fred and Wilma.
   A) This is an example of an externality-type market failure because one agent's actions have a negative external effect on another agent.
   B) This is an example of the market working.

There is an external affect if one agent **directly** affects another (the effect enters directly into the production function or utility function of other agents). If the demand curve for wine shift out, the price of wine will likely increase, making those who were already drinking wine worse of in that the price is now higher. This is the market working.

6. Bubba and Molly are two members of society, but not the only members. Bubba owns a copy of "Real Man Magazine" and Molly owns a copy of "Fifty Shades of Grey." They trade the two books making both of them better off. Which of the following statements is both necessarily correct and most informative.
   A) The trade might be efficiency decreasing if their reading causes negative external effects.
   B) After the trade the allocation of goods is efficient
   C) The trade is efficiency increasing They are both better off.
   D) We don't know whether the trade is efficiency increasing.

   Some of you said C. The question stated that there are other members of society. So why did you conclude others cannot be made worse off by the exchange to the extent that the gain to the gainers is less than the loss to the losers (other members). Just imagine what Bubba might do because he read fifty shades of grey.

7. Define, for the purposes of this question, "conservatives" as people who want, for efficiency reasons, less government intervention in the economy and "liberals" as people who want, for efficiency reasons, more intervention. Given these definitions, is the following statement a fair characterization of a difference between liberals and conservatives with respect to the market economy? "Liberals believe market failures are more significant and pervasive than do conservatives."
   A) No
   B) Yes

8. Assume the noted environmental economist Doctor Val Useless has determined that the efficient number of cars in Yellowstone is 3000 per day, but now with no restrictions on entry 5000 enter every day. His recommendation is that there be no entry fee or reservation system, and every day the park closes the gate after the 3000th car enters. Assume once a car enters it stays all day, and assume he got these number correct. Is this likely to be an efficient way to get to the efficient number of cars in the park. (Choose the answer that is both correct and most informative.)
   A) No because 3000 is not the efficient number.
   B) No, while the plan gets the Park to the efficient number of cars it does not achieve the goal in the minimum cost way.
   C) Yes it is because closing the gate at 3000 is the only way to achieve the goal.
   D) Yes it is. The efficiency number of cars is 3000 and this is the number in the park under his plan.

9. As per the lecture cigars are provided by God as zero cost. Penny enjoys smoking cigars, Fred does not. Fred does not like the second-hand smoke from Penny's cigars. Assume that the Marginal benefits to Penny from the cth cigar is $MBP(c)=10+C$. And, the $MBF(c)=-2C^2$. Society consists of just Penny and Fred and there is not abatement technology. The efficient number of cigars for Penny to smoke is
   A) at least 2 but less than 3
   B) at least 1 but less than 2.
   C) at least 3 but less than 4
   D) zero

MBP are in order 11, 12, 13, 14
MBF are, in order, -2, -8, -18
So MSB are positive at 2 and negative at 3

10. Wanda recently inherited her mother's emerald broach. She loves wearing it:, it makes her think of her mother. But, Wanda is poor and her kids are not getting enough to eat, so Wanda would be willing to sell the broach for $100. Donald saw Wanda wearing the broach at a Trump rally. He steals it because he know he can get away with it, but, if had to, he would have paid Wanda $400 for the broach. (Assume no one else is affected) Which alternative is both correct and most informative.
    A) Efficiency would have increased if Donald had bought the broach from Wanda for more than $100 but less than $400
    B) Two of the other alternatives are correct.
    C) Donald stealing her broach is efficiency increasing
    D) Donald stealing the broach decreases efficiency

11. Consider a utility-possibilities frontier. Imagine a society must choose between one specific efficient allocation and one specific inefficient allocation. A society will always choose the efficient allocation.
    A) Maybe not
    B) Of course

12. Unregulated competitive markets evolved to increase efficiency, not equity.
    A) Incorrect
    B) Correct

13. Imagine a world where no one is affected by the health of others, and 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, smokers know this. Additionally assume production of cigarettes produces not external effects. If the government does not interfere in the cigarette market, then_____.
    A) There is not enough information to answer the question.
    B) The market equilibrium quantity of cigarettes smoked will be the efficient number from society's perspective.
    C) The market equilibrium quantity of cigarettes smoked will be greater than the socially efficient number.
    D) The market equilibrium quantity of cigarettes smoked will be less than the socially efficient number.

14. Fill in the blanks to help explain the relationship between marginal revenue and price. For a monopolist _____and for a competitive firm_____.
    A)   MR = Price; MR > Price
    B)   MR > Price; MR = Price
    C)   MR = Price; MR < Price
    D)   MR < Price; MR = Price

For a monopolist MR is less that price because if the monopolist wants to sell another unit they have to lower the price. A competitive firm can sell at much as it want at the competitive price (over which they have no control) so price =mr.
This is a question I would expect most of my econ 2010 students to get right. See our section on monopoly power as a market failure.

15. That many road, parks, and in other public spaces are congested proves that their use levels are inefficient.
    A)   No
    B)   Yes

16. (Based on a question Sabrina asked in class) Imagine society consists of two generations: now and the future. Assume that the only way to make the future better off requires that now is made worse off. Is the current allocation between now and the future efficient.
    A)   Maybe, but not necessarily.
    B)   Yes

17. 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-propoerty 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.

18. Consider a untaxed, unregulated negative external affect. Which of the following statements are correct?
    A)   Both of the two descriptions are correct
    B)   Both of the two descriptions are correct, but they cannot be used simultaneously.
    C)   The effect can be described as driving a wedge between marginal social benefit and marginal private benefit.
    D)   The effect can be described as driving a wedge between marginal social cost and marginal private cost.

A says something that is true but incomplete.

19. Consider commodity X and consider the marginal social benefit curve for the consumption of Commodity X (units consumed on the horizontal axis and marginal social benefits on the vertical axis). Which of the following statements is both correct and most informative?
    A) If X is a public good, the marginal social benefit curve is the horizontal summation of every individual's marginal private benefit curve.
    B) If X is a congestible good, the marginal private benefit curve and marginal social benefit curve for X are always one and the same.
    C) More than one of the other answers is correct.
    D) If X is a public good, the marginal social benefit curve is the vertical summation of every individual's marginal private benefit curve.

20. **Society consists of only Bubba and Molly.** Bubba owns a copy of "Real Man Magazine" and Molly owns a copy of "Fifty Shades of Grey." They trade making both of them better off. Which of the following statements is both necessarily correct and most informative?
    A) The trade is efficiency increasing because they are both better off.
    B) The trade might be efficiency increasing, we don't know for sure.
    C) After the trade the allocation of goods is efficient

About 30% of you said C. This indicates a confusion between efficient and efficiency increasing. You have to get rid of this confusion.

If I was going to improve this question I would make Option A, "The trade is efficiency increasing because a trade make at least one party to the trade better off, and no party worse off.

21. Imagine the U.N. requires that carbon dioxide emissions by China and the U.S. be reduced by a total of 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 correct and most informative.
    A) Reducing carbon dioxide emission by 100 units in China (zero units in the U.S.) will cost less in terms of the world's scare resources because, in the relevant range, the marginal cost of abatement is always lower in China.
    B) 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.
    C) 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.
    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.

22. Market failures are things that are inherent to the market that cause the market allocation to be inefficient
    A) Incorrect
    B) Correct

23. Society consists of Bob and Jane, two avid art enthusiasts: they both like to look at paintings. Each owns a painting which currently hangs in their home. If it is in their home, the other person never sees it (they do not hang out). If it were in the local museum both would see it, and both are indifferent to whether their painting hangs at their home or in the museum. Given all this, consider the statement, "Efficiency would increase if either or both donates their painting to the museum."
    A) This does not follow.
    B) This follows.

24. In a society that consists of one individual, which statement best describes the allocation of resources that maximizes social welfare. (Choose the statement that is both correct and most informative.)
    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.

25. A fish stock that lives in the ocean in international waters (outside the control of any government or group) is a public good because everyone can, if they want, harvest from the stock without constraint--the resources is available to the public for free.
    A) False
    B) True

26. Assume polluting is not regulated or taxed and there is an inefficient amount of pollution, too much. In theory, the inefficiency could be eliminated by declaring polluting a sin of some magnitude. Assume we are all religious and prefer, ceteris paribus, to sin less rather than more--sinning decreases the probability of going to heaven)
    A) No, you can't correct externalities in this way.
    B) Yes, making polluting a the right level of sinning could achieve the efficient amount of pollution.

27. Whales in the ocean are common-property resources if _____. And, if in addition, they are _____, they will be harvested at an _____ rate.
    A) access to them is uncontrolled; ; not scarce; efficient
    B) Both of the other answers are correct.
    C) access to them is uncontrolled; scarce; inefficient

    I was asked about this last Tuesday. If a resource is not scare (supply greater than demand at a zero price) the efficiency requires that it is free, and being CP makes it free.

28. Boulder Colorado, wants to reduce it emissions of Guber gas by 10 units. 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, $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 with be ____.
    A) For each firm to reduce five units: $65; $65
    B) For Firm 2 to reduce two units and Firm 1 to reduce 8 units: $65; $60
    C) For Firm 2 to reduce two units and Firm 1 to reduce 8 units; $44; $60
    D) For Firm 1 to reduce 10 units; $50; $60

29. In the U.S., many of our scared resources are not allocated by the market.
    A) Incorrect
    B) Correct

    Within firms, families, governments, relationships, etc. resources are not allocated by the market.

30. Imagine the production function x=f(k,l). Assume the isoquant to produce one unit of output (k on the vertical axis and l on the horizontal axis) touches the k axis but never touches the l axis.
    A) neither k nor l is essential to produce one unit of output.
    B) k is essential to produce one unit of output, l is not
    C) l is essential to produce one unit of output, k is not
    D) there is not enough information provided to determine whether either input is essential to produce one unit of output.

31. Assuming society doesn't like to see a person's tattoos but otherwise does not care about whether a person has tattoos, in which of the following cases is Edward's marginal cost of his tattoos least likely to be equal to society's marginal cost of Edward's tattoos?
    A) Edward has a "Hello Kitty"-tattoo on his forehead.
    B) Edward has a mermaid tramp-stamp, but always wears his pants above it.
    C) Edward has a dolphin tattoo on his scalp. To get it he shaved his head but his full-head of grey hair has now grown back.
    D) Edward has "YOLO" tattooed on the sole of his foot.

32. Assume that the production of good x generates negative external effects. The government then taxes all of the firms in this industry such that these external costs are internalized (paid by the firms). One would expect the price of product x to
    A) rise and industry output to decrease, and this is efficient because less of x is produced and consumed
    B) rise and industry output to decrease, and this is inefficient because less of x is produced and consumed, and people lose their jobs.

    About half of you got this wrong. Before the tax, society was allocating too much of its resources to producing x (including labor). The tax corrects this. Resources that are used to produce stuff where the MSC is greater than the MSB are being used inefficiently. Making the firms internalize all the costs correct this.

    Again, are we confusing efficiency and equity? Is it efficiency decreasing for coal miners to lose their jobs, if they have lost it because coal is taxes to get us to the point where the MSB of burning coal equals the MSC?

33. It is always impossible for two people to consume the same unit of a good.
    A) False
    B) True

34. Abatement of pollution does not mean emissions are eliminated, rather it means that the emissions, through the application of labor and capital, are transformed into less injurious forms. (Choose the answer that is both correct and most informative.)
    A) This statement is correct.
    B) Because of materials balance this statement is incorrect.
    C) This statement is correct and is an implication of materials balance.
    D) The statement is incorrect

35. Could Edward state his definition of a public commodity simply as "A commodity where every member of society consumes/experiences every unit produced."?
    A) No
    B) Yes

       How is the above different from what I said: noncongestible, non-excludable, and not able to exclude yourself? Most of you got this one wrong.

36. Thelma's love for Wayne never waned
    A) Not clear from the lectures
    B) True
    C) False

How could 60% of you be wrong? It was meant as a giveaway.
"The farmer pays for this in terms of grandchildren that look like John Wayne. But over the years, Thelma's love for John **wanes**. But what can she do? If she dumps him, back will come the cattle drive and the kids will starve."

37. Burning gasoline generates a number of pollutants, two being CO2 emissions (a greenhouse gas) and particulates (small particles that get can get stuck in one's lungs). Assume that the amounts of these pollutants currently emitted are inefficient--too much. As we learned in class, a direct tax on a pollutant can reduce the amount emitted to its efficient amount, and achieve this reduction at minimum cost. But directly taxing what comes out of tailpipes is difficult so instead consider the a tax on gasoline as a way to achieve the efficient amount of car pollution, and achieve it at minimum cost. (Which of the following statements is both correct and more informative? Hint: Recollect the distinction between George having tattoos and George showing those tattoos in public)
    A) A tax on gasoline can be used to reduce the amount of a pollutant that cars emit to the efficient level but will only achieve the reduction at minimum cost if there is a fixed relationship between the amount of gas burned and the amount of the pollutant emitted.
    B) A tax on gasoline cannot be used to reduce the amount of a pollutant that cars emit to the efficient level unless there is a fixed relationship between the amount of gas burned and the amount of the pollutant emitted.
    C) A tax on gasoline can be used to reduce the amount of a pollutant that cars emit to the efficient levels but will definitely not achieve the reduction at minimum cost.
    D) A tax on gasoline can be used to reduce the amount of a pollutant that cars emit to the efficient level but won't necessarily achieve the reduction at minimum cost.

       40% answered A and 40% D. Both A and D are correct but A is more informative because it includes when the tax will, and wont achieve the reduction at minimum cost. That is says the reduction will only be achieved at min cost if there is a fixed ….

38. Imagine a commodity that is a public bad (ceteris paribus, everyone would be worse off if the amount in existence increased). Consider the following statement, "The efficient amount of this commodity must be zero."
   A) It might be zero, but not necessarily
   B) It must be zero

39. Is the knowledge of the physics and chemistry of global warming a public commodity. Choose the answer that is both correct and most informative.)
   A) It is a public commodity
   B) It is a public commodity **because** knowledge is not congestible
   C) It is not a public commodity even though knowledge is not congestible.
   D) It is not a public commodity

   If you can exclude yourself from know this, it is not a public commodity. Can someone not know this physics and chemistry? Yes. I can refuse to learn it.

   Note that I just bolded the word "because". "Because means this is the reason. It means what is to the right of the word "because" implies what is to the left of the word. There are many commodities that are noncongestible that are not public commodities (e.g. Netflix and NPR)

40. Since texting while driving generates a negative external effect (it makes the roads less safe for others), banning texting while driving would necessarily be efficiency increasing.
   A) Incorrect
   B) Correct

41. Assume we know the preferences of a significant proportion of society's members, but not everyone's. What can we say about whether a particular allocation is efficient or not?
   A) Nothing.
   B) We will not be able to determine whether an allocation is or is not efficient but can sometimes will be able to determine whether a change is efficiency increasing.

How could you sometimes tell whether a change is efficiency increasing?

42. If one thought that the world was using up its oil reserves too quickly and one had to choose between oil being extracted and sold by a monopolist vs. oil being extracted and sold by a competitive industry, one would choose the competitive industry.
   A) No
   B) Yes

43. Trump, in his capacity as President of the U.S, is
    A) a public commodity
    B) a public good

44. 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) No
    B) Yes

45. Society consists of only George and Mabel. George kicks her in the butt, making
    himself better off (he likes to kick women) and Mabel worse off. If he had to, George
    would have paid $10 for the opportunity to kick Mabel. Mabel does not like George and
    does not like being kicked, but would have voluntarily let him kick her for $12.
    Assuming no one else is affected, which alternative is both correct and more
    informative.
    A) George kicking Mabel would decrease efficiency
    B) George kicking Mabel would have decreased efficiency, but only decreased
        efficiency if George did not compensate Mabel.
    C) George kicking Mabel would increase efficiency, but only if George compensated
        Mabel.
    D) George kicking Mabel would increase efficiency, even if George did not
        compensate Mabel.

46. Based on Edward's definition of a public commodity, sufficient conditions for a
    commodity to be a public commodity are
    A) neither of the other two answer are sufficient.
    B) non-congestible
    C) non-congestible and others can't exclude any individual

        B and C are necessary but not sufficient. My hope is that one learns and remembers
        anything from college, it is the difference between necessary and sufficient.

47. X Betsy loves to garden, and her rose garden is enjoyed by everyone in her neighborhood. Because her production and consumption of rosebushes provides a positive external effect to her neighborhood, the government might:
    A)   impose on Betsy a per-bush tax because without one she will have too few bushes from a social efficiency perspective
    B)   provide Betsy a per-bush subsidy because without one she will have too few bushes from a social efficiency perspective
    C)   impose a per-bush tax on Betsy because without one she will have too many bushes from a social efficiency perspective
    D)   provide Betsy a per-bush subsidy because without one she will have too many bushes from a social efficiency perspective

48. When deciding whether the current allocation of society's resources is, or is not, efficient, one takes the stock of society's resources as given
    A)   Incorrect
    B)   Correct

49. We need to describe how many pills Weird Edward wants to take. Which statement is both correct and the most informative description. (For this question assume MPB are decreasing in pill consumption and MPC are increasing. Also assume pills are divisible in terms of purchase and consumption.)
    A)   If he takes pills, he will take the amount of pills that equates MPB and MPC. He will take no pills if MPC(0)<MPB(0)
    B)   He will take that amount of pills that equates MPB and MPC
    C)   If he takes pills, he will take the amount of pills that equates MPB and MPC

50. Edward and Austin live in the jungle. They train a monkey, George, to do two things: gather fruit and patrol the perimeter of their camp. Which of the following are public commodities?
    A)   both the fruit and the patrols
    B)   the patrols
    C)   the fruit
    D)   none of the above

51. For a competitive market economy to achieve an efficient allocation of resources, property rights must be well defined.
    A)   Incorrect
    B)   Correct

52. The free-rider problem is a direct result of:
    A)   marginal-cost pricing.
    B)   full-cost pricing.
    C)   horizontally summed supply curves.
    D)   the inability to exclude nonpayers.

53. 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 typically positive but once another unit produced, the cost of supplying it to additional individuals is zero
    B)   is equal to the cost of supplying it to another individual
    C)   is zero because once it is produced for one individual it is there for everyone.
    D)   is typically positive and not equal to the cost of supplying it to another individual

54. Which statement best describes how goods and services are distributed in a competitive market economy in equilibrium
    A)   Who gets what depends on property rights
    B)   Those who work hardest consume the most stuff.
    C)   They are be distributed equitably, everyone getting their fair share.
    D)   The more resources one owns/controls, the more of the goods-and-services pie one consumes

55. If an individual's consumption of a good directly affects others, the individual will always consume too much of the good from a social efficiency perspective.
    A)   Incorrect
    B)   Correct

56. Many roads and highways in the U.S. are effectively common-property transportation inputs.
    A)   No
    B)   Yes

Answer Key

1. A
2. C
3. C
4. B
5. B
6. A
7. B
8. B
9. A
10. B
11. A
12. B
13. B
14. D
15. A
16. A
17. A
18. B
19. D
20. A
21. A
22. B
23. B
24. D
25. A
26. B
27. B
28. C
29. B
30. B
31. A
32. A
33. A
34. C
35. B
36. C
37. A
38. A
39. C
40. A
41. A
42. A
43. A
44. B

45. A
46. A
47. B
48. B
49. C
50. B
51. B
52. D
53. A
54. D
55. A
56. B