

Name: **KEY**
ECON 201—Montgomery College

EXAM 1

- There are 110 possible points on this exam. The test is out of 100.
- You have fifty minutes to complete this exam, but you should be able to complete it in less than that
- Please turn off all cell phones and other electronic equipment.
- You are allowed a calculator for the exam. This calculator cannot be capable of storing equations. This calculator cannot double as a cell phone.
- Be sure to read all instructions and questions carefully.
- Remember to show all your work.
- Recall basic logic. “Water is wet” is a true statement. “Water is wet and leopards have stripes” is a false statement.
- *Please print clearly and neatly.*

Part I: Matching. Write the letter from the column on the right which best matches each word or phrase in the column on the left. You will not use all the options on the right and you cannot use the same option more than once.

2 points each.

- | | |
|--|--|
| 1. E Scarcity | A. What you must give up |
| 2. G Total cost | B. When you proceed if the benefits exceed the costs |
| 3. D Margin | C. Why demand slopes down |
| 4. A Opportunity cost | D. Change in total |
| 5. F Marginal cost | E. Required for there to be a market |
| 6. I Rationality | F. The loss because of an additional action |
| 7. C Diminishing marginal utility | G. The loss because of all the actions/items |
| | H. The gain from an additional action/item |
| | I. Assumption of human behavior |

1. *If there is no scarcity, there is no question as to how to allocate a resource. Therefore, there is no market.*
2. *The loss suffered, tallied across all of the responsible actions, is the total loss, or total cost.*
3. *Margin is, by definition, change in total.*
4. *Opportunity cost is the net gain of the next best option; if you do X and your next best option is Y, then Y is what you give up.*
5. *Marginal cost is change in total cost; the additional cost because of an additional action.*
6. *Economists assume, among other things, that people are rational. It's a low bar, but it's an assumption. You could argue B also fits here.*
7. *Demand is a bunch of marginal benefits, organized in decreasing order.*

Part II: Multiple Choice. Choose the best answer to the following.

4 points each.

8. Craig the Confident Capitalist heard about a new low-priced keyboard on the radio which will enable users to type 50% faster than with standard keyboards. Craig is a smart man. He knows copper is used in keyboards and assumes most people will focus on investing in the company that makes the keyboards rather than the component parts. But Craig invests all his savings in copper a few hours after he hears the news. What crucial mistake did Craig make?
 - a. He didn't diversify his portfolio
 - b. He didn't consider that most people already have keyboards
 - c. He waited too long to invest
 - d. **A & C**
 - e. None of the above

Investing all your money into any one thing is a terrible idea; Craig shouldn't invest his entire savings into a single thing whether it's a commodity, stock, bond, or some other investment. But Craig also waited too long—a few hours—to invest. Craig isn't the only one who knows copper is used in keyboards and it's reasonable the price of copper went up the moment the news was released (note that just because he heard it on the radio does not mean it was the first time it was broadcasted).

But there's yet another mistake Craig made that's not listed here: Craig's implicitly assuming keyboards are the only thing copper is used for. Of course that's incorrect; if the price of houses—which use a lot of copper wiring—fall, the demand copper for homes will decrease even if the demand for copper for keyboards increase. Even adjusting for how many new homes are built versus new keyboards, the latter would probably have a larger impact. Craig could invest in copper and very easily witness the price of copper fall for a number of reasons.

Option B is incorrect because not only is it likely he did know that people already have keyboards, people replace their keyboard all the time (like any capital good, it wears out). Moreover, a 50% increase in typing speed with a very low price would be very enticing for anyone, even if their keyboard was working fine.

9. Consider this quote from Nobel Laureate F.A. Hayek:

If we were to apply the unmodified, uncurbed, rules of the micro-cosmos (i.e. of the small band or troop, or of, say, our families) to the macro-cosmos (our wider civilisation), as our instincts and sentimental yearnings often make us wish to do, *we would destroy it*. Yet if we were always to apply the rules of the extended order to our more intimate groupings, *we would crush them*. So we must learn to live in two sorts of world at once.

—F. A. Hayek, *The Fatal Conceit* (1988) [Original Emphasis]

What are these “two sorts of world” Hayek is referring to?

- a. The Law of Demand versus the Law of Supply
- b. **Communism versus market systems**
- c. What you do versus what you give up
- d. Wealthy versus poor countries
- e. None of the above

Socialist and communist economies try to resemble that of a family; Hayek argues that we should resist the temptation to transplant that organizational

structure to the larger order of strangers: that of the “extended order.” Similarly, applying market rules to our friends and family would smother those relationships; thus we must learn to live in two different worlds.

10. Which of the following individuals are **clearly not** rational?
- a. A mother giving her child a toy after he throws a temper tantrum.
 - b. A young woman eating a cheeseburger.
 - c. A wealthy couple buying a used car without closely inspecting it.
 - d. All of the above.
 - e. **None of the above.**

For all these individuals, it is easy to come up with reasons for why they did what they did. Temper tantrums are annoying; though it might be teaching a poor lesson, it is understandable why someone would prioritize the short-term gain of appeasement.

Cheeseburgers are delicious. Even if the young woman wants to lose weight (which was not evident in the question), it is still rational to eat a burger now and then.

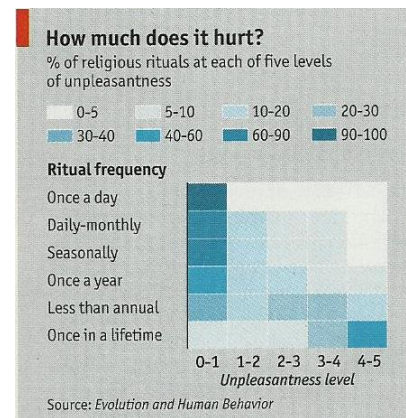
The closest to irrationality is option C, but even that is understandable. Closely inspecting a car can be a time-consuming activity. It is understandable (especially if you are quite wealthy), to avoid that cost.

11. According to the signaling theory for why more education leads to a higher income, if this class was famously difficult, which students would be better off?
- a. All students would be better off because they would learn so much more.
 - b. **Only the best students would be better off.**
 - c. Only the students planning to be economists would be better off.
 - d. No students would be better off, but no one would be worse off.
 - e. All students would be worse off.

If the class is famously difficult, the best students could use the class as a strong signal of their intelligence, hard work, etc. which would help them get the job they want. Option C would be the best answer if this was according to the human capital theory.

12. This graph illustrates the work of psychologists Harvey Whitehouse and Quentin Atkinson, as published in the April 23-29 2011 issue of *The Economist*. The “unpleasantness” of religious rituals (0 is low, 5 is high) is along the x-axis. How often the religion requires the ritual to be preformed is along the y-axis. What economic concept does this diagram represent?

- a. Opportunity cost
- b. A supply curve
- c. A demand curve**
- d. A & C
- e. None of the above



Another way to think of “unpleasantness” is “price” and another way to think of “frequency” is “quantity.” Thus you get a predictable downward sloping demand curve (though the axes are reversed).

13. Which of the following explains why a college degree increases earning potential?
- a. A college education signals you are friendly and sociable
 - b. A college education increases your productivity
 - c. A college education demonstrates that you are a hard worker
 - d. B & C**
 - e. None of the above

Your social skills do not inherently help you get a degree so you cannot claim that it signals friendliness. The other options are human capital and signaling, respectively.

14. In 2011, the U.S. Senate voted to end ethanol subsidies. If the bill passed, what happens in the market for corn? (Ethanol is made from corn.)
- a. The demand curve will shift, causing the price of corn to rise.
 - b. The supply curve will shift, causing the price of corn to rise.
 - c. The supply curve will shift, causing the price of corn to fall.
 - d. B & C
 - e. None of the above**

Ending subsidies cause fewer firms to want corn to turn into ethanol (because now ethanol is more expensive to make). Thus the demand curve will shift down, causing the price of corn to fall.

15. What barriers to efficiency does a socialist economic system face?
- a. Decision-makers don’t understand how capitalism works
 - b. Decision-makers don’t know what each part of the economy needs
 - c. Decision-makers don’t care what’s the most efficient use of resources
 - d. B & C**
 - e. None of the above

Central planners are both unaware of the near endless details that go into making an efficient decision and they lack the incentives necessary for them

to care what's best for society. At the heart of the problem is a lack of prices, which not only transfers knowledge (you know what's relatively scarce or abundant) but also acts as an incentive (high prices encourage conserving a resource and low prices encourage utilizing it).

16. People engage in an activity until:
- a. **Marginal benefit equals marginal cost**
 - b. Marginal benefit equals marginal profit
 - c. Marginal benefit equals opportunity cost
 - d. A & B
 - e. None of the above

People think on the margin, continuously weighing the costs and benefits.

17. The demand for shoes would shift to the right if:
- a. A shoe factory was destroyed.
 - b. Tennis became more popular.
 - c. Gasoline prices continued to climb.
 - d. **B & C**
 - e. None of the above.

Answer (a) is about the supply shifting to the left. But (b) and (c) represent changes in complements (b) and substitutes (c).

18. Describe crony capitalism.
- a. Prices are determined by the state. Major companies are owned mostly by individuals but the companies are subject to government regulation.
 - b. **Prices are determined by the market. Major companies are owned by individuals and these individuals often work with the government to construct business-friendly (but not market-friendly) regulations. Competition is restricted.**
 - c. Prices are determined by the state. Major companies are owned mostly by the government. There is a great deal of government regulation.
 - d. Prices are determined by the market. Major companies are owned mostly by the government and, therefore, little formal government regulation.
 - e. None of the above

While prices are determined the market mechanism of supply and demand and companies are privately owned, those prices are heavily influenced by government action often by restricting competition.

19. Which of the following is/are *not* capital?
- a. A video game
 - b. A delivery van
 - c. Electricity

- d. A & C
- e. None of the above

Capital must not only be used to create other goods or services, it must be durable as well. Only (b) fulfills both of these requirements. Option (a) may be durable, but it's a consumption good. Option (c) may be used to create other goods and services, but it's used up as soon as it's consumed (electricity doesn't last...once you use it, it's gone). But a van is both.

Part III: Short Answer. Answer the following.

16 points each.

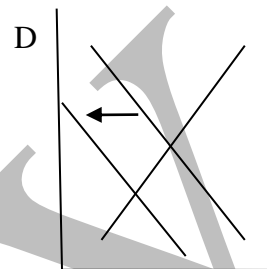
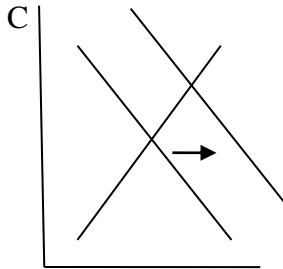
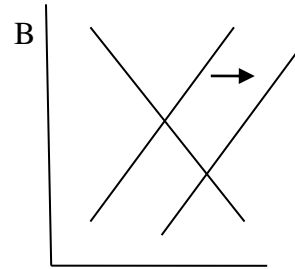
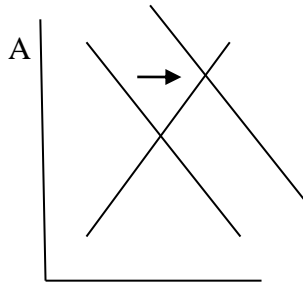
20. The vast majority of the time, capitalism encourages people to use resources efficiently. We discussed related ideas required to make this model of private ownership work efficiently. Describe these requirements and explain why each is so important for encouraging people to use resources efficiently.

Property rights must be clearly defined. Without clear definition, any ill-defined area won't be used in fear that other parties will reap the rewards.

Property rights must be strictly enforced. Without enforcement, there will be no disincentive to theft. If everyone fears theft, no one will create wealth and thus potential gains are never realized.

Owners of capital must reap the rewards of the capital and suffer all the losses. This is ultimately a carrot-and-stick model: efficient decisions are rewarded with profits but inefficient decisions are punished with losses.

21. Using the provided diagrams, illustrate the effects of the following (4 points each). Remember: do **not** shift more than one curve.
- a. The local roofing market after a hurricane hits a city.
 - b. The market for computers after the microchip was invented.
 - c. The market for bread after the price of pastrami falls.
 - d. The market for bread after the price of bagels fall.



22. Consider the companies below which make up FicDex, a brand-new fictional index. The table indicates their stock price without any stock splits.

Company	Stock Price
Jedi Tricks Unlimited	\$110
Big Box Retailers	\$100
Something Industries	\$70
Vague Corp	\$120

Suppose Vague Corp issued a stock split, doubling the number of shares. Calculate the new divisor for FicDex. Remember to show all your work.

The first step is to calculate the value of the index before the stock split.

$$FicDex = \frac{\$110 + \$100 + \$70 + \$120}{4} = \frac{\$400}{4} = \$100$$

Now we recognize that if Vague Corp doubles its stocks, it will halve its stock price (that way the firm will have the same value). We also recognize that FicDex won't change its value (since Vague Corp's value hasn't actually changed even though its stock price did). Therefore, we must change the divisor. Let the divisor be D.

$$\$100 = \frac{\$110 + \$100 + \$70 + \$60}{D} = \frac{\$340}{D}$$

$$D = \frac{\$340}{\$100} = 3.4$$

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