Economics 101 Name

Fall 2013 TA Name

October 8, 2013, 2:30pm – 3:45pm Discussion Section Number

First Midterm Student ID Number

**Version 1**

**READ THESE INSTRUCTIONS CAREFULLY.**

**DO NOT BEGIN WORKING UNTIL THE PROCTOR TELLS YOU TO DO SO**

You have 75 minutes to complete this exam. The exam consists of 30 multiple choice questions worth 3.3 points each for a total of 99 points. You will receive one point if you accurately and completely provide your name, ID number, discussion section number, version number, and TA name on the scantron sheet AND this exam booklet. Thus, the total number of points on the exam is 100. Answer all questions on the scantron sheet with a #2 pencil. There are 17 printed pages in this exam, including this cover sheet and extra work sheets.

**WARNING: NO COMMUNICATION OR CALCULATING DEVICES, OR FORMULA SHEETS ARE ALLOWED. NO CONSULTATION AND CONVERSATION WITH OTHERS ARE ALLOWED WHILE YOU ARE TAKING EXAM OR IN THE EXAM ROOM. PLAGIARISM IS A SERIOUS ACADEMIC MISCONDUCT AND PUNISHABLE TO THE FULLEST EXTENT.**

**PICK ONLY ONE BEST ANSWER FOR EACH QUESTION.**

**How to fill in the scantron sheet and other information:**

1. Print your last name, first name, and middle initial in the spaces marked "Last Name," "First Name," and "MI." Fill in the corresponding bubbles below.
2. Print your student ID number in the space marked "Identification Number." Fill in the bubbles.
3. Write the number of the discussion section you have registered under "Special Codes" spaces ABC, and fill in the bubbles. You can find the discussion numbers below on this page.
4. Write the version number of your exam booklet under "Special Codes" space D, and fill in the bubble. The version number is on the top of this page.
* **If you believe there is an error on the exam or you do not understand something, make a note on your exam booklet and the issue will be addressed AFTER the examination is complete. No questions regarding the exam can be addressed while the exam is being administered.**
* **When you are finished, please get up quietly and bring your scantron sheet and this exam booklet to the place indicated by the proctors.**

**Discussion Sections (Sorted by Time):**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sec. #** | **Time (FRIDAY)** | **Place** | **TA** |
| 330 | 8:50a – 9:40a | STERLING 1333 | Xun Gong (Grace) |
| 332 | 8:50a – 9:40a | STERLING 1327 | Kittichai Saelee (Golf) |
| 346 | 8:50a – 9:40a | INGRAHAM 120 | Zhihao Xu |
| 347 | 8:50a – 9:40a | INGRAHAM 224 | Adam Smith |
| 342 | 9:55a – 10:45a | VAN HISE 391 | Xun Gong (Grace) |
| 345 | 9:55a – 10:45a | VAN HISE 399 | Kittichai Saelee (Golf) |
| 336 | 11:00a – 11:50a | VAN HISE 574 | Zhihao Xu |
| 343 | 11:00a – 11:50a | VAN HISE 591 | Kittichai Saelee (Golf) |
| 338 | 12:05p – 12:55p | INGRAHAM 224 | Kittichai Saelee (Golf) |
| 339 | 12:05p – 12:55p | INGRAHAM 114 | Xun Gong (Grace) |
| 341 | 12:05p – 12:55p | STERLING 2329 | Adam Smith |
| 333 | 1:20p – 2:10p | WITTE HALL 138 | Xun Gong (Grace) |
| 334 | 1:20p – 2:10p | SELLERY HALL 49 (RESIDENTIAL) | Kanit Kuevibulvanich (Kenneth) |
| 335 | 1:20p – 2:10p | STERLING 2333 | Adam Smith |
| 337 | 2:25p – 3:15p | WITTE HALL 138 (RESIDENTIAL) | Kanit Kuevibulvanich (Kenneth) |
| 340 | 2:25p – 3:15p | CHADBOURNE 126 | Adam Smith |
| 331 | 3:30p – 4:20p | SOCIAL SCIENCE 6224 | Zhihao Xu |

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I, , agree to neither give nor receive any help on this exam from others. I understand that the use of a calculator or communication device on this exam is academic misconduct. I also understand that providing answers to questions on this exam to other students is academic misconduct as is taking or receiving answers to questions on this exam from other students. Thus, I will cover my answers and not expose my answers to other students. It is important to me to be a person of integrity and that means ALL ANSWERS on this exam are my answers. Any violation of these guidelines will result in a penalty of at least receiving a zero on this exam.

 Signed

**MULTIPLE CHOICES QUESTIONS (30 QUESTIONS WORTH 3.3 POINTS EACH)**

1. Which field of economics primarily studies the application of statistical techniques in analyzing economic problems?
	1. Macroeconomics
	2. Microeconomics
	3. Econometrics
	4. Public Finance
2. You are comparing prices while shopping online on two websites and both websites have the same list price for all of their products. Website A offers a 40% discount but you need to pay a $5 flat shipping fee, which cannot be discounted. You’ve found the same product on website B, which offers free shipping. For the same product, what percentage discount does Website B have to offer to match the final price of Website A for the same product?
	1. Website B must offer the product with a 40% discount.
	2. Website B must offer the product at a discount that is greater than 40%.
	3. The percentage discount Website B must offer in order to match Website A’s total price (including shipping) for the product depends on the price of the product. The higher the price, the lower the percentage discount that Website B must offer.
	4. The percentage discount Website B must offer in order to match Website A’s total price (including shipping) for the product depends on the price of the product. The higher the price, the greater the percentage discount that Website B must offer.

**Use the following figure to answer the next THREE (3) questions.**



1. Which of the following statements is **correct**?
	1. A price ceiling set at $12 would be binding in this market while a price ceiling set at $8 would not be binding in this market.
	2. A price floor set at $8 would be binding in this market while a price ceiling set at $8 would not be binding in this market.
	3. A price ceiling set at $9 would result in an excess supply of the good in this market.
	4. A price floor set at $11 would result in a surplus of the good in this market.

Suppose the figure is the demand and supply of some illegal substance. The government wishes to legalize this substance while simultaneously implementing a quantity quota in order to prevent overconsumption of this good by the public. The government plans to restrict the quantity of this good to a maximum amount of 30 units: these 30 units will be distributed to buyers by a licensed provider of the good. The government will auction off the right to be this licensed provider to the highest bidder for this right to provide this good.

1. Given the above information and holding everything else constant, what is the maximum the highest bidder would be willing to pay for the license to provide this good? What is the price that consumers will pay for each unit of the good they consume once the government implements this program?
	1. Maximum license fee is $240, the price consumers will pay is $6 per unit of the good
	2. Maximum license fee is $240, the price consumers will pay is $14 per unit of the good
	3. Maximum license fee is $160, the price consumers will pay is $12 per unit of the good
	4. Maximum license fee is $160, the price consumers will pay is $8 per unit of the good
2. From the quota policy implemented, what is the value of deadweight loss borne on the consumers’ side of the market, holding everything else constant? That is, what portion of the deadweight loss is borne by consumers?
	1. $100
	2. $80
	3. $40
	4. $200
3. Which of the following questions requires a positive answer?
	1. What fraction of the population is willing to save more if the government decides to cut income taxes by 10 percent this year?
	2. What should the government set as the maximum budget for the new legislation for its war on drugs?
	3. Why should the state of Wisconsin lower the minimum drinking age by 2 years?
	4. Where should we go after this exam?

**Use the following table to answer the next question.**

Students’ average weight (in lbs.) over their 4-year stay at UW-Madison, classified by majors

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Major | Year 1 | Year 2 | Year 3 | Year 4 |
| Economics | 148 | 145 | 144 | 143 |
| Mathematics | 152 | 154 | 152 | 155 |
| Engineering | 154 | 159 | 169 | 170 |

1. Panel data combines both cross-sectional and time-series data. The above table provides sample panel data of students’ average weight over their 4-year stay at UW-Madison, classified by majors. A dietitian is interested in studying the obesity of engineering-major students over their term of study. Given the above table of data and the dietitian’s research interests, determine whether the appropriate data is in a row or column of the table and the type of data that the dietitian will need, cross-section or time series.
	1. Row; Cross-section
	2. Row; Time-series
	3. Column; Cross-section
	4. Column; Time-series

**Use the following figure to answer the next question.**



1. From the above figure, a shortage of \_\_\_\_\_\_ units will result at the price of \_\_\_\_\_\_.
	1. 34; $9
	2. 32; $18
	3. 5; $27
	4. 7; $9
2. Suppose that graduate students consume both coffee and energy drinks and that each of these drinks is an interchangeable source of caffeine. Given this information and holding everything else constant, if the price of energy drinks increase then this will result in
	1. an increase in graduate students’ consumption of energy drinks only.
	2. a decrease in graduate students’ consumption of coffee only.
	3. a decrease in graduate students’ consumption of energy drinks and a decrease in their consumption of coffee.
	4. a decrease in graduate students’ consumption of energy drinks and an increase in their consumption of coffee.
3. Consider the market for diamonds. Suppose more diamonds are found in an already operational mine. At the same time, recent medical studies suggest that diamond mining poses significant health hazards, prompting firms to increase the level of compensation they pay to mine workers. Given this information and holding everything else constant, what happens to the equilibrium price and quantity in the market for diamonds? In the market for diamonds there is a(n)
	1. Higher equilibrium quantity but an ambiguous effect on the equilibrium price.
	2. Lower equilibrium price but an ambiguous effect on the equilibrium quantity.
	3. Ambiguous effect on both the equilibrium quantity and equilibrium price.
	4. Higher equilibrium quantity and a lower equilibrium price.
4. Which one of the following statements is **correct**?
	1. For any product that consumers demand, when income increases consumers will purchase more units of this product.
	2. According to the law of demand, an increase in the price of housing will cause a decrease in the demand for housing.
	3. When there is entry of a new firm into the smartphone market, this entry will increase the market demand for smartphones.
	4. Holding everything else equal, an increase in the demand for road trips during summer break should result in an increase in the price of gasoline.
5. Suppose the demand and supply curves for grapes are given by the following equations:

Demand: *Q* = 60 – 3*P*

Supply: *P* = 10 + *Q*

Suppose the grape market is initially in equilibrium. Then, suppose that there is an increase in income for every consumer in this market and this results in the demand curve shifting. This new demand curve is given by the following equation:

New Demand: *Q* = 40 – 3*P*

Given this information, and holding everything else constant, which of the following statements is true?

* 1. Grapes are an inferior good and the equilibrium price of grapes has decreased in this market.
	2. Grapes are an inferior good and the equilibrium price of grapes has increased in this market.
	3. Grapes are a normal good and the equilibrium price of grapes has decreased in this market.
	4. Grapes are a normal good and the equilibrium price of grapes has increased in this market.
1. Which of the following statements is **not true**?
	1. Suppose there are 99 countries in the world, and all of these countries produce goods X and Y using a single input. Furthermore, suppose that all of these countries have different amounts of this input but the same opportunity cost of producing goods X. Given this information and holding everything else constant, then there will be no “kink points” on the joint PPF for all of these countries.
	2. The PPF for a country cannot be a straight line if the opportunity cost of producing good X increases as you move along the PPF from low levels of good X to high levels of good X production.
	3. If an economy produces only two goods, X and Y, then the law of increasing opportunity cost implies that we must give up fewer units of X to produce an additional unit of Y as more of Y is produced.
	4. If you have a PPF that illustrates the law of increasing opportunity cost then as you move down the PPF from the y-intercept, the slope of the PPF will get steeper.
2. How many of the following statements are **correct**?
	* 1. In the market for good X, if the price of good X increases then the quantity demanded of good X will increase holding everything else constant.
		2. Suppose there are 10 people in the market and each of these individuals have the same individual demand curve that can be expressed as *P* = 1 – *q* where “*q*” is the quantity demanded by an individual. Then, the market demand curve is simply a parallel shift rightward by 9 units, i.e. the market demand curve can be written as *P* = 10 – *Q* where “*Q*” is the quantity demanded in the market.
		3. Suppose there are 10 firms in the market and each firm has the same individual firm supply curve that is given by the equation *P* = *q* where “*q*” is the quantity supplied by an individual firm. Then the market supply curve is flatter than the individual firm supply curve and the slope of the market supply curve will be equal to 10.
3. None of these statements is correct.
4. Only one statement is correct.
5. Two statements are correct.
6. Three statements are correct.
7. An implementation by the government of an effective price floor program in a market will compared to the initial equilibrium price in this market before the imposition of this price floor program.
	1. cause the price consumers pay and the price producers receive to increase
	2. cause the price consumers pay and the price producers receive to decrease
	3. cause the price consumers pay to increase and the price producers receive to decrease
	4. cause the price consumers pay to decrease and the price producers receive to increase

**Use the following information to answer the next THREE (3) questions.**

Suppose China and Japan produce only two goods, computers and cars. Assume that both countries have linear production possibility frontiers and that both countries have identical resources and technology available to produce these two goods. In one year, China can produce either 2000 computers and 50 cars, or 2800 computers and 0 cars, or any combination of computers and cars that lie on the line that includes these two points. Japan can produce either 1000 computers and 75 cars, or 1600 computers and 0 cars, or any combination of computers and cars that lie on the line that includes these two points. Both countries are allowed to trade with each other.

1. Which country has the absolute advantage in producing computers? Which country has the absolute advantage in producing cars?
	1. Japan has the absolute advantage in producing both computers and cars.
	2. Japan has the absolute advantage in producing computers. China has the absolute advantage in producing cars.
	3. China has the absolute advantage in producing computers. Japan has the absolute advantage in producing cars.
	4. China has the absolute advantage in producing both computers and cars.
2. Discovery of alien technologies has doubled the production capacity of both computers and cars in China. In Japan, however, this new technology has only tripled the production of computers. With this change and holding everything else constant, has the comparative advantage in the production of computers, and has the comparative advantage in the production of cars.
	1. China; China
	2. China; Japan
	3. Japan; Japan
	4. Japan; China
3. What happens to the range of trading prices for cars and the direction of trades after the discovery of alien technologies described in the previous question? Compared to before the discovery of the alien technology,
	1. Cars are now relatively more expensive and the Japanese are now selling cars to the Chinese.
	2. Cars are now relatively more expensive and the Chinese are now selling cars to the Japanese.
	3. Cars are now relatively cheaper and the Japanese are now selling cars to the Chinese.
	4. Cars are now relatively cheaper and the Chinese are now selling cars to the Japanese.

**Use the following information to answer the next THREE (3) questions.**

Since 1951, the UW has been making ice cream inside the dairy plant on the west side of campus. The product has been locally distributed under the trademark of Babcock. According to a market survey conducted last winter, the groups of customers who buy their ice cream can be classified into three types:

* The first type of customers *hate* ice cream, so the demand for these customers can be expressed as *q* = 0.
* The second type of customers *like* ice cream; their demand for ice cream can be expressed by the equation *q =* 10 *–* 2*P*.
* The third type of customers are *crazy* for ice cream; their demand for ice cream can be expressed by the equation *q* = 20 – *P*.

Let *q* be the quantity in thousands of pints in each type, *P* and *Q* be the dollar price per pint and market quantity in thousands of pints, respectively. Use this information to answers the following questions.

1. The market supply of Babcock ice-cream is given by *P* = (1/20)*Q* + 2. Suppose initially before the market survey came out, the manager of the dairy operations at Babcock decided to set the price of ice cream equal to $4 per pint. Given the above information and holding everything else constant, which of the following statements is **TRUE**?
	1. At this price, no one would want to purchase ice cream because the price of ice cream is too high.
	2. At this price the market for ice cream has excess demand and only 18,000 pints of ice cream will be sold.
	3. At this price the market for ice cream has excess supply and there will be a surplus of 22,000 pints of ice cream.
	4. At this price the market is in equilibrium and 40,000 pints of ice cream are sold.
2. Which of the following expressions is the equation for the market demand curve for ice cream given the above information?
	1. *P* = 20 – *Q* , when 0 ≤ *Q* ≤ 15

*P* = 10 – (1/3)*Q* , when 15 ≤ *Q* ≤ 30

* 1. *P =* 20 – *Q* , when 0 ≤ *Q* ≤ 10

*P* = 50/3 – (2/3)*Q* , when 10 ≤ *Q* ≤ 25

* 1. *Q* = 25 – (3/2)*P* , when 0 ≤ *P* ≤ 10

*Q =* 20 – *P* , when 10 ≤ *P* ≤ 20

* 1. *P* = 10 – (1/3)*Q* , when 0 ≤ *Q* ≤ 30
1. Suppose that prior to setting price the dairy manager at Babcock knows the market demand. Suppose also that the market supply curve for Babcock ice cream is now given by the equation:

 *P* = (1/2)*Q +* 2.

Holding everything else constant, which of the following statements is **incorrect**?

* 1. With the new market supply, the equilibrium price in the market would now be $8 per pint with 12,000 pints of ice cream sold.
	2. When the market for Babcock ice cream is in equilibrium, both types of customers (those who like and those who are crazy about ice cream) will purchase equal amounts of ice cream. Both types of customers will purchase 6,000 pints.
	3. One possible explanation for the change in the market supply equation could be that there is a shortage of the dairy products that go into the production of ice cream in the Wisconsin area.
	4. If Babcock continues to sell ice cream at a price of $4 per pint, then Babcock will find that there is an excess demand for 14,000 pints of ice cream at this price.
1. Which of the following statements concerning economic growth is **not true**?
	1. If an economy produces only two goods using a single factor of production and a natural disaster eliminates much of that factor of production, then the PPF will shift inward.
	2. Suppose an economy produces only two goods, apples and computers. Suppose this economy produces 200 apples and 30 computers in 2005, and 300 apples and 20 computers in 2006. Given this information, this economy definitely had no economic growth between these two years.
	3. When an economy has economic growth this is depicted by drawing a PPF that has shifted out from the original PPF.
	4. Suppose an economy produces only two goods, consumption goods and capital goods. Holding everything else constant, if this economy is choosing between two points on its PPF, then choosing the production point with the greater level of capital good production will result in greater economic growth of this economy than choosing the other point.

**Use the following information to answer the next TWO (2) questions.**

Suppose the demand and supply curves for celeriac, a type of vegetable, are given by the following equations:

Demand for Celeriac: *P* = 260 – *Q*

Supply of Celeriac: *P* = 80 + *Q*

where *Q* is bushels of celeriac and *P* is the price per bushel of celeriac. The cost of storing any celeriac that is not purchased by consumers is $10 per bushel of celeriac.

1. Suppose the government implements a subsidy (price guarantee) program that targets the price of celeriac at $180 per bushel. Given this program, the above information and holding everything else constant, the direct expenditure by consumers on celeriac is equal to \_\_\_\_\_\_\_\_\_, the amount of celeriac produced by farmers is \_\_\_\_\_\_\_, and the cost to the government of this program including any storage costs is \_\_\_\_\_\_\_\_.
	1. $16,000; 100 bushels; $2,000
	2. $18,000; 100 bushels; $2,000
	3. $18,000; 80 bushels; $1,800
	4. $16,000; 100 bushels; $2,200
2. Suppose that the government is now considering implementing a price floor policy in the market for celeriac instead of the subsidy program. The government is willing to allocate $3,800 to this program. If the price floor for celeriac is set at $180 per bushel, which of the following statements is true holding everything else constant?
	1. With a price floor of $180 per bushel there will be no effect in the market for celeriac.
	2. With a price floor of $180 per bushel the cost to the government will be less than the amount the government has budgeted.
	3. With a price floor of $180 per bushel the cost to the government will be greater than the amount the government has budgeted.
	4. With a price floor of $180 per bushel the cost to the government will be equal to the amount the government has budgeted.
3. Suppose initially there is a $100 excise tax that is levied by the government on producers of good X. Suppose the government decides to alter this $100 excise tax by having consumers have the legal responsibility for paying half of the tax while producers have the legal responsibility for paying the other half of the tax. Assume that neither consumers nor producers can evade their legal responsibility to pay this excise tax. Which of the following statements is true given this information?
	1. This new version of the excise tax will result in both consumer surplus and producer surplus decreasing relative to their respective levels with the initial version of the excise tax.
	2. This new version of the excise tax will result in a smaller amount of the good being sold at a lower price to consumers than with the initial version of the excise tax.
	3. This new version of the excise tax will result in a smaller amount of the good being sold and the net price producers receive will also decrease relative to the initial version of the excise tax.
	4. This new version of the excise tax does not change consumer surplus, producer surplus, tax revenue, or economic tax incidence from the original impact of the initial version of the excise tax.
4. Which of the following statements are true?
5. If the world consists of two countries, M and N, producing two goods, X and Y, then it **cannot** be the case that M has the absolute advantage in producing X and Y, and N has the comparative advantage in producing X and Y.
6. If the demand curve for the good is vertical, then an excise tax on this product imposed on consumers will reduce the quantity of the good transacted in the market.
7. Consumer surplus measures the total value of the good to the consumer minus the dollar amount the consumer spends on the good.
8. Suppose a movie ticket costs $10. If you go to work, you are paid $15 per hour. Suppose the movie is two hours long and you decide to attend the movie rather than go to work. The opportunity cost of going to the movie is $30.
	1. Statement I, II and III are true.
	2. Statements I and III are both true.
	3. Statement III is true.
	4. Statement I, II, III and IV are true.

**Use the following information to answer the next TWO (2) questions.**

Insulin is a medication required for insulin-dependent diabetics. For individuals who are insulin-dependent their demand for insulin is given by the following equation:

Demand for insulin for insulin-dependent diabetics: *Q* = 27

Suppose that insulin is produced by extraction from safflowers. Furthermore, suppose that when the price of insulin is $0, 7 units of insulin can be supplied naturally. For every $1 increase in price, 4 more units of insulin can be produced from this initial amount found in nature.

1. Seeing this as a great potential revenue opportunity, suppose the government decides to implement an excise tax of $100 per unit of insulin on producers of insulin. Given the above information and this tax, what is the value of the deadweight loss due to the implementation of this excise tax?
	1. $0
	2. $135
	3. $2,700
	4. The deadweight loss is very large.
2. Consider the excise tax described in the previous question. Which of the following statements is true about this excise tax?
	1. Insulin taxation is highly inefficient but equitable.
	2. Insulin taxation is highly inefficient because of the deadweight loss it generates.
	3. Despite the fact that insulin taxation is efficient, it is inequitable.
	4. Producers have a loss of producer surplus due to the imposition of this excise tax.

**Use the following information to answer the next TWO (2) questions.**

Suppose the market demand and market supply curves for a Cardassian drink called “Kanar” are given by the following equations:

Market Demand: *Q* = 100 – 2*P*

Market Supply: *Q* = 4*P* – 20

where *Q* is quantity in Cases and *P* is the price per case in Leks. Given this information the equilibrium quantity and price are 60 Cases and 20 Leks, respectively.

1. Suppose a per unit excise tax of 15 Leks per Case is imposed on producers. Given this information and holding everything else constant, which of the following statements is true?
	1. Equilibrium quantity falls from 60 Cases to 40 Cases.
	2. The price consumers pay falls from 20 Leks to 15 Leks.
	3. The net price producers receive increases from 20 Leks to 30 Leks.
	4. Government revenue from this excise tax is 1,200 Leks.
2. Answer this question based on the excise tax described in the last question. What is the value of the deadweight loss that reflects the inefficiencies from under-production due to this excise tax? In other words, what part of the deadweight loss due to this excise tax falls on producers?
	1. 0 Leks
	2. 50 Leks
	3. 100 Leks
	4. 150 Leks

**ANSWERS:**

* + - 1. C
			2. D
			3. D
			4. B
			5. C
			6. A
			7. B
			8. D
			9. D
			10. C
			11. D
			12. A
			13. C
			14. A
			15. A
			16. C
			17. D
			18. B
			19. C
			20. A
			21. B
			22. B
			23. A
			24. D
			25. D
			26. B
			27. A
			28. C
			29. A
			30. B