Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Econ 280

**Exam 04**

* There are 110 possible points on this exam. The test is out of 100.
* You have two hours 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 or other device.
* 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: Multiple Choice.** *Choose the best answer to the following.*

3 points each.

1. Established in 1947, the GATT aimed to:
   1. Reduce tariffs
   2. Protect price discrimination
   3. Break up monopolies
   4. A & C
   5. None of the above
2. Which of the following methods might the Commerce Department use to determine if a firm is “dumping?”
   1. Estimate the firm’s cost of production
   2. Investigate how much the firm charges in other countries
   3. Reduce switching costs
   4. A & B
   5. None of the above
3. Which of the following is an example of adverse selection?
   1. Going to see a bad movie.
   2. Universal health care.
   3. Lending to a con artist.
   4. A & C
   5. None of the above
4. Which of the following is an example of someone being rationally ignorant?
   1. A geography teacher not knowing where New Zealand is located
   2. A taxi driver not knowing all fifty states and their capitals
   3. A New York City tour guide not knowing when the Statute of Liberty was built
   4. B & C
   5. None of the above
5. The Colorado River—the one that carves the Grand Canyon—doesn’t empty into the ocean like other rivers. In The Colorado River: Flowing Through Conflict, photographer Peter McBride blames “too many straws.” Farmers use the Colorado to grow the U.S.’s *entire* winter lettuce and carrot crop. It’s easy for anyone to pull water from this 1,450 mile long river (crossing seven states and two countries). With this information in mind, the lack which of Ostrom’s design principles best explains this tragedy of the commons?
   1. Clearly defined boundaries
   2. Graduated sanctions
   3. Congruence between rules and conditions
   4. Conflict resolution mechanism
   5. None of the above
6. Which of the following is the strongest reason why all high-tech firms should rely on patenting their inventions to profit from their intellectual property?
   1. Because many high-tech firms invent new means of production in addition to new products
   2. Because high-tech firms tend to have few direct competitors
   3. Because the next invention comes from previous ones
   4. A & B
   5. None of the above
7. In the following game, describe the Don’t Shoot strategy for Omar.

|  |  |  |  |
| --- | --- | --- | --- |
|  | | Mustafa | |
| Dodge | Stand |
| Omar | Shoot | -1 , 5 | 10 , -10 |
| Don’t Shoot | -2 , -2 | -2 , 3 |

* 1. Weakly Dominate
  2. Strictly Dominate
  3. Dominated by Shoot
  4. Nash Equilibrium
  5. None of the above

1. When does vertical integration decrease deadweight loss?
   1. When each firm in a production process is horizontally integrated
   2. When the marginal cost of production is zero
   3. When antitrust legislation is particularly strong.
   4. B & C
   5. None of the above
2. We discussed many different types of price discrimination in class. Which of the following types would describe the pricing behind a single price for buying several different cable channels at once?
   1. Peak-load pricing
   2. 2nd degree pricing
   3. Tying
   4. B & C
   5. None of the above
3. How does a patent buyout system encourage economic efficiency?
   1. It avoids the tragedy of the anticommons without shortchanging inventors
   2. It encourages firms to rely on trade secrets and first mover advantage to generate revenue from new technology
   3. It maintains the incentive to invent without discouraging downstream innovation
   4. A & C
   5. None of the above
4. What is a long-run implication of the law of one price?
   1. Offshoring to China will not result in a significant increases in profit
   2. The capital account will equal the trade deficit
   3. All countries’ currency’s purchasing power will increase
   4. B & C
   5. None of the above
5. Suppose you manage a manufacturing company. Some of your engineers are very competent, a few are somewhat bad, and one is very, very good. Also suppose that is easy to judge how good of a job the engineers do. Which of the following incentive structures is probably ***not*** a good idea to implement?
   1. Piece rates
   2. Corporate culture
   3. Tournaments
   4. A & B
   5. None of the above
6. Which of the following is an example of Type II error?
   1. Buying a faulty car battery
   2. Going to a party that turns out to be terrible
   3. Hiring Jesse who goes on to steals $200,000 from the company
   4. B & C
   5. None of the above
7. According to Coase, why do we have many moderately-sized firms?
   1. Organizational costs
   2. Opportunity costs
   3. Transaction costs
   4. A & C
   5. None of the above

**Part II: True/False.** *Answer true or false, and justify your answer.*

6 points each.

1. According to Elinor Ostrom, local knowledge plays a central role in overcoming the tragedy of the commons.

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1. If bidders are risk averse, an English auction will yield more revenue than a 1st price sealed bid auction.

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1. Under a fixed exchange rate regime, if a currency is undervalued the controlling country will print more of the currency.

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**Part III: Short Answer.** *Answer the following.*

10 points each.

1. Using the midpoint method, calculate the elasticity for the following before and after pairs of price and quantity. Then determine if the good for the indicated change is elastic, inelastic, or unit elastic.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | *Price Before* | *Price After* | *Quantity Before* | *Quantity After* |
| a. | $50 | $10 | 60 | 100 |
| b. | $5 | $25 | 400 | 200 |
| c. | $1 | $3 | 20 | 4 |
| d. | $9 | $1 | 10,000 | 11,000 |
| e. | $100 | $700 | 30 | 10 |

1. Using the information below, calculate the expected values of various uncertain payoffs. Remember to show your work.
   1. An 8% chance to win $200
   2. Rolling a “1,” “3,” or a “4” on a 4-sided die wins $20,000
   3. Rolling a “1” or a “6” on a 10-sided die wins $500 while rolling a “2” on the die results in losing $1,000
   4. There is a 12% chance to find a treasure map and a 10% chance that there is $240,000 in treasure at the end of the map
   5. Roll three dice: an 8-sided die, a 6-sided die, and a 4-sided die. If the 4-sided die results in a “4,” roll it again. If the second roll is a “4,” get $16,000. If the 6-sided die results in a “2” or a “3,” get $1,200. If all three dice result in a “1,” get $384,000. Otherwise, get nothing.
2. Consider the game below. Find rollback equilibrium. Then determine if there is a first or second mover advantage (if any). Be sure to justify your answer.

Alpha

Beta

Beta

-4,4

5,3

1,1

4,-4

Fight

Fight

Love

Peace

Love

War

1. Down syndrome (DS) is a chromosome abnormality that results in severely diminished mental capacity (the average IQ of those without DS is 100; with DS, it is 50). Couples expecting a baby often have the fetus tested for DS; the vast majority of fetuses with DS are terminated. Suppose 3% of fetuses have DS.[[1]](#footnote-1) There are multiple tests for DS. One test called quad screening is 81% sensitive and 95% specific.[[2]](#footnote-2) If this test comes up positive, what are the chances the fetus has DS?
2. For each of the following market changes, describe if the ***Japanese yen (JPY)*** appreciates or depreciates in relation to the Chinese yuán (CNY). Briefly justify your answer.
   1. The interest rate in Japan increased by one percentage point while in China it increases by two percentage points.
   2. Japan develops a new hard drive which is must faster and more effective than conventional hard drives.
   3. The expected inflation rate in China doubles while in Japan it remains the same.
   4. China starts exporting a new kind of rice to Japan.
   5. There is a coup in China while Japan’s government remains stable.
3. *\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

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1. The CDC estimates that 1 in 691 babies born in the U.S. have DS. About 95% of fetuses with DS are terminated. Thus, for every 1 fetus with DS that will be born, there are 19 others that are terminated. So, if abortion rates were zero, 20 in 710 babies would have DS, or about 3%. [↑](#footnote-ref-1)
2. All numbers for this question are taken from or calculated using values from the DS entry on Wikipedia. Take them with several grains of salt. [↑](#footnote-ref-2)