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

Econ 304—Bethany College

**Exam 04**

* There are 110 possible points on this exam. The test is out of 100.
* You have one hour 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: Multiple Choice.** *Choose the best answer to the following.*

3 points each.

1. Economists often argue that the government must provide public goods. Why?
	1. So the tragedy of the anti-commons can be mitigated
	2. So they can force people to pay for them
	3. So everyone can use them
	4. B & C
	5. None of the above
2. It is impossible, in the long run, to give money away because of:
	1. Median Voter Theorem
	2. Rent seeking
	3. Incentives of bureaucrats
	4. A & C
	5. None of the above
3. According to double marginalization, which of the following industry structures will make more total profit than two inter-related monopolies?
	1. A single monopoly
	2. Three inter-related monopolies (triple marginalization)
	3. Perfect competition
	4. B & C
	5. None of the above
4. Which of the following is a public good?
5. Higher education
6. Flood control systems
7. Health insurance
8. A & C
9. None of the above
10. Consider the following game:

|  |  |
| --- | --- |
|  | Dog |
| Right | Left |
| Cat | Right | -3 , 3 | 1 , X |
| Left | X , -4 | -2 , 2 |

What could X be to ensure there is no Nash Equilibrium?

* 1. -4
	2. -1
	3. 5
	4. A & C
	5. None of the above
1. Which of the following is ***not*** an assumption of price discrimination?
2. Uniform costs
3. Price setting power
4. Distinguishable units
5. B & C
6. None of the above
7. Suppose a perfectly competitive firm has a total revenue equation of 16Q and a total cost curve of 10 + 0.5Q2. What is the profit maximizing output?
8. 3
9. 6
10. 8
11. 16
12. None of the above
13. Which of the following outcomes is a prediction of the market for lemons?
	1. The consumers will usually pay more than what the good is worth.
	2. The price consumers are willing to pay will fall to zero.
	3. The market will unravel so nothing is sold.
	4. B & C
	5. None of the above
14. Walras assumed a pure exchange economy to construct his theory of general equilibrium. Which of the following is ***not*** an assumption of a pure exchange economy?
	1. There is no production
	2. Each consumer knows the price of each good
	3. Prices are change for whenever there’s a new endowment
	4. A & B
	5. None of the above.
15. Why is the yield curve usually concave?
	1. Investors are being compensated for sacrificing flexibility.
	2. Investors are being compensated because there is more near-future knowledge than far-future knowledge.
	3. Investors are being compensated because risk premiums are not zero.
	4. A & B
	5. None of the above
16. In CAPM, what is used to calculate an asset’s β?
	1. Risk premium of the asset
	2. Risk premium of the market
	3. Risk premium of a risk-less asset
	4. A & B
	5. None of the above
17. An example of rational irrationality is:
	1. A protectionist voting against tariffs
	2. A senator not knowing how a bill becomes a law
	3. Making sure a black cat doesn’t cross your path
	4. A & C
	5. None of the above
18. Suppose the government offered a $10,000,000 contract for a technology firm to improve the United States’ Internet security infrastructure. Which of following ways could that rent be sought?
	1. Industry representatives take bureaucrats on week-long “fact finding” trips.
	2. Industry CEOs spend most of the $10 million it received from the government as bonuses to themselves and equipment to help with other projects; the actual additional security is largely window dressing.
	3. Government workers earn a higher degree so they can be promoted to a decision-making position.
	4. A & C
	5. None of the above
19. Which of the following is an example of a club good?
	1. Computer hardware
	2. Hiking trails in remote areas
	3. A community garden
	4. Sidewalks
	5. None of the above

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

6 points each.

1. One of Arrow’s standards for a perfect voting system is independence of irrelevant alternatives (IIA), or that all possible alternatives of all voters should be allowed.

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1. An Edgeworth box contains nothing but Pareto efficient points.

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1. If two firms in a Cournot oligopoly have different marginal costs, each firm will charge the same price.

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

10 points each.

1. Consider a Stackelberg model with two Firms (A and B) share the following demand curve:

P = 11 – 1.5Q; Q = QA + QB

Assume the marginal cost of Firm A is 2 and the marginal cost of Firm B is 5. Firm A goes first. What is the equilibrium ***profit*** for each firm?

1. Provide an example of rent. Who would do the rent-seeking in your example? What does it mean for the rents to be dissipated?

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1. Sketch the contract curve of the Edgeworth Box below. Suppose Alpha is a struggling lobbyist and Beta is a middle class entrepreneur. Using only the provided indifference curves as a guide, where should we prioritize the allocation under Nozick, Rawls, and Utilitarianism? (HINT: Utilitarianism may be a possible range, rather than a point(s), on the contract curve.)

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Waterα

Powerα

0

100

0

100

Powerβ

Waterβ

100

100

0

0

**0**

**4**

**6**

**12**

**0**

**5**

**8**

**12**

**6**

**3**

**1**

**11**

1. In Spengler (1950), Spengler developed a model of double marginalization. The profit (and maximizing profit) for the retailer is:

$$∏\_{r}=\left(p-p\_{m}\right)\left(1-p\right); ∏\_{r}^{\*}=\left(\frac{1-p\_{m}}{2}\right)^{2}$$

And the profit (and maximizing profit) for the manufacturer is:

$$∏\_{m}=\left(p\_{m}-c\right)\left(\frac{1-p\_{m}}{2}\right);∏\_{m}^{\*}=\frac{\left(1-c\right)}{8}^{2} $$

With a profit maximizing price of:

$$p\_{m}=\frac{1+c}{2}$$

What is the profit to the retailer? What is the combined profit of both monopolies? If the two monopolies was one monopoly, what would be profits?

1. Consider the game below of a robot playing chess against a human. Each can choose a general strategy at the beginning of the game. What is the mix strategy Nash equilibrium for ***each*** player?

|  |  |
| --- | --- |
|  | Robot |
| Aggressive | Defensive |
| Human | Aggressive | 3 , -3 | -1 , 1 |
| Defensive | -1 , 1 | 2 , -2 |