Name: _____
ECON 202—Montgomery College
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EXAM 3

- 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 double as a cell phone.
- Be sure to read all instructions and questions carefully.
- Remember to show all your work.
- Try all questions! You get zero points for questions that are not attempted.
- *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. ___ Economies of scale
2. ___ Deadweight loss
3. ___ Demand curve
4. ___ Elimination principle
5. ___ Fixed cost
6. ___ Inelastic demand curve
7. ___ Monopolistic competition
8. ___ Nash equilibrium
9. ___ Prisoner's dilemma
10. ___ Variable cost

A. Average total costs fall as output expands
B. Example: a baker's cost of flour
C. Example: a game company's cost of designing a video game
D. Example: buying things only to "keep up" with your peers
E. Example: fast food companies
F. Example: housing
G. Example: the cost of what you could have earned had you started a different business
H. Gains that go to no one
I. Includes a normal amount of profit
J. Many marginal benefits
K. No one wants to change what they're doing
L. Predicts all competitors, in the long run, earn the same average amount
M. When ATC > MC.

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

3 points each.

11. Suppose a hurricane knocks over many trees, blocking the roads into a city and knocking out its power. What changes about the market for ice in the city?
    a. Its supply curve becomes more inelastic.
    b. Its demand curve becomes more elastic.
    c. Its demand curve becomes more inelastic.
    d. A & C
    e. None of the above

12. If a monopolistically competitive firm is making economic profits, what ***must*** happen in the long run?
    a. Demand shifts down until there are zero economic profits.
    b. Marginal cost shifts up until there are zero economic profits.
    c. Deadweight loss increases.
    d. A & C
    e. None of the above

13. In the aftermath of the 2014 mudslide in Oso, Washington, NPR ran a story concerning mudslide insurance.[1] Mudslide insurance, like mudslides themselves, is rare. Why? Because the insurance is very expensive—up to $1,000 per year, depending on the value of and risk to the home. According to Ron Fredrickson, manager of consumer advocacy at the state of Oregon's Insurance Division:

> Insurance is basically risk-sharing. In order for it to work — and for it to be reasonably affordable — you have to have a large number of similar units that have similar possibilities of loss.

In other words if more people bought mudslide insurance, mudslide insurance would be much cheaper. What does this information suggest about the mudslide insurance industry?

a. It has diseconomies of scale
b. It has decreasing marginal cost
c. It has economies of scale
d. A & B
e. None of the above

14. How do monopolies make greater than average profits?
    a. By reducing the quantity sold.
    b. By forcing people to buy their good.
    c. By not having to spend any money on advertising.
    d. B & C
    e. None of the above

15. Suppose the price of birdseed was $6 for a large bag and 500 bags were sold. Then suppose that the price of the birdseed increased to $8 and 200 bags were sold. Calculate the price elasticity of demand and determine the elasticity of demand.
    a. 3, elastic
    b. 1/3, elastic
    c. 1, unit elastic
    d. 3, inelastic
    e. 1/3, inelastic

16. A Pigouvian subsidy is supposed to:
    a. Discourage people from producing a good
    b. Discourage people from demanding a good
    c. Encourage people to produce a good
    d. B & C
    e. None of the above

[1] http://www.npr.org/2014/04/08/300267934/natural-disasters-are-rare-but-so-is-mudslide-insurance

17. Consider the game below. What could X be to ensure there are no Nash equilibria? (Note there are two Xs, meaning the payoff for each X would have to be the same.)
    a. 1
    b. 3
    c. 5
    d. A or C
    e. None of the above

		Zuko	
		Defend	*Attack*
Aang	*Defend*	X, 3	7, 4
	Attack	2, 4	8, X

18. Which of the following scenarios is an example of a prisoner's dilemma?
    a. Robbing a bank: one player is a robber (choosing between robbing and not robbing) and the other is the bank (choosing between high and low security).
    b. An arms race: the two players are countries (each choosing between a lot of military spending and a little military spending).
    c. A penalty kick in a soccer game: the two players are…players (the goalie chooses where to try to block the ball and the kicker chooses where to kick the ball).
    d. Meeting for lunch: the two players are old friends (each choosing between going to a coffee shop and going to a restaurant).
    e. None of the above

19. The iconic blue-and-white Chinese porcelain sold to people all over the world (particularly between the 14^{th} and the 16^{th} centuries) was so successful, entrepreneurs in Persia, Netherlands, Syria, Iberia, Mexico, and many other areas attempted to copy it. The actual process for creating such high quality ceramics was kept secret but in 1708 a German alchemist finally found a way to replicate it the ancient art. What do you expect happen to the price of porcelain after 1708 and why?
    a. It should fall, because of the increased competition.
    b. It should fall, because of the lower cost to create Chinese porcelain.
    c. It should rise, because of the greater difficulty in keeping the method a secret.
    d. It should not change at all because demand and supply will react accordingly.
    a. None of the above

20. Which of the following is an example of a fixed cost for a T-shirt business right when it gets started?
    a. Building a factory
    b. Purchasing more fabric for T-shirts
    c. Hiring additional workers
    d. A & B
    e. None of the above

21. Why is the average fixed cost always decreasing as quantity increases?
    a. Because fixed costs don't change.
    b. Because variable costs are constant.
    c. Because average fixed costs are determined by dividing by quantity.
    d. A & C
    e. None of the above

22. What determines who (supply or demand) pays the majority of a tax?
    a. Who is legally assigned to pay the tax
    b. The elasticity of supply
    c. The elasticity of demand
    d. B & C
    e. None of the above

23. On April 17, 2014, *Forbes* published an article by economist Michael Saltzman describing the economic research on the minimum wage.[2] The overwhelming body of research (roughly 85%) points to empirical evidence for increasing unemployment due to the minimum wage (just as theory would predict). Saltzman also notes:

> [A] study published in the Journal of Human Resources found that a higher minimum wage can actually increase the proportion of families living at or near the poverty line, as the resulting reduction in work hours (or a loss of employment altogether) leads to less take-home pay rather than more.

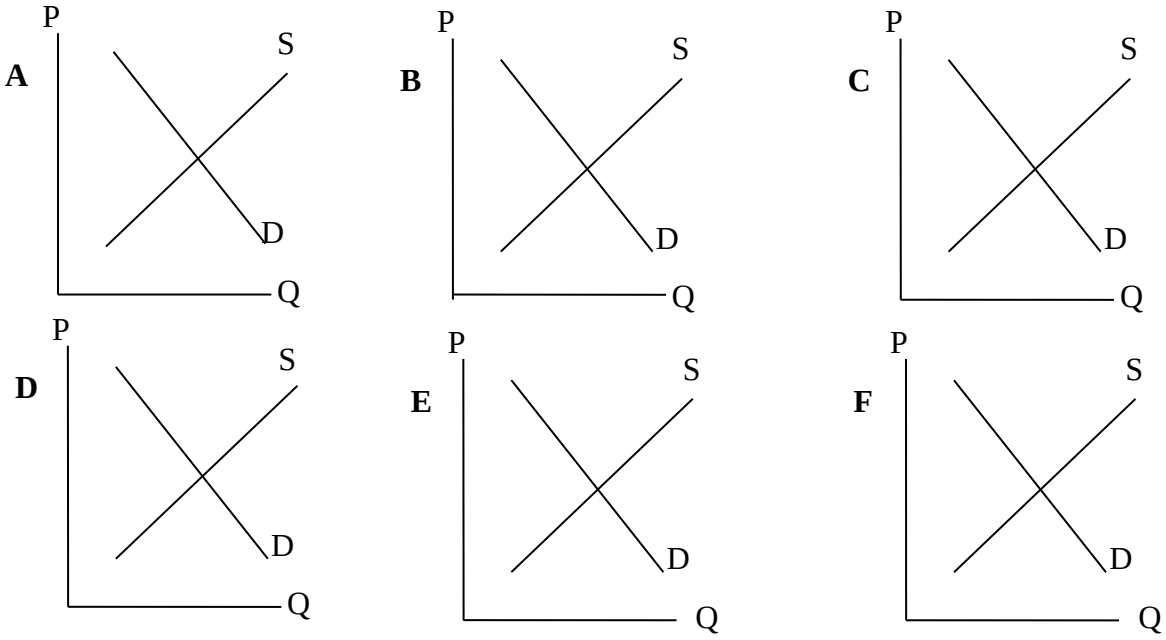
    What idea does this lower actual wage represent?
    a. True price
    b. Deadweight loss
    c. Shortage
    d. Market price
    e. None of the above

24. In July 2011, oil companies had a 6.5% profit margin (for each dollar of sales, 6.5 cents was profit), ranking 131. Other industries making the same profit margin included packaging & containers, office supplies, farm & construction, and newspapers. Assuming these profits are typical, what does this constant profit margin across very different industries suggest about oil companies' economic profit?
    a. They are making above-average economic profit and should expect entry.
    b. They are making above-average economic profits but should expect no entry or exit.
    c. They are making zero economic profit.
    d. Nothing because it is the total revenue that matters, not profits per dollar of sales.
    e. None of the above

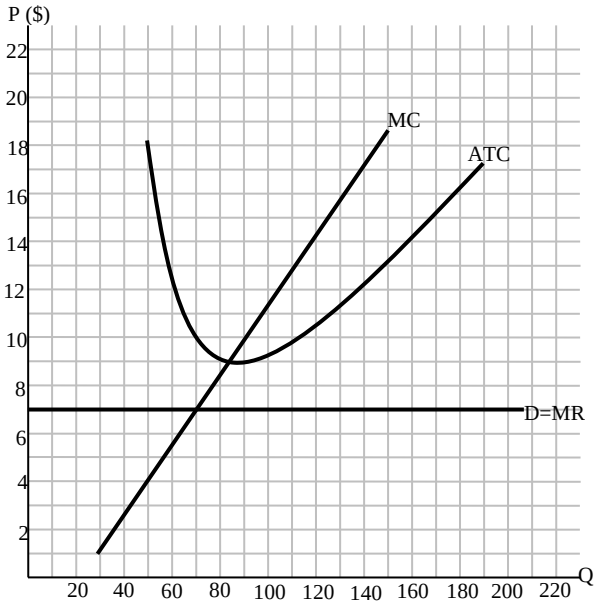
[2] http://www.forbes.com/sites/realspin/2013/04/17/the-record-is-clear-minimum-wage-hikes-destroy-jobs/

Part III: Short Answer. *Answer the following.*
12 points each.

25. Using the diagrams below, illustrate the effects of the following (2 points each).
    a. The market for baseball tickets after a baseball player is accused of using steroids.
    b. The market for trees after people start recycling paper.
    c. The market for steel after the invention of a cheap way to purify aluminum.
    d. The market for food after the invention of the tractor.
    e. The market for healthcare after people continue to grow older and older.
    f. The market for cars after the government taxes steel imports.



26. Consider a perfectly competitive firm. Using the graph below, indicate where the firm produces, where it makes a profit/loss and how much it is, if it should anticipate entry or exit, what price it sells its good, the price it will sell its good in the long-run, and any deadweight loss, if applicable.



_____
_____
_____
_____

27. Circle the Nash equilibrium/equilibria (NE) of the following games. If there aren't any, check the box. (4 points each)

A)

		Nazi Germany	
		Attack North	*Attack Central*
France	*Defend North*	2,-2	-3,3
	Defend Central	-5,5	4,-4

□ No NE

B)

		Sam	
		Buy	*Sell*
Alex	*Stay*	5,5	3,6
	Run	7,2	0,8

□ No NE

C)

		Ingen	
		Up	*Down*
Initech	*Love*	2,2	0,3
	Hate	3,0	1,1

□ No NE

D)

		Betty	
		Rabbit	*Stag*
Alice	*Rabbit*	1,1	1,0
	Stag	0,1	3,3

□ No NE

28. Consider a long standing monopoly. Using the graph below, indicate where the firm produces, where it makes a profit/loss and how much it is, if it should anticipate entry or exit, what price it sells its good, and any deadweight loss, if applicable.