NAME _________________________________

Circle your section time: 9:00 am 3:00 pm

Directions: This test is in two parts, a multiple choice question part and a short-answer part. Use this answer packet to complete the exam. Calculators are permitted. Books, notes, reference materials, etc. are prohibited. Good luck!

Part 1: Referring to the questions in the Multiple Choice Questions Packet, choose the one alternative that best completes the statement or answers the question. Each question is worth one point. There is no penalty to guessing, so be sure to answer all of them. Write your answers in the following table using capital letters.

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Part 1:

1. Marginal analysis:
   A) refers to decisions about whether or not to engage in a particular activity.
   B) is primarily used when making an either-or choice.
   C) is used primarily when deciding how much of an activity should be done.
   D) does not help when making a “how much” choice.

2. The student center on campus has burritos, bagels, or burgers for lunch, and they all cost the same. You love burgers and bagels, but you decide to have a burger today. If they were out of burgers, you would have bought a bagel. This statement best represents this economic concept:
   A) The real cost of something is what you must give up to get it.
   B) “How much” is a decision at the margin.
   C) Resources are used to produce something else.
   D) There are gains from trade.

3. Which of the following professions imposes the largest penalty of lost salary on mothers who take time off to have children?
   A) medicine
   B) law
   C) academics
   D) business

4. A dozen friends got together to celebrate a birthday. If the birthday cake is cut into 12 pieces of the same size and each of the 12 partygoers gets a slice, this cake distribution is:
   A) efficient but not equitable.
   B) equitable but not efficient.
   C) efficient and equitable.
   D) equitable.

5. When individuals act in their own self-interest:
   A) efficiency is always achieved.
   B) equity is always achieved.
   C) society may be worse off in some cases.
   D) all opportunities have been taken to make some people better off without making other people worse off.
6. During the Great Depression, consumers and producers in the United States dramatically reduced their spending as compared to the quantity of goods and services available at the time. This statement best represents this economic concept:
   A) Resources are scarce.
   B) When markets don't achieve efficiency, government intervention can improve society's welfare.
   C) Overall spending sometimes gets out of line with the economy's productive capacity.
   D) Government policies can change spending.

7. Buying vegetables at a farmers' market benefits the community because:
   A) it is best to be self-sufficient when it comes to growing food.
   B) this will eliminate the opportunity cost of buying food.
   C) buying locally will increase human capital in the community.
   D) one person's local spending will increase another local person's income.

Use the following to answer question 8:

<table>
<thead>
<tr>
<th>Production alternatives</th>
<th>V</th>
<th>W</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital goods per period</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
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<tr>
<td>Consumer goods per period</td>
<td>20</td>
<td>18</td>
<td>14</td>
<td>8</td>
<td>0</td>
</tr>
</tbody>
</table>

8. (Table: Production Possibilities Schedule II) Look at the table Production Possibilities Schedule II. If the economy is producing at alternative $X$, the opportunity cost of producing at $Y$ instead of $X$ is _____ units of consumer goods per period.
   A) 0
   B) 6
   C) 8
   D) 14

9. The introduction of trade between two countries A and B, compared to a closed economy with no trade, has the effect of rotating the PPF of country A:
   A) outward from the axis of the good in which country A specializes
   B) outward from the axis of the good in which country B specializes
   C) inward from the axis of the good in which country A specializes
   D) inward from the axis of the good in which country B specializes
Use the following to answer question 10:

**Figure: Strawberries and Submarines**

![Diagram of production possibility frontier]

10. (Figure: Strawberries and Submarines) Look at the figure Strawberries and Submarines. Suppose the economy now operates at point C. Moving to point E would require that the economy:
   A) achieve full employment and an efficient allocation of resources.
   B) eliminate its production of strawberries.
   C) reduce its production of submarines.
   D) improve its technology or increase its quantities of factors of production.

11. In terms of the production possibility frontier, inefficient use of available resources is shown by:
   A) an increase in the labor force growth rate.
   B) a movement from one point to another along the production possibility frontier.
   C) an inward shift of the production possibility frontier due to the lack of opportunity.
   D) production at a point inside the production possibility frontier.

12. Which of the following is an example of a positive statement?
   A) The poverty rate should be 4%.
   B) A high rate of economic growth should be a more important goal for the country than a low rate of unemployment.
   C) The federal government pays for 46% of U.S. health care costs.
   D) Everyone in the country should be covered by national health insurance.
13. If two points on a graph are (0, 8) and (12,15):
   A) $X$ is 0 when $Y$ is 12.
   B) $X$ and $Y$ have a positive relation.
   C) the horizontal intercept is given by the point (0, 8).
   D) the slope of a line connecting the two points is negative.

14. The fact that two variables always move together over time:
   A) does not prove that one of the variables is dependent on the other.
   B) proves that one of the variables is dependent on the other.
   C) proves that changes in one variable cause changes in the other.
   D) is often illustrated or depicted using either a pie chart or a bar chart.

15. If goods A and B are substitutes, a decrease in the price of good B will:
   A) increase the demand for good A.
   B) increase the demand for good B.
   C) decrease the demand for good A.
   D) increase the demand for good B and decrease the demand for good A.

16. The demand curve for running shoes has shifted to the right. What could have caused it?
   A) a fall in the price of running shoes
   B) an increase in the price of running shoes
   C) an increase in the supply of running shoes
   D) an increase in the income of buyers of running shoes

17. An increase in supply is caused by:
   A) an increase in input prices.
   B) suppliers' expectations of higher prices in the future.
   C) an increase in the price of the good.
   D) a decrease in the price of resources used in production.

18. The percentage of U.S. college graduates last year who are male was:
   A) 40 percent
   B) 50 percent
   C) 60 percent
   D) 70 percent
19. (Figure: Four Markets for DVDs) Look at the figure Four Markets for DVDs. If $D_1$ or $S_1$ is the original curve and $D_2$ or $S_2$ is the new curve, which of the graphs shows a change that results in a decrease in the quantity of DVDs supplied?

A) A  
B) B  
C) C  
D) D

20. Consider the market for iPods. What happens if a fantastic new alternative MP3 player is developed and at the same time a boat carrying a large shipment of iPods is attacked by pirates and sunk?

A) Price decreases and quantity increases.  
B) Price increases and quantity increases.  
C) The change in price is indeterminate and quantity decreases.  
D) Price increases and the change in quantity is indeterminate.
21. Which of the following would result in a movement along the demand curve?
   A) a change in preferences
   B) an increase in the number of buyers
   C) an increase in the number of suppliers
   D) a decrease in income

22. A drought in Russia which reduces the wheat crop causes the following in the U.S.:
   A) supply curve for wheat shifts to the right
   B) demand curve for wheat shifts to the right
   C) supply curve for soybeans shifts to the right
   D) supply curve for soybeans shifts to the left
   E) A) and C)
   F) B) and D)

23. To be binding, a price ceiling must be set at a price:
   A) lower than the equilibrium price.
   B) higher than the equilibrium price.
   C) the same as the equilibrium price.
   D) Any price ceiling is binding.

24. A binding rent-control price ceiling results in all of the following EXCEPT:
   A) inefficiently low quantity of the good exchanged.
   B) wasted resources of consumers caused by time spent searching for the good.
   C) inefficient allocation of the good to consumers.
   D) inefficiently high quality of the good being sold.

25. Price controls:
   A) always increase economic efficiency.
   B) always lead to more equitable results.
   C) can result in inequitable outcomes.
   D) are always set below the equilibrium price.

26. If minimum wages are set above the equilibrium wage in the market, then the number of workers hired will be ______ the number of people who are willing to work.
   A) less than
   B) greater than
   C) equal to
   D) less than, greater than, or equal to
Use the following to answer question 27:

<table>
<thead>
<tr>
<th>Price</th>
<th>Quantity Demanded</th>
<th>Quantity Supplied</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0</td>
<td>100</td>
<td>25</td>
</tr>
<tr>
<td>5</td>
<td>90</td>
<td>40</td>
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<td>10</td>
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<td>15</td>
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<tr>
<td>20</td>
<td>60</td>
<td>85</td>
</tr>
</tbody>
</table>

27. (Table: Quantity Supplied and Quantity Demanded) Look at the table Quantity Supplied and Quantity Demanded. A price floor equal to _____ would produce excess supply in this market.
   A) $5
   B) $10
   C) $15
   D) $20

28. When the demand curve for labor is very steep, an analysis of the minimum wage concludes:
   A) the minimum wage is not binding
   B) the income loss of the unemployed is greater than the income gain of those who remain employed
   C) the income loss of the unemployed is less than the income gain of those who remained employed
   D) the minimum wage raises employment

29. In Europe the minimum wage has led to:
   A) lower unemployment, especially among young workers.
   B) a proliferation of large companies in Italy.
   C) widespread evasion of the minimum wage law in the black market for labor.
   D) European governments hiring the surplus of workers.

30. An increase in the number of unskilled immigrants ______ the ratio of the skilled to the unskilled wage and ______ the ratio of the number of skilled to unskilled employees:
   A) increases; increases
   B) increases; decreases
   C) decreases; increases
   D) decreases; increases
Part 2: Solve the following problems in the provided space. Show all your work clearly.

Problem 1 (10 points)

Chiara and Enrico are two siblings, who decided to open an Italian restaurant in downtown Evanston. In order to decrease costs of food storage they plan to offer only two staple south Italian dishes, ricotta cakes and handmade pasta.

Before the opening day, Chiara and Enrico organized two whole-day practice sessions to test their culinary skills and to determine who is a better chef. They recorded the amounts of each dish they were able to produce during each of the two sessions in the following table:

<table>
<thead>
<tr>
<th></th>
<th>Chiara</th>
<th>Enrico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 1</td>
<td>4 cakes and 3 pounds of pasta</td>
<td>6 cakes and 0 pounds of pasta</td>
</tr>
<tr>
<td>Session 2</td>
<td>1 cake and 12 pounds of pasta</td>
<td>0 cakes and 12 pounds of pasta</td>
</tr>
</tbody>
</table>

Unfortunately, neither Chiara nor Enrico took any economics class, so the results seem inconclusive to them. They asked you to help manage the restaurant!

In this problem assume that the production possibility frontiers are linear!

1. Draw the (daily) PPF for Chiara, so that the vertical axis is CAKES and the horizontal axis is PASTA. Make sure to identify the axis intercepts clearly. (2 points)

Intercepts: 5 (cakes), 15 (pasta)

2. If Enrico decides to make 8 pounds of pasta, how many cakes can he prepare during a single day? (1 point) ____________

2 cakes

3. Who has the absolute advantage in baking cakes? (1 point) ____________

Enrico
4. The opportunity cost of a cake in terms of pasta for Chiara is ___________, whereas for Enrico it is ___________. (2 points)

3; 2

5. Chiara has a comparative advantage in ____________, while Enrico has a comparative advantage in ___________. If each of them specializes in production of a dish they have a comparative advantage in, their restaurant will produce ____________ pounds of pasta and ____________ cakes. (2 points)

Pasta; cakes; 15; 6

6. Thanks to your advice the restaurant turned out to be a hit among the Northwestern community. During the reading week Chiara noticed that the restaurant runs out of cakes too fast, so in order to prepare for the finals week, she decided to buy KitchenAid Professional 600 (a stand mixer).

If now Enrico can prepare 5 cakes and 6 pounds of pasta each day, how many cakes could he make if he devoted all of his time to baking? (2 points)

10

Problem 2 (10 points)

Consider the demand and supply for gold pans (a tool used to extract gold) right before the California Gold Rush.

<table>
<thead>
<tr>
<th>Price</th>
<th>Quantity Demanded</th>
<th>Quantity Supplied</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>10</td>
<td>4</td>
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<tr>
<td>18</td>
<td>2</td>
<td>8</td>
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</tbody>
</table>

1. What is the demand equation? (2 points) ____________

P = 22 - 2Q
2. What is the supply equation? (2 points) _________________

P = -14 + 4Q

3. Calculate the equilibrium price and quantity. (3 points) _________________

P = 10; Q = 6

4. On February 1, 1848, a rumor about the discovery of gold near Coloma started to spread. As a result some 300,000 gold-seekers came to California, effectively quadrupling the number of potential gold pan users. Calculate the new equilibrium price and quantity, assuming that the new miners have the same distribution of willingness-to-pay as the old ones. (3 points) _________________

P = 18; Q = 8

Problem 3 (10 points)

Consider the market for jogging strollers (tricycles that allow the parent to run with their baby). Suppose that the supply and demand equations are given by (respectively):

\[ P = 6 + Q_s \]
\[ P = 18 - 3Q_d \]

1. Calculate the equilibrium price and quantity. (3 points) _________________

P = 9; Q = 3
2. The government is concerned about the health of young parents and decides to subsidize jogging strollers by 4 per unit. Illustrate the government intervention on a diagram below and label the resulting consumer surplus, producer surplus, and deadweight loss. (3 points)

Handout

3. How much did the producer surplus change? (2 points) ____________

3.5

4. Calculate the deadweight loss. (2 points) ____________

2
Answer Key

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