ECO201: PRINCIPLES OF MICROECONOMICS

SECOND MIDTERM EXAMINATION

Prof. Bill Even

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FORM 1

Directions

1. Fill in your scantron with your unique-id and the form number listed on this page. Proper completion of this step of the directions is worth the equivalent of one question.

2. There are 42 multiple choice questions. All answers should be recorded on the scantron sheet. No credit will be given for answers placed elsewhere. Record your answers on the exam as well because this will be the record of your answers which you can use to determine which questions you got right or wrong on the exam.

3. A calculator is allowed. Cell phones or any other electronic devices are prohibited. Access to any electronic device other than a calculator will be treated as a case of academic dishonesty.

4. You have until the end of the class period to finish the exam and complete the scantron. Additional time may be purchased at a price of 5 percentage points per minute.
1) Wanda takes $3,000 from her savings account that pays 5 percent interest per year and uses the funds to purchase a computer for $3,000 for her business. At the end of the year the computer is worth $2,000. Wanda pays an implicit rental rate of ________ a year.

A) zero  B) $1,150  C) $4,000  D) $3,150

2) Heidi quit her job as a chef making $40,000 per year to start her own restaurant. The first year, Heidi’s restaurant earned $100,000 in revenue. Heidi pays $50,000 per year in wages to the waitresses and hostess and $20,000 per year to buy food. What is Heidi’s economic profit for the year?

A) $50,000  B) -$10,000  C) $80,000  D) $30,000

3) Bud opened a flower shop. He rented a building for $9,000 a year. To buy equipment for the store, he withdrew $10,000 from his savings account, which earned an annual interest rate of 3 percent. During the first year of operation, Bud paid $4,000 for utilities and $12,000 to his suppliers. The store’s total annual revenue was $55,000. The market value of the store’s equipment at the end of the year was $8,000. If Bud had not started this business, he would have continued to work as an employee at another flower shop for $30,000 a year. During the first year of operation, Bud

A) incurred an economic loss of $2,300
B) incurred an economic loss of $12,300
C) received an economic profit of $20,000.
D) received an economic profit of $30,000.

<table>
<thead>
<tr>
<th>Techniques that produce 100 sweaters</th>
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<td>Technique</td>
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</tr>
<tr>
<td>A</td>
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<td>C</td>
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4) In the above table, the technique that is never economically efficient is

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

5) Using the data in the above table, if the price of an hour of labor is $20 and the price of a unit of capital is $10, then the most economically efficient technique for producing 100 sweaters is

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

6) An advantage of a partnership over a corporation is that

A) a partnership’s owners usually have limited liability, while the entire wealth of owners of a corporation is at risk.
B) a partnership's profits are taxed only once, while retained profits of a corporation are taxed twice.
C) a partnership’s cost of capital is low relative to that of a corporation.
D) a partnership has a perpetual life, while a corporation dies with its owners.
7) There are 6 firms in a market and the market shares of the firms are 40 percent, 30 percent, 10 percent, 8 percent, 7 percent, and 5 percent. The Herfindahl-Hirschman index is
   A) 2664.  B) 88.  C) 2738.  D) 100.

8) The largest share of the U.S. private economy is
   A) competitive or monopolistically competitive.
   B) in manufacturing.
   C) oligopolistic.
   D) monopolistic.

9) On a national level, the concentration ratio for grocery stores is very low. But, the "true" market for grocery stores is local in nature. What limitation does the geographic market put on the measure of concentration for grocery stores?
   A) On the local level, grocery stores are not as concentrated as they appear on the national level.
   B) The level of concentration is overestimated when viewing the national level.
   C) On the local level, grocery stores are more concentrated than they appear on the national level.
   D) Both answers A and C are correct.

<table>
<thead>
<tr>
<th>Labor (workers per day)</th>
<th>Output (units per day)</th>
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<tr>
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<td>1</td>
<td>10</td>
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<td>2</td>
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<td>18</td>
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<td>4</td>
<td>20</td>
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<td>5</td>
<td>21</td>
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10) Cindy’s Sweaters’ production function is shown in the above table. Cindy rents two knitting machines for $30 a day each and hires workers at a wage rate of $40 a day. If Cindy produces 20 sweaters per day, what is her average fixed cost of production?
   A) $3.00  B) $8.00  C) $3.33  D) $11.00

11) Cindy’s Sweaters’ production function is shown in the above table. Cindy rents two knitting machines for $30 a day each and hires workers at a wage rate of $40 a day. What is the marginal cost of the 19th sweater?
   A) $20.00  B) $10.00  C) $40.00  D) $8.00

12) A firm’s marginal cost is $82, its average total cost is $50, and its output is 800 units. Its total cost of producing 801 units is
   A) between $40,050 and $40,080.
   B) greater than $40,080.
   C) between $40,000 and $40,050.
   D) less than $40,000.
13) The long-run average cost curve is the
A) change in output resulting from a one-unit increase in the quantity of capital.
B) relationship between the lowest attainable average total cost and output when both the plant size and labor are varied.
C) change in total product divided by the change in capital when the quantity of labor is constant.
D) relationship between the lowest attainable average total cost and output when both the plant size and labor are fixed.

14) Dustin’s copy shop can use four alternative plants. The figure above shows the average total cost curves for Plant 1 (ATC₁), Plant 2 (ATC₂), Plant 3 (ATC₃), and Plant 4 (ATC₄). Dustin’s Plant 2 will be economically efficient if the firm produces
A) 5,300 copies per day.
B) 6,000 copies per day.
C) 2,000 copies per day.
D) 4,800 copies per day.

15) Electric utility companies have built larger and larger electric generating stations and, as a result, the long-run average cost of producing each kilowatt hour decreased. This is an example of
A) increasing returns to cost.
B) diseconomies of scale.
C) economies of scale.
D) constant returns to cost.
16) Angel Rodriguez pulls up in his 24-foot panel truck in front of Sezz Medi Brick Oven Pizza in Upper Manhattan. Even though it’s the middle of the summer, he’s delivering — firewood. He says even though fuel costs have doubled in the past year, it’s still worth the premium he gets delivering ash and cherry to the captive and growing market in NYC. Which of the following statements is true about short run costs for Angel?
A) Neither his truck nor gasoline is a variable cost.
B) His truck is a fixed cost and gasoline is a variable cost.
C) His truck is a variable cost and gasoline is a fixed cost.
D) Both his truck and gasoline is a variable cost.

17) If there are 1,000 rutabaga farms, all perfectly competitive, an increase in the price of fertilizer used for growing rutabagas will
A) decrease the total quantity of rutabagas supplied, because each farm's supply curve shifts leftward.
B) have no effect on the total quantity of rutabagas supplied, because each farm’s supply curve is a vertical line.
C) reduce the total quantity of rutabagas supplied, because each farm's supply curve is a horizontal line and will shift upward.
D) have no effect on the total quantity of rutabagas supplied, because no farm has enough market power to raise the price.

18) The apple market is perfectly competitive and is in long-run equilibrium. Now a disease kills 50 percent of the apple orchards. In the short run, the price of a bag of apples ________ and the remaining apple growers make ________ economic profit. In the long run, the ________.
A) increases; zero; price of apples will return to their original level
B) increases; zero; orchards will be replanted and economic profit will return to zero
C) increases; positive; orchards will be replanted and economic profit will return to zero
D) remains the same; zero; orchards will be replanted and growers will make normal profits
19) Fast Copy is a perfectly competitive firm. The figure above shows Fast Copy's cost curves. If the market price is 4 cents per page, what is Fast Copy's profit maximizing level of output?
A) 32 pages per hour   B) 64 pages per hour   C) 16 pages per hour   D) 48 pages per hour

20) Fast Copy is a perfectly competitive firm. The figure above shows Fast Copy's cost curves. Based on the above cost curves, which of the following statements is FALSE?
A) economic profit will be positive if price is above 2 cents per page
B) the company will definitely shut down in the short run if the price is anywhere below 2 cents per page
C) the firm will produce 48 units if the price is 4 cents per page
D) none of the above
21) Fast Copy is a perfectly competitive firm. The figure above shows Fast Copy’s cost curves. If the market price is 4 cents per page, what is Fast Copy’s economic profit?
A) between $0.51 and $1.00 per hour
B) zero
C) more than $1.00 per hour
D) between 0 and $0.50 per hour

22) Fast Copy is a perfectly competitive firm. The figure above shows Fast Copy’s cost curves. The current market price is 4 cents per page. With no change in demand and technology, in the long run, firms will ___ and the price will ___.
A) enter; fall to 2 cents per page
B) neither enter or exit; remain unchanged.
C) enter; fall to 1 cent per page.
D) exit; fall to 1 cent per page.

23) Suppose that the paper copying industry is in a long run equilibrium. If a new technology is developed for paper copying. This new technology results in a lower long run ATC and a reduction in the minimum efficient scale. In the long run, if the industry is a constant cost industry, this should result in
A) a lower price for paper copying
B) zero economic profits for firms that adopt the new technology
C) the average size of paper copying firms to fall.
D) all of the above

24) Suppose that the copper mining industry is perfectly competitive and a constant cost industry (i.e. an industry without external diseconomies or economies). Also, suppose that the industry is currently in a long run equilibrium and the price of copper is $20 per pound. If there is an increase in demand for copper, in the short run we should expect that the price of copper would be ___ and in the long run the price would be ___.
A) above $20; $20
B) above $20; below $20
C) $20; $20
D) above $20; above $20
25) Suppose that the copper mining industry is perfectly competitive and an **increasing cost industry** (i.e. an industry with external diseconomies). Also, suppose that the industry is currently in a long run equilibrium and the price of copper is $20 per pound. If there is an increase in demand for copper, in the short run we should expect that the price of copper would be _____ and in the long run the price would be _____.
A) above $20; below $20
B) above $20; $20
C) $20; $20
D) above $20; above $20

26) Suppose that the copper mining industry is perfectly competitive and a **constant cost industry** (i.e. an industry without external diseconomies or economies). Also, suppose that the industry is currently in a long run equilibrium and the price of copper is $20 per pound. If the government imposes a tax of $5 per pound on consumers who buy copper, we should expect that in the long run the total price paid by consumers (including the tax) would be
A) above $20 but below $25
B) $25
C) $20
D) above $25

27) Suppose that the copper mining industry is perfectly competitive and a **constant cost industry** (i.e. an industry without external diseconomies or economies). Also, suppose that the industry is currently in a long run equilibrium and the price of copper is $20 per pound. If the government imposes a tax of $5 per pound on consumers who buy copper, we should expect that in the short run, copper firms would have ____ economic profits and in the long run firms would ______ the copper industry.
A) negative; enter
B) positive; enter
C) negative; exit
D) zero; neither exit or enter

28) Suppose that a copper firm is producing at a level of output where MC=$25; ATC=$30; and AVC=$15. If the price is currently $20 for copper, in the short run, this firm
A) should produce more to maximize profits
B) produce less to maximize profits
C) shut down to minimize losses
D) should acquire more information since it is impossible to determine whether it should shut down or adjust output with this information.

29) In class, we discussed the role of the "medallion system" in the New York taxi-cab industry. Compared to a city where there is no such system but everything else is the same (fuel cost, population, etc.), we would expect that, in the long run, a city with a medallion system would
A) have higher prices for taxi rides
B) have taxi cabs earning a larger economic profit
C) have a greater number of taxi riders
D) all of the above
30) A market in which competition and entry are restricted by the granting of a public franchise, government license, patent, or copyright is called a
   A) natural monopoly.
   B) single-price monopoly.
   C) price-discriminating monopoly.
   D) legal monopoly.

31) A natural monopoly
   A) is an industry where two or more smaller firms can supply the market at a lower cost than one big firm could.
   B) is not protected by any barrier to entry.
   C) is an industry in which economies of scale exist at the level of output where the market demand curve intersects the long-run average cost curve.
   D) exists because of legal barriers to entry.

32) A major difference between a single-price monopolist and a perfectly competitive firm is that the
   A) monopolist can maximize profit by setting the price of the output where demand is inelastic.
   B) monopolist is guaranteed to earn an economic profit.
   C) monopolist can always increase its profits by increasing the price of its output.
   D) monopolist's marginal revenue is less than price.

33) Which of the following statements applies to a single-price monopolist if the marginal cost of production is greater than zero?
   A) In order to maximize profits, the monopolist will produce an amount of output that lies in the inelastic range of its demand.
   B) In order to maximize profits, the monopolist will produce where its demand is unit elastic.
   C) In order to maximize profits, the monopolist will produce an amount of output that lies in the elastic range of its demand.
   D) In order to maximize profits, the monopolist will produce an amount of output in the inelastic range of its supply.

34) Suppose that a local veterinarian has a monopoly and currently charges $50 per visit, faces marginal revenue of $25, marginal cost of $35, and average total cost of $40. Based on this information,
   A) the veterinarian could increase profits by cutting price and selling more visits
   B) has a positive economic profit
   C) demand for visits is inelastic at a price of $50
   D) all of the above
35) Roxie’s Movie Theatre is the only one in town. The table above gives the demand schedule for movies. If Roxie’s is a single-price monopoly and the marginal cost of a movie is $6, Roxie’s will charge _______ a movie and will sell _______ movie tickets a week.
A) $12; 200  B) $15; 100  C) $9; 300  D) $6; 400

36) In class, we watched a video about a product that was monopolized and, as a result, the product price more than quadrupled. Which product was described in the video?
A) an RFID chip that a company received a patent for.
B) a drug that was previously unapproved by the FDA
C) a protective device for cell phones that a company received a patent for
D) garbage collection services after a company was given a franchise for garbage collection in a local community.
37) The figure above shows the demand and cost curves for a single-price monopoly. What level of output maximizes the firm's economic profit?
A) 30 units  B) 50 units  C) 20 units  D) 0 units

38) The figure above shows the demand and cost curves for a single-price monopoly. What price will the firm charge?
A) $30 per unit  B) $20 per unit  C) $10 per unit  D) $50 per unit

39) The figure above shows the demand and cost curves for a single-price monopoly. What economic profit does this firm make?
A) $400  B) zero  C) $200  D) $600
40) The above figure illustrates a single-price unregulated monopolist. If the monopolist maximizes its profit, the deadweight loss equals ______ and consumers surplus would be ______.
A) $20,000; $20,000  B) $10,000; $10,000  C) $20,000; $10,000  D) $10,000; $20,000

41) The above figure illustrates a monopolist. If this monopolist was forced to charge the competitive price and produce at the competitive output level, the deadweight loss would equal ______ and consumers surplus would be ______.
A) $0; $30,000  B) $0; $20,000  C) $10,000; $20,000  D) $20,000; $10,000

42) In many markets, seniors citizens receive a discount (e.g. golf courses, hotels, ...). This can be explained as profit maximizing behavior by firms if compared to other customers, senior citizens have a demand curve that is _____ elastic and therefore marginal revenue of increased sales is _____ in the senior citizen market.
A) less; higher  B) less; lower  C) more; higher  D) more; lower
43) The figure above shows the marginal revenue, marginal cost, and demand curves for an airline offering daily flights between Los Angeles and Toronto. If the airline is regulated using a marginal cost pricing rule ________ flights will be offered each month at a price of ________ per flight.
   A) 400; $100  B) 300; $200  C) 200; $300  D) 200; $100

44) If a natural monopoly has an average cost pricing rule imposed, the rule will
   A) maximize total surplus in the regulated industry.
   B) reduce the consumer surplus and generate a deadweight loss when compared to a marginal cost pricing rule.
   C) set price below marginal cost.
   D) generate an economic loss for the regulated firm.

45) If a marginal cost pricing rule is used for a natural monopoly,
   A) there will be no deadweight loss
   B) price will be below ATC and there will be an economic loss
   C) consumer surplus will be greater than if the firm was not regulated
   D) all of the above

46) If a natural monopoly has an average cost pricing rule imposed, the rule will
   A) set price below marginal cost.
   B) maximize total surplus in the regulated industry.
   C) generate an economic loss for the regulated firm.
   D) reduce the consumer surplus and generate a deadweight loss when compared to a marginal cost pricing rule.
47) Which area in the above figure equals the consumer surplus under perfect price discrimination?
A) $A + B + C + D + E$
B) $A + B + C + D + E + F + G + H$
C) $A + B$
D) There is no consumer surplus.

48) Which area in the above figure equals the producer surplus under perfect price discrimination?
A) $A + B + C + D + E + F + G + H$
B) $A + B + C + D + E + F + G + H + I + J + K$
C) $C + D + E + F + G + H$
D) $A + B + C + D + E + F + G + H + I + J + K + L$

49) Perfect price discrimination
A) turns all the consumer surplus into economic profit.
B) turns all the producer surplus into consumer surplus.
C) cannot result in profit maximization.
D) creates a deadweight loss.