ECO201: PRINCIPLES OF MICROECONOMICS

FIRST MIDTERM EXAMINATION

Prof. Bill Even

November 17, 2010

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 60 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 device 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) $4,000  C) $3,150  D) $1,150

2) Sue owns a baking company. The company’s total revenue for a month is $4000. The monthly costs of resources bought in the market and of resources owned by the firm are $2000 and monthly costs of resources supplied by the owner are $1000. Sue’s economic profit for the month is equal to

3) Technological efficiency necessarily occurs when the firm
A) earns a normal profit.
B) produces a given output at most cost.
C) earns an economic profit.
D) produces a given output by using the least inputs.

4) Economic efficiency
A) occurs when the firm produces a given output at least cost.
B) occurs wherever technological efficiency is achieved.
C) does not require technological efficiency but sometimes is attained when the firm is technologically efficient.
D) None of the above answers is correct.

Techniques that produce 100 sweaters

<table>
<thead>
<tr>
<th>Technique</th>
<th>Labor (hours)</th>
<th>Capital (machines)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>10</td>
<td>35</td>
</tr>
<tr>
<td>B</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>C</td>
<td>10</td>
<td>60</td>
</tr>
<tr>
<td>D</td>
<td>30</td>
<td>20</td>
</tr>
</tbody>
</table>

5) In the above table, the technique that is not technologically efficient is
A) A.  B) B.  C) C.  D) D.

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

7) Unlimited liability is NOT a characteristic of
A) partnerships.  B) proprietorships.
C) corporations.  D) the market economy today.

8) Compared to corporations, businesses that are proprietorships
A) can raise capital more cheaply.
B) account for a larger percentage of the economy’s total revenue each year.
C) are far more numerous.
D) All of the above are correct answers.
9) A form of business whose profits are taxed twice is
A) either a proprietorship or a partnership, depending on other information.
B) a partnership.
C) a corporation.
D) a proprietorship.

10) Economists define the short run as a period of time so short that
A) the amount of output cannot be changed except under diminishing marginal returns.
B) the amount of output cannot be changed at all.
C) at least one factor of production cannot be varied.
D) only one factor of production can be varied.

11) Which of the following is characteristic of the long run?
A) The firm's plant is fixed.  B) It must exceed 12 months in length.
C) All factors of production can be varied.  D) None of the above answers are correct.

<table>
<thead>
<tr>
<th>Labor (workers)</th>
<th>Total product (units)</th>
<th>Marginal product</th>
<th>Average product</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3</td>
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<tr>
<td>6</td>
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</tbody>
</table>

12) The above (incomplete) table provides information about the relationships between labor and various product measures. The total product that can be produced with 6 units of labor is
A) 20.
B) 19.
C) More information is needed to answer the question.
D) None of the above answers is correct.

13) The law of diminishing returns states that as a firm increases
A) a variable input, with a given quantity of fixed inputs, the marginal product of the variable input eventually decreases.
B) a variable input, given the quantity of fixed inputs, the firm's average total cost will eventually decrease.
C) a variable input, with a given quantity of fixed inputs, the firm's marginal cost eventually decreases.
D) all the inputs is uses, the marginal product of each of these inputs always decreases.
<table>
<thead>
<tr>
<th>Labor (workers)</th>
<th>Total product (units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
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<tr>
<td>5</td>
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<tr>
<td>10</td>
<td>3000</td>
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<tr>
<td>15</td>
<td>4000</td>
</tr>
<tr>
<td>20</td>
<td>4500</td>
</tr>
</tbody>
</table>

14) In the above table, between what two levels of output does one first observe the law of diminishing returns?
A) 0 and 1000  B) 4000 and 4500  C) 1000 and 3000  D) 3000 and 4000

15) Which of the following would be classified as a fixed cost for the local supermarket?
A) The salary and any overtime paid the store's manager.
B) The cost of the boxes of cereal sold in the store.
C) The Social Security tax the store pays the federal government on the workers' income.
D) The rent from the six-year lease for the building the store uses.

<table>
<thead>
<tr>
<th>Labor (workers)</th>
<th>Output (bikes)</th>
<th>Total fixed costs (dollars)</th>
<th>Total variable cost (dollars)</th>
<th>Total cost (dollars)</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>200</td>
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<tr>
<td>4</td>
<td>64</td>
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16) The table above gives costs at Jan's Bike Shop. Unfortunately, Jan's record keeping has been spotty. Each worker is paid $100 a day. Labor costs are the only variable costs of production. What is the total cost of producing 50 bikes?
A) $400  B) $200  C) $100  D) $300

17) If total fixed cost increases, then the average total cost curve _______ and the marginal cost curve _______.
A) shifts upward; shifts upward  B) shifts upward; does not shift
C) does not shift; does not shift  D) does not shift; shifts upward

18) When marginal cost is greater than average total cost, the
A) marginal cost decreases as output increases.
B) marginal cost does not change as output increases.
C) average total cost decreases as output increases.
D) average total cost increases as output increases.
19) The average total cost curves for plants A, B, C and D are shown in the above figure. Which plant is best to use to produce 60 units per day?

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

20) The table above gives costs at Jan's Bike Shop. Unfortunately, Jan's record keeping has been spotty. Each worker is paid $100 a day. Labor costs are the only variable costs of production. What is the total fixed cost of producing 64 bikes?

A) $400  
B) $300  
C) $200  
D) $500
<table>
<thead>
<tr>
<th>Labor (workers)</th>
<th>Total product (units)</th>
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</tbody>
</table>

21) The above (incomplete) table provides information about the relationships between labor and various product measures. The average product of the fourth unit of labor
A) is less than the marginal product of the fourth unit of labor.
B) is equal to the marginal product of the fourth unit of labor.
C) is equal to 4.0.
D) exceeds the marginal product of the fourth unit of labor.

![LRAC Curve](image)

22) In the above figure, between 5 and 10 units per hour, the firm experiences
A) economies of scale.        B) decreasing total fixed costs.
C) diseconomies of scale.     D) constant returns to scale.
23) In the above figure, economies of scale are present up to an output level of
A) 5,000 pounds of coffee.  
B) 15,000 pounds of coffee.
C) 13,000 pounds of coffee.  
D) 10,000 pounds of coffee.

24) Perfect competition arises if the _______ efficient scale of a single producer is _______ relative to the
demand for the good or service.
A) maximum; small  
B) minimum; small  
C) minimum; large  
D) maximum; large

25) Perfect competition is an industry with
A) many firms producing identical goods.
B) many firms producing goods that differ somewhat.
C) a few firms producing identical goods.
D) a few firms producing goods that differ somewhat in quality.
26) In the above figure, to maximize profits, the firm will produce
A) 5 units.     B) 15 units     C) 0 units.     D) 20 units.

27) Assume that the firm described in the above figure is in a constant cost, perfectly competitive industry.
In the long run, firms will ____ until the price settles _____.
A) enter; at 6     B) enter; at 10     C) exit; at 6     D) exit; at 10

28) Assume that the firm described in the above figure is in an increasing cost, perfectly competitive industry. In the long run, firms will ____ until the price settles _____.
A) exit; between 6 and 10     B) exit; above 10
C) enter; between 6 and 10     D) enter; below 6

29) A firm’s short–run supply curve is the same as
A) that portion of its marginal cost curve that lies above average total cost.
B) its entire marginal cost curve.
C) that portion of its marginal cost curve that lies above average variable cost.
D) that portion of its marginal cost curve that lies above average fixed cost.

30) If there are 1,000 rutabaga farms, all perfectly competitive, an increase in the price of fertilizer used for growing rutabagas will
A) have no effect on the total quantity of rutabagas supplied, because each farm’s supply curve is a vertical line.
B) decrease the total quantity of rutabagas supplied, because each farm’s supply curve shifts leftward.
C) have no effect on the total quantity of rutabagas supplied, because no farm has enough market power to raise the price.
D) reduce the total quantity of rutabagas supplied, because each farm’s supply curve is a horizontal line and will shift upward.
31) In the above figure, the marginal cost of the last unit produced by the profit maximizing firm is

32) In the above figure, the firm’s total economic profit is equal to

33) A perfectly competitive firm shuts down if the price of its product is
A) less than its minimum average variable cost.
B) greater than its maximum variable cost.
C) greater than its minimum average variable cost.
D) less than its minimum total cost.

34) Suppose that newspaper companies are now required to use recycled paper, which is more expensive than new paper. Which of the following is most likely to result if the newspaper industry is highly competitive?
A) The firms’ costs rise, resulting in economic losses in the short run and, hence, the industry supply curve shifts leftward in the long run.
B) The industry supply curve shifts leftward in the short run, causing permanent long-run economic losses.
C) The firms’ costs rise, resulting in positive economic profit in the short run and, hence, the industry supply curve shifts rightward in the long run.
D) The firms’ costs rise, resulting in economic losses in the short run and, hence, the industry supply curve shifts rightward in the long run.

35) Suppose that gasoline industry is perfectly competitive and in a long run equilibrium with gas prices of $2.00 per gallon. Also, assume that the gasoline industry is an increasing cost industry. If the government imposes a $.50 tax on each gallon of gas, in the long run, we should expect that consumers will pay _______ more per gallon of gas and the economic profits of gas producers will _______.
A) less than $.50; be lower than before the tax  B) $.50; be the same as before the tax.
C) more than $.50; be the same as before the tax  D) none of the above.
36) The taxi cab medallions in New York City
   A) represent a barrier to entry in the taxi cab industry
   B) will become more valuable if the demand for taxi cab services rises in NYC.
   C) will become more value if the cost of operating a taxi cab falls in NYC
   D) all of the above

37) Suppose that the corn industry is in a perfectly competitive long run equilibrium with corn prices at $4 per bushel. If it is a constant cost industry and the demand for corn rises, in the short run, the price of corn will _____, the typical corn farmer’s production will _____, and economic profits will _____.
   A) not change; not change; not change;  B) rise; rise; rise
   C) rise; not change; rise.  D) rise; not change; not change.

38) Suppose that the corn industry is in a perfectly competitive long run equilibrium with corn prices at $4 per bushel. If it is a constant cost industry and the demand for corn rises, in the long run, the price of corn will _____, the typical corn farmer’s production will _____, and economic profits will _____.
   A) rise; rise; rise  B) rise; not change; rise.
   C) rise; not change; not change.  D) not change; not change; not change;

39) Suppose that the corn industry is in a perfectly competitive long run equilibrium with corn prices at $4 per bushel. If it is an increasing cost industry and the demand for corn rises, in the long run, the price of corn will _____ and economic profits will _____.
   A) rise; rise  B) rise; not change
   C) not change; not change  D) fall; fall

40) The existence of economies of scale creates _______.
   A) a government monopoly  B) a legal monopoly
   C) a natural monopoly  D) a market in which many firms make identical products
41) Donna owns the only dog grooming salon on Lonely Island. The figure above shows the dog grooming market. Donna is a single-price monopoly that maximizes profit by charging _______ per grooming and producing _______ groomings per day.
A) $30; 8                      B) $20; $12
C) $20; $8                      D) None of the above answers is correct.

42) Donna owns the only dog grooming salon on Lonely Island. The figure above shows the dog grooming market. The demand for dog grooming would be elastic at a price of
A) $30                      B) $25
C) $20                      D) None of the above answers is correct.

43) If a monopoly is producing an amount of output level at which marginal revenue exceeds marginal cost, in order to increase its profit the monopoly will _______ its price and _______ its output.
A) lower; decrease          B) lower; increase
C) raise; decrease          D) raise; increase

44) A key difference between a monopoly and a perfectly competitive firm is that the monopolist
A) faces a perfectly elastic demand for its product.
B) has no marginal cost curve.
C) does not face fixed costs in the short run.
D) has a marginal revenue curve that lies below its demand curve.

45) Relative to a perfectly competitive industry with the same cost and demand, a single-price monopolist produces _______ output and has a _______ price.
A) more; lower              B) more; higher
C) less; higher              D) less; lower
46) Which of the following markets will have the largest deadweight loss?
A) A market that consists of a single-price monopoly.
B) A market that consists of a perfect price discriminating monopoly.
C) A market that consists of perfectly competitive firms.
D) None of the above. There is no deadweight loss as long as firms produce at the level of output where marginal revenue equals marginal cost.

47) Which area in the above figure shows the consumer surplus at the price and quantity that would be attained if the industry were perfectly competitive?
A) $A + B + C + D$  
B) $A + B + C + D + E + F + G + H$
C) $F + G + H$
D) $A + B + C + D + E$

48) Which area in the above figure shows the consumer surplus at the price and quantity that would be set by a single-price monopoly?
A) $A + B + C + D + E$
B) $C + D + E + F + G + H$
C) $A + B$
D) $C + D$

49) In the above figure, which area is the deadweight loss from a single-price monopoly?
A) $E + H + K$
B) $E + H$
C) $E + H + K + J$
D) $E$

50) Rent seeking behavior by a monopolist means
A) pursuing an economic profit by price discriminating.
B) making loans to other businesses.
C) searching for reduced rent on plant space.
D) pursuing an economic profit by creating a monopoly.
51) Which of the following is necessary for a monopolist to price discriminate between groups?
A) The groups are easily identifiable.
B) A customer from one group cannot resell to a customer in another group.
C) The groups have different willingness to pay.
D) All of the above conditions are necessary for the monopolist to price discriminate.

52) Suppose that an internet shopping website has been able to determine how many other shopping websites each potential customer visits. The website could take advantage of this and charge a _____ price to those who visit other websites because these customers will most likely have _____ elastic demand.
A) higher; more
B) lower; more
C) higher; less
D) lower; less

<table>
<thead>
<tr>
<th>Price (dollars per movie)</th>
<th>Quantity demanded, weekend (movies per week)</th>
<th>Quantity demanded, weekday (movies per week)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
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</tr>
<tr>
<td>15</td>
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<tr>
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<td>200</td>
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<tr>
<td>3</td>
<td>500</td>
<td>300</td>
</tr>
</tbody>
</table>

53) Roxie’s Movie Theatre has a monopoly and discovers that at $12 a movie, no one is buying movie tickets during weekdays. Roxie’s conducts a survey and the table above reveals the results of the survey. Roxie decides to price discriminate between weekend and weekday moviegoers. The marginal cost of a showing a movie is $6. Roxie’s charges ______ on weekdays and ______ on weekends.
A) $9; $12
B) $6; $15
C) $3; $12
D) $6; $18

54) For a monopoly able to practice perfect price discrimination, the market
A) demand curve is the same as the marginal cost curve.
B) supply curve is the same as the marginal revenue curve.
C) demand curve is the same as the marginal revenue curve.
D) supply curve is the same as the marginal cost curve.

55) Which of the following is true about a perfect price discriminating monopolist?
A) All consumers pay a price equal to marginal cost.
B) There is inefficiency.
C) There is no consumer surplus.
D) There is zero economic profit.
56) Natural gas is a natural monopoly. The figure above shows the market for natural gas in the city of Lucknow. When a marginal cost pricing rule regulation is imposed, the price per household per month is ______. A) $10 and 40,000 household are served B) $30 and 20,000 household are served C) $20 and 30,000 households are served D) $10 and 20,000 household are served

57) Natural gas is a natural monopoly. The figure shows the market for natural gas in the city of Lucknow. When an average cost price rule regulation is imposed, the price per household per month is ______. A) $20 and 30,000 households are served B) $25 and 20,000 household are served C) $30 and 20,000 household are served D) $10 and 40,000 household are served

58) Natural gas is a natural monopoly. The figure shows the market for natural gas in the city of Lucknow. If regulators impose marginal cost pricing, there will be a deadweight loss of _____. If average cost pricing is imposed, there will be a deadweight loss of _____. A) $25; $50 B) $50; $25 C) $0; $50 D) none of the above

59) If marginal cost pricing is imposed on a natural monopoly, A) there will be no deadweight loss B) the monopoly will have an economic loss C) the socially efficient level of output will be produced D) all of the above

60) In class, we discussed the case of the monks in Louisiana. This was an example of A) funeral directors trying to create barriers to entry B) the effect of tax exempt status on the price of wine C) the effect of tax exempt status on the price of a casket D) none of the above