ECO201: PRINCIPLES OF MICROECONOMICS

SECOND MIDTERM EXAMINATION

Form 1

November 7, 2006

Directions

1. There are 36 short answer questions worth 3 points each and 5 essay questions worth a total of 20 points. All answers to the first 36 questions should be placed on the scantron sheet. No credit will be given for answers placed elsewhere. For the essay questions, put your answers in the space provided beneath each question.

2. A calculator is allowed. No cell phones or laptops.

3. You have the entire class period to finish the exam.
1) The difference between the market price of a new car used by a firm and the market price of the same car one year later is known as
   A) economic deterioration.                      B) economic depreciation.
   C) physical deterioration.                     D) physical depreciation.

2) Economic profit is the difference between total revenue and
   A) interest costs of production.                B) opportunity costs of production.
   C) implicit costs of production.               D) explicit costs of production.

3) A firm that is technologically efficient
   A) is not always economically efficient, and a firm that is economically efficient is not always technologically efficient.
   B) is not always economically efficient, but a firm that is economically efficient must always be technologically efficient.
   C) must be economically efficient, but a firm that is economically efficient is not always technologically efficient.
   D) must be economically efficient, and a firm that is economically efficient must always be technologically efficient.

4) The principal-agent problem is the issue of inducing
   A) principals to act in the best interests of agents.         B) agents to act in the best interests of principals.
   C) agents and principals to work hard.                      D) None of the above answers is correct.

5) An advantage of the corporate form of organization is that
   A) owners have joint unlimited liability.                  B) creditors have unlimited liability.
   C) owners have individual unlimited liability.              D) owners have limited liability.

6) _______ account for the largest portion of all firms; _______ account for most of the total revenue.
   A) Proprietorships; corporations                         B) Partnerships; corporations
   C) Proprietorships; partnerships                         D) Corporations; proprietorships

7) Suppose there is an industry with 3 firms whose annual sales are $30 million, $10 million; $5 million. The Herfindahl-Hirschmann index for this industry would be:
   A) 1025                     B) 2371                     C) 5062                     D) 9371
8) In the figure above, the marginal product of the second worker is
A) 2 units. B) 1 units. C) 5 units. D) 10 units.

9) "Diminishing marginal returns" refer to a situation in which the
A) marginal cost of the last worker hired is less than the marginal cost of the previous worker hired.
B) average product of the last worker hired is less than the average product of the previous worker hired.
C) marginal product of the last worker hired is less than the marginal product of the previous worker hired.
D) average cost of the last worker hired is less than the average cost of the previous worker hired.

<table>
<thead>
<tr>
<th>Output (pies)</th>
<th>Total variable cost (dollars)</th>
<th>Total cost (dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>300</td>
</tr>
<tr>
<td>100</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>200</td>
<td>1,000</td>
<td></td>
</tr>
<tr>
<td>300</td>
<td>1,800</td>
<td></td>
</tr>
<tr>
<td>400</td>
<td>2,800</td>
<td></td>
</tr>
</tbody>
</table>

10) The above table gives some of the costs of the Delicious Pie Company. The marginal cost of increasing pie output from 200 to 300 pies equals _______ per pie.
A) $1.800 B) $1,000 C) $6 D) $8

11) The above table gives some of the costs of the Delicious Pie Company. What is the average total cost of producing 200 pies?
A) $5.00 B) $650 C) $6.50 D) $1300
12) At point d in the above figure, the average product of labor equals
   A) 4.  B) 3.75.  C) 15.  D) approximately 1.

13) Suppose that a firm is producing 100 tables with the following costs: MC=$80; ATC=$100; AVC=$70. If the firm increases table production to 101, ATC would (rise; fall) and AVC would (rise; fall)
   A) rise; rise  B) rise; fall  C) fall; fall  D) fall; rise

14) Suppose that a firm is producing 100 tables with the following costs: MC=$80; ATC=$100; AVC=$70. If the firm increases table production to 101, its total cost for 101 tables would be
   A) $10,000  B) $10,070  C) $10,080  D) $10,100

15) If a firm has economies of scale, then an increase in production will
   A) reduce long run average total cost  B) decrease average variable cost
   C) decrease marginal cost  D) reduce short run average total cost

16) For any perfectly competitive firm, marginal revenue is
   A) always less than marginal cost.  B) always greater than marginal cost.
   C) equal to price.  D) all of the above
17) Consider the perfectly competitive firm in the above figure. The profit maximizing level of output for the firm is equal to
A) 14 units.  B) 17 units.  C) 0 units.  D) 19 units.

18) Consider the perfectly competitive firm in the above figure. At the profit maximizing level of output, the firm is earning
A) an economic loss equal to $119.  B) a normal profit.
C) an economic loss equal to $102.  D) an economic loss equal to $114.

19) Consider the perfectly competitive firm in the above figure. The shutdown point occurs at a price of

20) Consider the industry of the perfectly competitive firm in the above figure. In the long run, we should expect to see firms (enter, exit) the industry until the price reaches $____ if there are no external economies or external diseconomies.
A) enter; $11  B) exit; $11  C) enter; $16  D) exit; $22

21) Consider the industry of the perfectly competitive firm in the above figure. In the long run, if there are EXTERNAL ECONOMIES, we should expect to see the price settle
A) between $11 and $16  B) between $16 and $22
C) above $22  D) below $11

22) Consider the production of LCD TVs. Which of the following would result in external economies in the LCD TV industry?
A) New firms entering the industry drive up the demand for the components used to produce LCD TVs and thus the price of the components increase.
B) New firms entering the LCD industry drive up the supply of the components used to produce LCD TVs and thus the price of the components falls.
C) There are scale economies in the production of the components for LCD TVs so that when the industry expands, each firm in the industry is able to purchase components for a lower price.
D) None of the above.
23) Assume that the oil industry is in a perfectly competitive long run equilibrium and the price of oil is $60 per barrel. Assume there are no external economies or diseconomies. If there is a permanent increase in demand for oil, in the short run, we should expect the price of oil to ____; profits will ____; and the ATC of a barrel of oil will _____.
   A) rise; rise; not change.                     B) rise; rise; rise above $60
   C) rise; not change; fall.                    D) not change; not change; not change.

24) Assume that the oil industry is in a perfectly competitive long run equilibrium and the price of oil is $60 per barrel. Assume there are no external economies or diseconomies. If there is a permanent increase in demand for oil, in the long run, we should expect the price of oil to ____; profits will ____; and the ATC of a barrel of oil will _____.
   A) rise; not change; fall.                    B) rise; rise; rise above $60
   C) rise; not change; not change.             D) not change; not change; not change.

25) Assume that the oil industry is in a perfectly competitive long run equilibrium and the price of oil is $60 per barrel. Assume there are no external economies or diseconomies. Suppose that the government imposes a $20 per barrel tax on oil to encourage conservation of oil. In the long run, we should expect that:
   A) the consumers’ share of the tax is the entire $20.
   B) there will be fewer oil firms.
   C) the economic profits of oil producers will return to zero.
   D) all of the above.

26) Assume that the oil industry is in a perfectly competitive long run equilibrium and the price of oil is $60 per barrel. Assume there are no external economies or diseconomies. Suppose that the wages of oil workers increase and thus the average total cost of producing of producing oil rises. These higher wages should cause:
   A) higher oil prices and economic losses in the short run.
   B) higher oil prices and the exit of some oil firms in the long run.
   C) higher oil prices, but zero economic profits for oil firms in the long run.
   D) all of the above.

27) If the price elasticity of demand is less than 1, a monopoly’s
   A) marginal revenue is negative and its total revenue will decrease when it lowers its price.
   B) marginal revenue is negative and its total revenue will decrease when it raises its price.
   C) marginal revenue is positive and its total revenue will decrease when it lowers its price.
   D) marginal revenue is positive and its total revenue will decrease when it raises its price.
<table>
<thead>
<tr>
<th>Price ($ per repair)</th>
<th>Quantity demanded (repairs per week)</th>
<th>Total cost ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>0</td>
<td>400</td>
</tr>
<tr>
<td>90</td>
<td>10</td>
<td>800</td>
</tr>
<tr>
<td>80</td>
<td>20</td>
<td>1400</td>
</tr>
<tr>
<td>70</td>
<td>30</td>
<td>2200</td>
</tr>
<tr>
<td>60</td>
<td>40</td>
<td>3200</td>
</tr>
</tbody>
</table>

28) Dee’s TV Repair is the only TV repair shop in a small town. Dee is a single-price monopolist. Based on the demand and cost information in the table above, what quantity of TV repairs should Dee undertake?
   A) 0 per week   B) 10 per week   C) 30 per week   D) 20 per week

29) Dee’s TV Repair is the only TV repair shop in a small town. Dee is a single-price monopolist. Based on the demand and cost information in the table above, what is the amount of economic profit earned or loss incurred at the quantity of TV repairs that profits are maximized or losses minimized?
   A) −$100   B) $800   C) $200   D) −$400

30) For the unregulated, single-price monopoly shown in the figure above, when its profit is maximized, output will be
    A) 4 units per year and the price will be $4.   B) 4 units per year and the price will be $6.
    C) 6 units per year and the price will be $4.   D) None of the above answers is correct.
31) An unregulated, single-price monopoly is shown in the figure above. If fixed cost is $20, the monopoly’s total profits when it is maximizing its profit will be
A) $45.  
B) $105.  
C) $25  
D) $0

32) Which of the following is true for BOTH monopoly and perfect competition?
A) Profits are maximized by producing at the level of output where marginal revenue is equal to marginal cost.
B) Marginal revenue is horizontal at the industry equilibrium price.
C) The demand for the individual firm’s product is perfectly elastic.
D) Economic profits can be sustained indefinitely over time.
33) Which area(s) in the above figure indicates consumer surplus at the price and quantity that would be attained if the industry were perfectly competitive?

A) $A + B + C + D$
B) $F + G + H$
C) $A + B + C + D + E$
D) $A + B + C + D + E + F + G + H$

34) Which area(s) in the above figure indicates consumer surplus at the price and quantity that would be set by a single-price monopoly?

A) $C + D + E + F + G + H$
B) $A + B + C + D + E$
C) $A + B$
D) $C + D$
35) The monopoly illustrated in the figure above is unregulated and charges a single price. The deadweight loss created by the monopoly is
A) $22.50. B) $0. C) $90.00. D) $45.00.

Demand Schedule Facing a Perfectly Price Discriminating Firm

<table>
<thead>
<tr>
<th>Price (dollars)</th>
<th>Quantity Sold</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

36) Using the demand schedule in the above table, the marginal revenue for the perfectly price discriminating monopolist from the sale of the third unit of output is
Short Answer Questions (4 points each)

Consider the following diagram for a hypothetical pharmaceutical company called DrugX that has a patent giving them a monopoly on the sale of a hypothetical drug called XBC.

1. Label the following prices and quantities on the above diagram:
   P1, Q1: the profit maximizing price and quantity for a single price monopoly.
   P2, Q2: the price and quantity that would lead to the “socially efficient” amount of XBC.

2. Use the above diagram to explain why society would be “better off” at (P2, Q2) than at (P1,Q1).

3. If the government forced DrugX charge the price that generates the “socially efficient” outcome, what would happen in the market for XBC in the long run? Why?  (Refer to the diagram to justify your answer.)
4. Some commentators note that the monopoly rights that are created by drug patents lead to drugs that are “overpriced” relative to the cost of the ingredients. Elimination of patents that allow generic drug producers to compete in the market would save drug purchasers vast amounts of money. What is the primary economic argument against eliminating these patents?

5. Suppose that DrugX is not regulated and maintains its patent. Suppose that DrugX sells its product everywhere for the price $P_1$. However, it has recently discovered that in some countries where it sells XBC there are substitutes that are legally available, but those substitutes are not available in the U.S. If DrugX is willing to pursue a policy of price discrimination, how does this information help them decide where to charge the higher price? Explain.