INSTRUCTIONS

1. This is an open book, open book exam. You may also use calculators, dictionaries, etc. but no cell phones or computers are allowed.

2. IMPORTANT: Print your name legibly on the exam form above, and on your scantron.

3. IMPORTANT #2: It is your responsibility to make certain that each answer you mark on your scantron is the one you want. If you have to erase be sure that it is completely erased and the bubbles are filled in darkly and completely.

4. IMPORTANT #3: You must also indicate the answer you select for each question on the exam form. It is recommended that you circle the answer you choose or write the letter on the exam in the space provided. In the event that there are any problems with the machine reading your scantron, the answer you have circled or written on the exam form will prevail over the scantron.

5. IMPORTANT #4: Your exam will not be accepted (in other words, you will get an “F”) without the exam form.

6. IMPORTANT #5: There are two versions of this exam, A & B. You have exam A. Be sure to put an “A” in the box on your scantron labeled “Test No.”.
1. Which of the following is true?
   A) private cost + average cost = social cost
   B) social cost = private cost + external cost
   C) external cost = private cost
   D) private cost + social cost = external cost

2. An external cost is a cost paid by:
   A) the consumers trading in the market.
   B) the producers trading in the market.
   C) the government regulating the market.
   D) people other than the consumer or the producer trading in the market.

3. Suppose that the private cost of using antibiotics is less than its social cost— we would then expect people to ______ antibiotics, leading to an ______ market outcome.
   A) overuse; inefficient
   B) underuse; inefficient
   C) overuse; efficient
   D) efficient use of; equilibrium

4. Which of the following suggests that private markets can be effective in dealing with external costs and benefits?
   A) technology policy
   B) the Coase theorem
   C) the law of diminishing returns
   D) the "invisible hand"
5. (Figure: ABC Company) The figure above depicts the market for the ABC Company’s Wunderbah aquarium water cleaner (for home aquariums). When the aquarium water cleaner is used and then washed down drains, it enters into streams where it improves the mineral content of the water and thus leads to better water quality and better fish growth. The market price for a can of the cleaner is $12 per can. If the users of the cleaner were given a subsidy to compensate them for the benefit they are creating for the ecological system, how much deadweight loss is removed from this market?
   A) $2,400
   B) $3,000
   C) $3,600
   D) $1,200

6. The problem with using command and control policies to eliminate external cost is that there are typically many methods to achieve a goal and:
   A) consumers may be reluctant to follow.
   B) the situation may be difficult for the government to control.
   C) the goal may not necessarily be the optimal.
   D) the government may not have enough information to choose the least costly methods.
7. Suppose that Sandy owns a farm in North Carolina and Pat owns a farm in Iowa, and Sandy's farm is generally more productive than Pat's. If both Sandy and Pat sell their corn in the same market, Sandy should produce the output at the marginal cost that is:
   A) less than the marginal cost of Pat's production.
   B) equal to the marginal cost of Pat's production.
   C) greater than the marginal cost of Pat's production.
   D) equal to total revenue in the market.

Use the following to answer questions 8-9:

**Figure: Costs**

8. (Figure: Costs) Use the above figure. At a price of $20 which of the following statements is FALSE?
   A) \( AC = 15.00 \)
   B) Profit = (20 - 15)15
   C) Average profit = $5.00
   D) \( MC < AC \)

9. (Figure: Costs) Use the above figure. At a price of $20, the firm earns profit of:
   A) $75.
   B) $350.
   C) $575.
   D) $0, because \( P = MC \) at \( P = 20 \).
10. When the size of the production is the most efficient:
   A) total cost is at the minimum.
   B) average cost is at the minimum.
   C) marginal cost is at the minimum.
   D) fixed cost is at the minimum.

Use the following to answer question 11:

**Figure: Costs of Oil Production**

11. (Figure: Costs of Oil Production) Refer to the figure above. Assuming that price equals marginal cost, the total cost of producing 8 barrels of oil is:
   A) $60.
   B) $240.
   C) $400.
   D) It cannot be determined from the information given.

12. The amount of money that the firm pays for its inputs is called:
   A) marginal cost.
   B) total cost.
   C) variable cost.
   D) fixed cost.
13. Typical evidence for the existence of market power such as monopoly would be market prices:
   A) below production costs.
   B) equal to production costs.
   C) above production costs.
   D) varying with market supply and demand conditions.

14. Which of the following statements are true?
   I. The deadweight loss owing to monopoly refers to the loss in consumer surplus that is captured by the monopolist as profit.
   II. According to theory, if the government sets a natural monopolist's price equal to marginal cost, the socially optimum quantity of output will result.
   III. Deregulation of cable television caused higher prices and fewer programming choices for customers.
   A) I only
   B) II only
   C) I and III
   D) I, II, and III

15. Economic theory suggests that a natural monopoly should be:
   A) eliminated whenever it arises.
   B) regulated to take advantage of economies of scale.
   C) left alone to operate with excess capacity.
   D) taken over by the government.

16. Many people argue that the U.S. government should control pharmaceutical prices. What would most likely happen as a result of this policy?
   A) Lower prices would mean lower profits and hence less incentive for firms to engage in research and development of new drugs.
   B) Government price controls on pharmaceuticals would lead to an increased standard of living.
   C) The number of new drugs would increase as firms would compete for new markets.
   D) Demand for pharmaceuticals would increase as a result of the lower prices.
17. Which of the following statements are true? 
   I. Competitive markets channel the self-interest of business leaders toward social prosperity.
   II. Monopoly markets channel self-interest toward social destruction.
   III. Many monopolies are government-created.
   A) I and III
   B) I and II
   C) II and III
   D) I, II, and III

18. GlaxoSmithKline (GSK) maximizes profit by producing a quantity of 800 pills where marginal cost is $2 and average cost is $4. Consumers are willing to pay as much as $10 per pill when the quantity supplied is 800 pills. What is the amount of profit that GSK can maximize under this condition?
   A) $3,200
   B) $4,800
   C) $6,400
   D) $8,000

Use the following to answer question 19:

**Figure: Monopoly Markup**

![Diagram of Monopoly Markup]

19.
19. (Figure: Monopoly Markup) In the figure above, consumer surplus under competition is represented by:
   A) triangle abc.
   B) triangle cef.
   C) square bcde.
   D) triangle adf.

20. Monopolies can arise naturally when:
   A) a monopoly firm requires the use of natural resources to produce its product.
   B) a large firm can produce at lower cost than other small firms.
   C) the monopolist product is sold in its natural state, such as water or crude oil.
   D) the monopolist product is used to produce other goods.

Use the following to answer question 21:

![Figure: Monopoly Markup](image-url)
21. (Figure: Monopoly Markup) In the figure above, consumer surplus under monopoly is represented by:
   A) triangle abc.
   B) triangle cef.
   C) square bcede.
   D) triangle adf.

22. When a pharmaceutical company discovers a new drug, patent law gives the monopoly:
   A) partial ownership of the right to sell the drug for an unlimited number of years.
   B) partial ownership of the right to sell the drug for a limited number of years.
   C) sole ownership of the right to sell the drug for a limited number of years.
   D) sole ownership of the right to sell the drug for an unlimited number of years.

23. (Table: Profit-Maximizing Monopolist) The table above shows the demand, total cost, average cost, marginal cost, marginal revenue, and average revenue schedules for a profit-maximizing monopolist. For the quantity of 6 units, the monopolist's average cost and average revenue levels are:
   A) $2.71 and $10 respectively.
   B) $2.83 and $11 respectively.
   C) $2.71 and $2 respectively.
   D) $2.62 and $2 respectively.

24. The economic inefficiency of a monopolist can be measured by the:
   A) excess profit generated by monopoly firms.
   B) poor quality of service offered by monopoly firms.
   C) number of consumers who are unable to purchase the product because of its high price.
   D) deadweight loss.

25. Why would firms use the practice of tying?
   A) It allows firms to tie goods that are highly valued together with goods that are not highly valued, hence increasing profits for firms.
   B) It is a way to force consumers to buy more than what they would without tying.
   C) It is a subtle way to raise prices for those consumers who have a low willingness to pay.
   D) It is a subtle way to charge higher prices to those consumers with a high willingness to pay, and a lower price to consumers with a low willingness to pay.
26. In order for the strategy of tying to work, Hewlett Packard (HP) must tie its printers to HP ink cartridges, and:
   A) no firm can enter the market for HP ink.
   B) no firm can enter the market for HP printers.
   C) HP must sell its printers at relatively high price.
   D) HP must always sells its printers and ink cartridges in a package.

27. Which of the following is not a case of bundling?
   A) Disneyland selling many attractions for a single entrance fee
   B) the buffet at China Garden.
   C) cable TV offering multiple channels to its customers.
   D) HP selling printer and ink cartridges.

Use the following to answer question 28:

**Figure: Price Discriminating Monopolist**

**Market A**

**Market B**

28. (Figure: Price Discriminating Monopolist) Refer to the figure above. In order to profit maximize, the monopolist should:
   A) charge a price of $16 in market A, and $10 in market B.
   B) charge a uniform price of $6 in both markets.
   C) charge a price of $14 in market A, and $9 in market B.
   D) charge a price of $16 in market A, and $6 in market B.
Use the following to answer question 29:

Figure: PPD

29. (Figure: PPD) In the above figure, a firm that perfectly price discriminates will sell:
   A) “a” units of output.
   B) “b” units of output.
   C) “c” units of output.
   D) “d” units of output.

30. Which of the following is NOT an easy way to split markets in order to practice price discrimination?
   A) using age of customers
   B) releasing different versions of a product over time
   C) relying on the self-reported marital status of customers
   D) using characteristics that are correlated with a consumer’s willingness to pay

31. Bundling can increase efficiency when fixed costs are high because the fixed costs are:
   A) offset by increasing marginal costs.
   B) offset by increasing variable costs.
   C) lower when goods are bought in a package.
   D) spread across more consumers.
32. A perfect price discriminating seller:
   A) cannot prevent arbitrage.
   B) charges a single price.
   C) maximizes consumer surplus.
   D) eliminates deadweight loss.

33. The equilibrium in a market in which no participant has an incentive to change his or her
    strategy unilaterally is called a:
   A) market equilibrium.
   B) Nash equilibrium.
   C) coordinating equilibrium.
   D) financial equilibrium.

34. In a competitive market, each firm earns ________, whereas firms in a successful cartel
    will earn ________.
   A) positive profits; zero economic profits
   B) negative profits; positive profits
   C) positive profits; monopoly profits
   D) zero profits; positive profits

35. Which of the following statements is true?
   A) Network goods are sold mostly in price-taker markets.
   B) The network good is always the “best” good.
   C) Monopolies may sell network goods.
   D) All of the answers are correct.

36. The prisoner's dilemma describes situations where the pursuit of:
   A) all interests lead to a group outcome that is in the interest of no one.
   B) all interests lead to a group outcome that is in the interest of everyone.
   C) individual interest leads to a group outcome that is in the interest of no one.
   D) individual interest leads to a group outcome that is in the interest of everyone.
Use the following to answer question 37:

**Table: Payoff Matrix**
The following shows a payoff matrix with two players and two strategies. The payoffs are listed in the order of (player 1's payoffs, player 2's payoffs).

<table>
<thead>
<tr>
<th>Player 1</th>
<th>Cooperate</th>
<th>Cheat</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1,000, 1,000)</td>
<td>(400, 2,000)</td>
</tr>
<tr>
<td>Cooperate</td>
<td>(2,000, 400)</td>
<td>(500, 500)</td>
</tr>
</tbody>
</table>

37. (Table: Payoff Matrix) Refer to the table above. What type of “game” does this payoff matrix represent?
   A) cartel game
   B) coordination game
   C) prisoners' dilemma
   D) cheating game

38. In a “standard war”:
   A) there are two good equilibria, but the players differ over which equilibrium is the best.
   B) there is only one good equilibrium, but players get locked into the “bad” equilibrium.
   C) the Nash equilibrium always dominates.
   D) both players would prefer to have no standard.

Use the following to answer question 39:

**Table: Oil Output**

<table>
<thead>
<tr>
<th>Iran National Oil (profit in millions)</th>
<th>Restrict Oil Output</th>
<th>Expand Oil Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iraq National Oil</td>
<td>$78, $78</td>
<td>$60, $89</td>
</tr>
<tr>
<td>(profit in millions)</td>
<td>Expand Oil Output</td>
<td>$89, $60</td>
</tr>
</tbody>
</table>

39. (Table: Oil Output) Use the above table. The situation between Iraq and Iran is similar to a:
   A) calibration cramp.
   B) prisoner's dilemma.
   C) flippant switch.
   D) cooperative equilibrium.
40. Which of the following goods represent network goods?
   A)  Pepsi, toilet paper, headphones
   B)  calculator, oven, couch
   C)  Twitter, Microsoft Excel, Facebook.com
   D)  fireworks, lighthouse, swimming pool.