Lecture 11 Practice

Multiple Choice
Identify the choice that best completes the statement or answers the question.

___ 1. The general term for market structures that fall somewhere between monopoly and perfect competition is
   a. incomplete markets.
   b. imperfectly competitive markets.
   c. oligopoly markets.
   d. monopolistically competitive markets.

___ 2. Imperfectly competitive firms are characterized by
   a. horizontal demand curves.
   b. standardized products.
   c. a large number of small firms.
   d. price making ability.

___ 3. One characteristic of an oligopoly market structure is:
   a. firms in the industry are typically characterized by very diverse product lines.
   b. firms in the industry have some degree of market power.
   c. products typically sell at a price equal to their marginal cost of production.
   d. the actions of one seller have no impact on the profitability of other sellers.

___ 4. The lower the concentration ratio, the
   a. more control an individual firm has to set prices.
   b. more competitive the industry.
   c. less competitive the industry.
   d. Both a and c are correct.

Table 16-1
The following table shows the percentage of output supplied by the top eight firms in four different industries.

<table>
<thead>
<tr>
<th>Firm</th>
<th>Industry W</th>
<th>Industry X</th>
<th>Industry Y</th>
<th>Industry Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.26</td>
<td>0.44</td>
<td>0.11</td>
<td>0.36</td>
</tr>
<tr>
<td>2</td>
<td>0.14</td>
<td>0.28</td>
<td>0.07</td>
<td>0.15</td>
</tr>
<tr>
<td>3</td>
<td>0.11</td>
<td>0.12</td>
<td>0.06</td>
<td>0.09</td>
</tr>
<tr>
<td>4</td>
<td>0.07</td>
<td>0.06</td>
<td>0.05</td>
<td>0.02</td>
</tr>
<tr>
<td>5</td>
<td>0.06</td>
<td>0.03</td>
<td>0.04</td>
<td>0.02</td>
</tr>
<tr>
<td>6</td>
<td>0.04</td>
<td>0.03</td>
<td>0.03</td>
<td>0.01</td>
</tr>
<tr>
<td>7</td>
<td>0.03</td>
<td>0.02</td>
<td>0.02</td>
<td>0.01</td>
</tr>
<tr>
<td>8</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
</tr>
</tbody>
</table>

___ 5. Refer to Table 16-1. What is the concentration ratio in Industry X?
   a. 6%
   b. 44%
   c. 90%
   d. 99%

___ 6. Refer to Table 16-1. Which industry is the least competitive?
   a. Industry W
b. Industry X  
c. Industry Y  
d. Industry Z

**Table 16-2**  
The following table shows the total output produced by the top six firms as well as the total industry output for each industry.

<table>
<thead>
<tr>
<th>Firm</th>
<th>Industry A</th>
<th>Industry B</th>
<th>Industry C</th>
<th>Industry D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>13,250</td>
<td>8,750</td>
<td>1,750</td>
<td>15,000</td>
</tr>
<tr>
<td>2</td>
<td>10,975</td>
<td>7,500</td>
<td>1,725</td>
<td>14,000</td>
</tr>
<tr>
<td>3</td>
<td>8,175</td>
<td>6,400</td>
<td>1,700</td>
<td>13,000</td>
</tr>
<tr>
<td>4</td>
<td>4,275</td>
<td>5,000</td>
<td>1,675</td>
<td>12,000</td>
</tr>
<tr>
<td>5</td>
<td>1,250</td>
<td>4,250</td>
<td>1,650</td>
<td>11,000</td>
</tr>
<tr>
<td>6</td>
<td>875</td>
<td>4,000</td>
<td>1,625</td>
<td>10,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>45,350</strong></td>
<td><strong>70,900</strong></td>
<td><strong>30,125</strong></td>
<td><strong>120,000</strong></td>
</tr>
</tbody>
</table>

7. Refer to Table 16-2. What is the concentration ratio for Industry A?  
a. about 71%  
b. about 81%  
c. about 88%  
d. 100%

**Table 16-3**  
The following table shows the output produced by each of the top eight firms in four industries as well as the total industry output for those industries.

<table>
<thead>
<tr>
<th>Firm</th>
<th>Industry A</th>
<th>Industry B</th>
<th>Industry C</th>
<th>Industry D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>50,000</td>
<td>18,000</td>
<td>37,000</td>
<td>40,000</td>
</tr>
<tr>
<td>2</td>
<td>47,000</td>
<td>17,750</td>
<td>36,500</td>
<td>39,000</td>
</tr>
<tr>
<td>3</td>
<td>43,000</td>
<td>17,250</td>
<td>35,500</td>
<td>37,000</td>
</tr>
<tr>
<td>4</td>
<td>38,000</td>
<td>16,500</td>
<td>34,000</td>
<td>34,000</td>
</tr>
<tr>
<td>5</td>
<td>32,000</td>
<td>15,500</td>
<td>32,000</td>
<td>30,000</td>
</tr>
<tr>
<td>6</td>
<td>25,000</td>
<td>14,250</td>
<td>29,500</td>
<td>25,000</td>
</tr>
<tr>
<td>7</td>
<td>17,000</td>
<td>12,750</td>
<td>26,500</td>
<td>19,000</td>
</tr>
<tr>
<td>8</td>
<td>8,000</td>
<td>11,000</td>
<td>23,000</td>
<td>12,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>270,000</strong></td>
<td><strong>130,000</strong></td>
<td><strong>300,000</strong></td>
<td><strong>250,000</strong></td>
</tr>
</tbody>
</table>

8. Refer to Table 16-3. What is the concentration ratio for Industry C?  
a. approximately 44%  
b. approximately 48%  
c. approximately 53%  
d. approximately 56%

9. Refer to Table 16-3. Based on the concentration ratio, which industry is the least competitive?  
a. Industry A  
b. Industry B  
c. Industry C
10. Select the type of market that is described by the following attributes: many firms, differentiated products, and free entry.
   a. natural monopoly
   b. perfectly competition
   c. monopolistic competition
   d. monopoly

11. In which of the following market structures is(are) there a large number of sellers?
   (i) monopolistic competition
   (ii) perfect competition
   (iii) oligopoly

   a. (i) and (ii) only
   b. (ii) and (iii) only
   c. (ii) only
   d. (i), (ii), and (iii)

12. Which of the following conditions distinguishes monopolistic competition from perfect competition?
   a. the number of sellers in the market
   b. the freedom of entry and exit by firms in the market
   c. the size of firms in the market
   d. product differentiation

13. In the short run, a firm in a monopolistically competitive market operates much like a
   a. firm in a perfectly competitive market.
   b. firm in an oligopoly.
   c. monopolist.
   d. monopsonist.

14. In a monopolistically competitive industry, firms set price
   a. equal to marginal cost since each firm is a price taker.
   b. below marginal cost since each firm is a price taker.
   c. above marginal cost since each firm is a price setter.
   d. always a fraction of marginal cost since each firm is a price setter.

15. A profit-maximizing firm in a monopolistically competitive market differs from a firm in a perfectly competitive market because the firm in the monopolistically competitive market
   a. is characterized by market-share maximization.
   b. has no barriers to entry.
   c. faces a downward-sloping demand curve for its product.
   d. faces a horizontal demand curve at the market clearing price.

16. To maximize its profit, a monopolistically competitive firm
   a. takes the price as given and chooses its quantity, just as a competitive firm does.
   b. takes the price as given and chooses its quantity, just as a colluding oligopolist does.
   c. chooses its quantity and price, just as a competitive firm does.
   d. chooses its quantity and price, just as a monopoly does.

17. The profit-maximizing rule for a firm in a monopolistically competitive market is to always select the quantity at which
   a. marginal revenue is equal to marginal cost.
b. average total cost is equal to marginal revenue.
c. average total cost is equal to price.
d. average revenue exceeds average total cost.

18. A profit-maximizing firm in a monopolistically competitive market is characterized by which of the following?
   a. marginal cost exceeds marginal revenue
   b. average revenue equals marginal cost
   c. price exceeds marginal cost
   d. All of the above are correct.

19. To maximize its profit, a monopolistically competitive firm chooses its level of output by looking for the level of output at which
   a. price equals marginal cost.
   b. marginal revenue equals marginal cost.
   c. average total cost is minimized.
   d. All of the above are correct.

20. A monopolistically competitive firm faces the following demand schedule for its product:

   | Price ($) | 10 | 9  | 8  | 7  | 6  | 5  | 4  | 3  | 2  | 1  |
   | Quantity   | 2  | 4  | 6  | 9  | 11 | 13 | 15 | 17 | 19 | 21 |

   The firm has total fixed costs of $20 and a constant marginal cost of $2 per unit. The firm will maximize profit with
   a. 6 units of output.
   b. 9 units of output.
   c. 11 units of output.
   d. 13 units of output.

21. If "too much choice" is a problem for consumers, it would occur in which market structure(s)?
   a. perfect competition
   b. monopoly
   c. monopolistic competition
   d. perfect competition and monopolistic competition

22. When a market is monopolistically competitive, the typical firm in the market is likely to experience a
   a. positive profit in the short run and in the long run.
   b. positive or negative profit in the short run and a zero profit in the long run.
   c. zero profit in the short run and a positive or negative profit in the long run.
   d. zero profit in the short run and in the long run.

23. Which of the following is not a key feature of monopolistic competition?
   a. Excess capacity
   b. A markup of price over marginal cost
   c. Positive economic profits for firms in the long run
   d. Differentiated products among firms in the market

**Figure 16-1.** The figure is drawn for a monopolistically competitive firm.
### 24. Refer to Figure 16-1. The firm’s profit-maximizing level of output is
   a. 8 units.
   b. 12 units.
   c. 16 units.
   d. 24 units.

### 25. Refer to Figure 16-1. If the average total cost is $15 at the profit-maximizing quantity, then the firm’s maximum profit is
   a. $18.
   b. $24.
   c. $36.
   d. $45.

### 26. Refer to Figure 16-1. If the average variable cost is $13 at the profit-maximizing quantity, and if the firm’s profit is $20 at that quantity, then its fixed costs amount to
   a. $12.
   b. $22.
   c. $40.
   d. $60.

### 27. Refer to Figure 16-1. Suppose you were to add the ATC curve to the diagram to show the firm in a situation of long-run equilibrium. You would draw the ATC curve
   a. with its minimum at the point (Q = 12, P = $18).
   b. with its minimum at the point (Q = 12, P = $12).
   c. tangent to the demand curve at the point (Q = 12, P = $18).
   d. tangent to the demand curve at the point (Q = 16, P = $16).

*Figure 16-2*
This figure depicts a situation in a monopolistically competitive market.
28. Refer to Figure 16-2. This firm is operating
   a. in the short run and earning a positive economic profit.
   b. in the short run and breaking even.
   c. in the long run and earning a positive economic profit.
   d. in the long run and incurring and economic loss.

   **Figure 16-3**

29. Refer to Figure 16-3. At the profit-maximizing, or loss-minimizing, output level, the firm in this figure has
total costs of approximately
   a. $600.
   b. $6,000.
   c. $9,000.
   d. $12,500.
30. Refer to Figure 16-6. If a firm in a monopolistically competitive market was producing the level of output depicted as $Q_d$ in panel (d), it would
a. not be maximizing its profit.
b. be minimizing its losses.
c. be losing market share to other firms in the market.
d. be operating at excess capacity.

31. Which of the following conditions is characteristic of a monopolistically competitive firm in long-run equilibrium?
   a. $P > \text{demand and } P = MR$
   b. $\text{ATC} > \text{demand and } MR = MC$
   c. $P > \text{MC and demand} = \text{ATC}$
   d. $P < \text{ATC and demand} > MR$

32. Which of the following conditions is characteristic of a monopolistically competitive firm in long-run equilibrium?
   a. $P > MR$ and $P = MC$
   b. $\text{ATC} = \text{demand and } MR = MC$
   c. $P < \text{MC and demand} = \text{ATC}$
   d. $P > \text{ATC and demand} > MR$

33. In a monopolistically competitive market.
   a. entry by new firms is impeded by barriers to entry; thus, the number of firms in the market is never ideal.
   b. entry by new firms is impeded by barriers to entry, but the number of firms in the market is nevertheless always ideal.
   c. free entry ensures that the number of firms in the market is ideal.
   d. there may be too few or too many firms in the market, despite free entry.
34. In which of the following market structures does free entry and exit play an important role in the long-run equilibrium outcome?
   (i) perfect competition
   (ii) monopolistic competition
   (iii) monopoly

   a. (i) only
   b. (i) and (ii) only
   c. (ii) and (iii) only
   d. (i), (ii), and (iii)

35. The free entry and exit of firms in a monopolistically competitive market guarantees that
   a. both economic profits and economic losses can persist in the long run.
   b. both economic profits and economic losses disappear in the long run.
   c. economic profits, but not economic losses, can persist in the long run.
   d. economic losses, but not economic profits, can persist in the long run.

36. In monopolistically competitive markets, free entry and exit suggests that
   a. the market structure will eventually be characterized by perfect competition in the long run.
   b. all firms earn zero economic profits in the long run.
   c. some firms will be able to earn economic profits in the long run.
   d. some firms will be forced to incur economic losses in the long run.

37. When a profit-maximizing firm in a monopolistically competitive market is in long-run equilibrium,
   a. the demand curve will be perfectly elastic.
   b. price exceeds marginal cost.
   c. marginal cost must be falling.
   d. marginal revenue exceeds marginal cost.

38. Among the following situations, which one is least likely to apply to a monopolistically competitive firm?
   a. profit is positive in the short run
   b. total cost exceeds total revenue in the short run
   c. profit is positive in the long run
   d. total revenue equals total cost in the long run

39. When a monopolistically competitive firm is in long-run equilibrium,
   a. price is equal to average total cost.
   b. price is equal to marginal cost.
   c. price is equal to marginal revenue.
   d. the firm operates at its efficient scale.

40. A firm has the following cost structure:

<table>
<thead>
<tr>
<th>Output</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cost($)</td>
<td>30</td>
<td>32</td>
<td>36</td>
<td>42</td>
<td>50</td>
<td>63</td>
<td>77</td>
</tr>
</tbody>
</table>

If this firm is in a typical perfectly competitive market, in the long run it will likely produce
   a. 4 or fewer units of output.
   b. 5 units of output.
   c. more than 5 units of output.
   d. None of the above are necessarily correct because there is not enough information to tell.
41. A firm has the following cost structure:

<table>
<thead>
<tr>
<th>Output</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cost($)</td>
<td>30</td>
<td>32</td>
<td>36</td>
<td>42</td>
<td>50</td>
<td>63</td>
<td>77</td>
</tr>
</tbody>
</table>

If this firm is in a typical monopolistically competitive market, in the long run it will likely produce
a. 4 or fewer units of output.
b. 5 units of output.
c. more than 5 units of output.
d. None of the above are necessarily correct because there is not enough information to tell.

42. A monopolistically competitive firm is currently earning a positive economic profit. If other firms enter the market, we would expect that the added competition will cause this firm to adjust its output such that it
a. will operate closer to its efficient scale.
b. will operate further from its efficient scale.
c. will no longer be at its efficient scale.
d. might move either closer to or further from its efficient scale.

Table 16-4
This table shows the demand schedule, marginal cost, and average total cost for a monopolistically competitive firm.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Price</th>
<th>Marginal Cost</th>
<th>Average Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$10</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>1</td>
<td>$9</td>
<td>$3</td>
<td>$14</td>
</tr>
<tr>
<td>2</td>
<td>$8</td>
<td>$6</td>
<td>$10</td>
</tr>
<tr>
<td>3</td>
<td>$7</td>
<td>$9</td>
<td>$9</td>
</tr>
<tr>
<td>4</td>
<td>$6</td>
<td>$12</td>
<td>$10</td>
</tr>
<tr>
<td>5</td>
<td>$5</td>
<td>$15</td>
<td>$12</td>
</tr>
<tr>
<td>6</td>
<td>$4</td>
<td>$18</td>
<td>$14</td>
</tr>
<tr>
<td>7</td>
<td>$3</td>
<td>$21</td>
<td>$17</td>
</tr>
<tr>
<td>8</td>
<td>$2</td>
<td>$24</td>
<td>$21</td>
</tr>
<tr>
<td>9</td>
<td>$1</td>
<td>$27</td>
<td>$25</td>
</tr>
<tr>
<td>10</td>
<td>$0</td>
<td>$30</td>
<td>$29</td>
</tr>
</tbody>
</table>

43. Refer to Table 16-4. What is this firm’s profit maximizing level of output?

a. 0 units of output
b. 1 unit of output
c. 2 units of output
d. 3 units of output

Table 16-5
This table shows the demand schedule, marginal cost, and average total cost for a monopolistically competitive firm.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Price</th>
<th>Marginal Cost</th>
<th>Average Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$30</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>1</td>
<td>$24</td>
<td>$2</td>
<td>$32</td>
</tr>
<tr>
<td>2</td>
<td>$18</td>
<td>$4</td>
<td>$18</td>
</tr>
<tr>
<td>3</td>
<td>$12</td>
<td>$6</td>
<td>$14</td>
</tr>
</tbody>
</table>
44. **Refer to Table 16-5.** How much profit will this firm earn at the monopolistically competitive price?
   a. $0
   b. $5
   c. $12
   d. $16

45. **Refer to Table 16-5.** Which of the following statements regarding this monopolistically competitive firm is correct?
   a. New firms will enter this market in the long run since firm profits are greater than zero.
   b. Firms will leave this market in the long run since firm profits are less than zero.
   c. This firm is currently in long-run equilibrium.
   d. This firm is currently in long-run equilibrium, and the firm is producing its efficient scale of output.

**Figure 16-8**
The figure is drawn for a monopolistically-competitive firm.

46. **Refer to Figure 16-8.** In order to maximize its profit, the firm will choose to produce
   a. 100 units of output, and its profit will be positive.
   b. 100 units of output, and its profit will be zero.
   c. 133.33 units of output, and its profit will be negative.
   d. 133.33 units of output, and its profit will be zero.

**Figure 16-9**
The figure is drawn for a monopolistically-competitive firm.
47. Refer to Figure 16-9. The firm’s maximum profit is
a. $7,000.
b. $5,000.
c. $2,000.
d. The firm’s maximum profit cannot be determined from the figure.

48. A monopolistically competitive firm has the following cost structure:

<table>
<thead>
<tr>
<th>Output</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cost($)</td>
<td>30</td>
<td>32</td>
<td>36</td>
<td>42</td>
<td>50</td>
<td>63</td>
<td>77</td>
</tr>
</tbody>
</table>

The firm faces the following demand curve:

<table>
<thead>
<tr>
<th>Price ($)</th>
<th>20</th>
<th>18</th>
<th>15</th>
<th>12</th>
<th>9</th>
<th>7</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

If the government forces this firm to produce at its efficient scale, it will
a. produce 3 units and make $9.
b. produce 4 units and make $6.
c. produce 5 units and lose $5.
d. produce 7 units and lose $49.

49. Excess capacity is
a. an example of the inefficiencies of monopolistically competitive markets.
b. a short-run problem but not a long-run problem.
c. a characteristic of rising average total cost curves.
d. Both a and b are correct.

50. Which of the following best describes the idea of excess capacity in monopolistic competition?
a. Firms produce more output than is socially desirable.
b. The output produced by a typical firm is less than what would occur at the minimum point on its ATC curve.
c. Due to product differentiation, firms choose output levels where price equals average total cost.
d. Firms keep some surplus output on hand in case there is a shift in the demand for their product.

### 51. A monopolistically competitive market could be considered inefficient because
a. marginal revenue exceeds average revenue.
b. price exceeds marginal cost.
c. the efficient scale of production is only achieved in the long run, not in the short run.
d. markup pricing does not occur in any other market structure.

### 52. The deadweight loss that is associated with a monopolistically competitive market is a result of
a. price falling short of marginal cost in order to increase market share.
b. price exceeding marginal cost.
c. the firm operating in a regulated industry.
d. excessive advertising costs.

### 53. Monopolistic competition is an inefficient market structure because
a. price exceeds marginal cost.
b. it has a deadweight loss, just as monopoly does.
c. at the equilibrium, some consumers will value the good at more than the marginal cost of production.
d. All of the above are correct.

### 54. The administrative burden of regulating price in a monopolistically competitive market is
a. small due to economies of scale.
b. large because price is usually below marginal cost.
c. large because of the large number of firms that produce differentiated products.
d. small because firms produce with excess capacity.

### 55. With respect to monopolistic competition,
a. both the business-stealing externality and the product-variety externality are positive externalities.
b. the business-stealing externality is a positive externality, while the product-variety externality is a negative externality.
c. the business-stealing externality is a negative externality, while the product-variety externality is a positive externality.
d. both the business-stealing externality and the product-variety externality are negative externalities.

### 56. When consumers are exposed to additional choices that result from the introduction of a new product,
a. their satisfaction is likely to be lowered as a result of their having to make additional choices.
b. a product-variety externality is said to occur.
c. an advertising externality is said to occur.
d. consumers are likely to experience negative consumption externalities.

### 57. The entry of new firms into a monopolistically competitive market is accompanied by
a. both positive and negative externalities.
b. only positive externalities.
c. only negative externalities.
d. only private profit opportunities (no externalities).
Scenario 16-1
Escape Vacations has recently announced intentions to build a new hotel/resort complex in Phoenix, AZ. Assume that the hotel/resort market in Phoenix is characterized by monopolistic competition.

58. Refer to Scenario 16-1. As a result of the new Escape Vacations hotel/resort, tourists who stay in Phoenix are likely to experience a
   a. product-variety externality, which harms consumers.
   b. product-variety externality, which benefits consumers.
   c. business-stealing externality, which harms consumers.
   d. business-stealing externality, which benefits consumers.

Scenario 16-3
Suppose market demand for a product is given by the equation \( P = 20 - Q \). For this market demand curve, marginal revenue is \( MR = 20 - 2Q \).

59. Refer to Scenario 16-3. If the marginal cost of producing this good is 4, what quantity would a profit-maximizing monopolist produce?
   a. \( Q = 2 \)
   b. \( Q = 4 \)
   c. \( Q = 6 \)
   d. \( Q = 8 \)

60. Although monopolistically competitive markets offer consumers a wide variety of differentiated products, there may still be insufficient variety if
   a. there are large fixed costs in the market.
   b. there are no barriers to entry in the market.
   c. the business-stealing externality is present in the market.
   d. the government does not impose regulations on the market.

61. For the economy as a whole, spending on advertising comprises about what percent of total firm revenue?
   a. 0.5
   b. 2
   c. 10
   d. 20

62. If we observe a great deal of advertising of men's shaving products, we can infer that
   a. the market for those products is perfectly competitive.
   b. it costs firms very little to produce those products.
   c. those products are highly differentiated.
   d. firms are irrational in their decisions to advertise.

63. Defenders of advertising
   a. concede that advertising increases firms’ market power.
   b. concede that advertising makes entry by new firms more difficult.
   c. contend that firms use advertising to provide useful information to consumers.
   d. All of the above are correct.

64. Defenders of advertising argue that it is not rational for profit-maximizing firms to spend money on advertising for products that have
   a. superior quality.
   b. inferior or mediocre quality.
65. Evidence suggests that, in markets with differentiated products but little advertising,
   a. consumers are not confused by conflicting signals.
   b. firms are generally less profitable.
   c. markets are less efficient.
   d. consumers make better choices.

66. Firms that spend a large amount of money on advertising a particular product are likely to be providing consumers with
   a. information about the availability of the product.
   b. information about product price.
   c. a signal of product quality.
   d. a good example of wasted resources.

67. A firm can signal the high quality of its product by
   a. spending nothing on advertising to convey that the product is so good that the firm does not even need to advertise.
   b. spending a large amount of money on advertising.
   c. getting a patent for the product.
   d. not worrying about getting a patent for the product.

68. Critics of markets that are characterized by firms that sell brand name products argue that brand names encourage consumers to pay more for branded products that
   a. have elastic demand curves.
   b. are very different from generic products.
   c. are indistinguishable from generic products.
   d. consumer-advocate groups have found to be inferior.

69. A recent outbreak of hepatitis was linked to a national fast-food restaurant chain. This is an example of a case in which
   a. brand name identity increases the effectiveness of markets.
   b. brand name identity can be detrimental to the profitability of a firm.
   c. advertising is ineffective in salvaging perceptions of product quality.
   d. advertising cannot be used to establish brand loyalty.

70. Olivia consumes Pepsi exclusively. She claims that there is a clear taste difference and that competing brands of cola leave an unsavory taste in her mouth. However, in a blind taste test, Olivia is found to prefer generic store-brand cola to Pepsi eight out of ten times. The results of Olivia's taste test would reinforce claims by critics of brand names that
   a. consumers are always willing to pay more for brand names.
   b. brand names cause consumers to perceive differences that do not really exist.
   c. brand names cause consumers to be more sensitive to product differences.
   d. brand names are a form of socially efficient advertising.

71. Roberto consumes Coke exclusively. He claims that there is a clear taste difference and that competing brands of cola leave an unsavory taste in his mouth. In a blind taste test, Roberto is found to prefer Coke to store-brand cola eight out of ten times. The results of Roberto’s taste test would refute claims by critics of brand names that
   a. consumers are always willing to pay more for brand names.
   b. brand names cause consumers to perceive differences that do not really exist.
   c. consumers with the lowest levels of income are the most likely to be influenced by brand
d. brand names are a form of socially efficient advertising.

72. Two bottles of body wash sit side-by-side in a grocery store: Olay (a brand name) sells for $6.00, while Up and Up (not a brand name) sells for $3.00. Even defenders of brand names would have to admit that
a. no rational consumer would spend twice as much for Olay as she would for Up and Up.
b. the side-by-side presence of these two body washes conveys no useful information to consumers.
c. Olay has no incentive to maintain the quality of its product just because of the Olay brand name.
d. None of the above is correct.

73. Which of the following statements regarding brand names in advertising is not correct?
a. Brand names provide consumers with information about quality when quality cannot be easily judged in advance of purchase.
b. Brand names give firms an incentive to maintain high quality to maintain the reputation of the firm.
c. Brand names allow firms to produce and sell inferior products in the long run since people will continue to purchase the brand-name product.
d. Brand names can cause consumers to perceive differences in products that do not actually exist.

d. None of the above is correct.

74. Which of the following statements is not correct?
a. The typical monopolistically competitive firm could reduce its average total cost if it produced more output.
b. Monopolistically competitive firms advertise in order to increase the elasticity of the demand curve they face.
c. Expensive advertising might help consumers if it is a signal that the product is good.
d. Brand names acquired at great cost might help consumers by assuring quality.

d. None of the above is correct.

75. Which of the following statements is correct?
a. The more similar Firm A’s product is to Firm B’s product, the more likely Firm A is to advertise.
b. Monopolistically competitive firms advertise in order to increase the elasticity of the demand curve they face.
c. According to the signaling theory, the more product information an advertisement contains, the more effective it is.
d. Brand names may help consumers if they provide information about the quality of a product when acquiring such information is difficult.

d. None of the above is correct.

**Scenario 16-4**
Consider the problem facing two firms, Burger Prince and McDaniel’s, in the fast-food restaurant market. Each firm has just come up with an idea for a new fast-food menu item which it would sell for $5. Assume that the marginal cost for each new menu item is a constant $3, and the only fixed cost is for advertising. Each company knows that if it spends $16 million on advertising it will get 2 million consumers to try its new product. Burger Prince has done market research which suggests that its product does not have any "staying" power in the market. Even though it could get 2 million consumers to buy the product once, it is unlikely that they will continue to buy the product in the future. McDaniel’s market research suggests that its product is very good, and consumers who try the product will continue to be consumers over the ensuing year. On the basis of its market research, McDaniel’s estimates that its initial 2 million customers will buy one unit of the product each month in the coming year, for a total of 32 million units.
76. Refer to Scenario 16-4. On the basis of a theory that people buy a product because it is advertised, the content of advertisements for McDaniel's product
   a. should focus on quality comparisons in order to be successful.
   b. must include celebrity endorsements in order to be successful.
   c. is critical to the success of the product in the market.
   d. is irrelevant to the success of the advertisement.

77. Firms in a monopolistically competitive market
   a. are price takers.
   b. produce an output level that minimizes average total cost in the long run.
   c. maximize profits by producing where price equals marginal cost.
   d. cannot earn economic profits in the long run.

78. Which of the following statements is correct?
   a. Firms in monopolistic competition and monopoly can earn economic profits in both the short run and the long run.
   b. Both perfectly competitive and monopolistically competitive firms charge a price equal to marginal cost.
   c. Firms in perfect competition, monopolistic competition, and monopoly maximize profits by producing where marginal revenue equals marginal cost.
   d. Both perfectly competitive and monopolistically competitive firms produce the welfare-maximizing level of output.

79. Which of the following statements is not correct?
   a. Firms in monopolistic competition and monopoly can earn economic profits in the short run.
   b. Firms in monopolistic competition and perfect competition produce the welfare-maximizing level of output.
   c. Monopolistically competitive firms price above marginal cost, whereas competitive firms price at marginal cost.
   d. Firms wishing to enter a monopolistically competitive market can do so freely, whereas firms wishing to enter a monopoly market will face barriers.

80. A market is comprised of many firms as opposed to just one firm or a few firms
   a. only when it is perfectly competitive.
   b. only when it is perfectly competitive or oligopolistic.
   c. only when it is perfectly competitive or monopolistically competitive.
   d. when it is perfectly competitive, monopolistically competitive, or oligopolistic.

81. A monopolistically competitive market is like a monopoly in that
   a. both market structures feature easy entry by new firms in the long run.
   b. the main objective of firms in both market structures is something other than profit maximization.
   c. firms in both market structures produce the welfare-maximizing level of output.
   d. firms in both market structures set price above marginal cost.

Table 17-1
Imagine a small town in which only two residents, Rochelle and Alec, own wells that produce safe drinking water. Each week Rochelle and Alec work together to decide how many gallons of water to pump. They bring the water to town and sell it at whatever price the market will bear. To keep things simple, suppose that Rochelle and Alec can pump as much water as they want without cost so that the marginal cost of water equals zero. The weekly town demand schedule and total revenue schedule for water is shown in the table below:

<table>
<thead>
<tr>
<th>Quantity (in gallons)</th>
<th>Price</th>
<th>Total Revenue (and Total Profit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$60</td>
<td>$0</td>
</tr>
<tr>
<td>100</td>
<td>55</td>
<td>5,500</td>
</tr>
<tr>
<td>200</td>
<td>50</td>
<td>10,000</td>
</tr>
<tr>
<td>300</td>
<td>45</td>
<td>13,500</td>
</tr>
<tr>
<td>400</td>
<td>40</td>
<td>16,000</td>
</tr>
<tr>
<td>500</td>
<td>35</td>
<td>17,500</td>
</tr>
<tr>
<td>600</td>
<td>30</td>
<td>18,000</td>
</tr>
<tr>
<td>700</td>
<td>25</td>
<td>17,500</td>
</tr>
<tr>
<td>800</td>
<td>20</td>
<td>16,000</td>
</tr>
<tr>
<td>900</td>
<td>15</td>
<td>13,500</td>
</tr>
<tr>
<td>1,000</td>
<td>10</td>
<td>10,000</td>
</tr>
<tr>
<td>1,100</td>
<td>5</td>
<td>5,500</td>
</tr>
<tr>
<td>1,200</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### 82. Refer to Table 17-1. If Rochelle and Alec operate as a profit-maximizing monopoly in the market for water, what price will they charge?
- a. $25
- b. $30
- c. $35
- d. $40

### 83. Refer to Table 17-1. If this market for water were perfectly competitive instead of monopolistic, what price would be charged?
- a. $0
- b. $30
- c. $40
- d. $60

Table 17-2. The table shows the town of Pittsville’s demand schedule for gasoline. For simplicity, assume the town’s gasoline seller(s) incur no costs in selling gasoline.

<table>
<thead>
<tr>
<th>Quantity (in gallons)</th>
<th>Price</th>
<th>Total Revenue (and total profit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$10</td>
<td>$0</td>
</tr>
<tr>
<td>100</td>
<td>9</td>
<td>900</td>
</tr>
<tr>
<td>200</td>
<td>8</td>
<td>1,600</td>
</tr>
<tr>
<td>300</td>
<td>7</td>
<td>2,100</td>
</tr>
<tr>
<td>400</td>
<td>6</td>
<td>2,400</td>
</tr>
<tr>
<td>500</td>
<td>5</td>
<td>2,500</td>
</tr>
<tr>
<td>600</td>
<td>4</td>
<td>2,400</td>
</tr>
<tr>
<td>700</td>
<td>3</td>
<td>2,100</td>
</tr>
</tbody>
</table>
Refer to Table 17-2. If the market for gasoline in Pittsville is perfectly competitive, then the equilibrium price of gasoline is
a. $8 and the equilibrium quantity is 200 gallons.
b. $5 and the equilibrium quantity is 500 gallons.
c. $2 and the equilibrium quantity is 800 gallons.
d. $0 and the equilibrium quantity is 1,000 gallons.

Refer to Table 17-2. Suppose there are exactly two sellers of gasoline in Pittsville: Exxoff and BQ. If Exxoff sells 300 gallons and BQ sells 400 gallons, then
a. Exxoff’s profit is $900 and BQ’s profit is $1,200.
b. Exxoff’s profit is $2,100 and BQ’s profit is $2,400.
c. there is an excess demand for gasoline in Pittsville.
d. there is an excess supply of gasoline in Pittsville.

Which of the following statements is correct?
a. When duopoly firms reach a Nash equilibrium, their combined level of output is the monopoly level of output.
b. When oligopoly firms collude, they are behaving as a cartel.
c. In an oligopoly, self-interest drives the market to the competitive outcome.
d. An oligopoly is an example of monopolistic competition.

As a group, oligopolists would always earn the highest profit if they would
a. produce the perfectly competitive quantity of output.
b. produce more than the perfectly competitive quantity of output.
c. charge the same price that a monopolist would charge if the market were a monopoly.
d. operate according to their own individual self-interests.

Table 17-3. The information in the table below shows the total demand for premium-channel digital cable TV subscriptions in a small urban market. Assume that each digital cable TV operator pays a fixed cost of $200,000 (per year) to provide premium digital channels in the market area and that the marginal cost of providing the premium channel service to a household is zero.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Price (per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$180</td>
</tr>
<tr>
<td>3,000</td>
<td>$150</td>
</tr>
<tr>
<td>6,000</td>
<td>$120</td>
</tr>
<tr>
<td>9,000</td>
<td>$ 90</td>
</tr>
<tr>
<td>12,000</td>
<td>$ 60</td>
</tr>
<tr>
<td>15,000</td>
<td>$ 30</td>
</tr>
<tr>
<td>18,000</td>
<td>$ 0</td>
</tr>
</tbody>
</table>

Refer to Table 17-3. If there is only one digital cable TV company in this market, what price would it charge for a premium digital channel subscription to maximize its profit?
a. $30
b. $60
c. $90
d. $150
89. **Refer to Table 17-3.** Assume that there are two profit-maximizing digital cable TV companies operating in this market. Further assume that they are not able to collude on the price and quantity of premium digital channel subscriptions to sell. How much profit will each firm earn when this market reaches a Nash equilibrium?
   a. $25,000
   b. $90,000
   c. $160,000
   d. $215,000

**Table 17-4.** The information in the table below shows the total demand for high-speed Internet subscriptions in a small urban market. Assume that each company that provides these subscriptions incurs an annual fixed cost of $200,000 (per year) and that the marginal cost of providing an additional subscription is always $80.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Price (per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$320</td>
</tr>
<tr>
<td>2,000</td>
<td>$280</td>
</tr>
<tr>
<td>4,000</td>
<td>$240</td>
</tr>
<tr>
<td>6,000</td>
<td>$200</td>
</tr>
<tr>
<td>8,000</td>
<td>$160</td>
</tr>
<tr>
<td>10,000</td>
<td>$120</td>
</tr>
<tr>
<td>12,000</td>
<td>$ 80</td>
</tr>
<tr>
<td>14,000</td>
<td>$ 40</td>
</tr>
<tr>
<td>16,000</td>
<td>$ 0</td>
</tr>
</tbody>
</table>

90. **Refer to Table 17-4.** Suppose there is only one high-speed Internet service provider in this market and it seeks to maximize its profit. The company will
   a. sell 6,000 subscriptions and charge a price of $200 for each subscription.
   b. sell 8,000 subscriptions and charge a price of $160 for each subscription.
   c. sell 10,000 subscriptions and charge a price of $120 for each subscription.
   d. sell 12,000 subscriptions and charge a price of $80 for each subscription.

91. **Refer to Table 17-4.** Assume there are two high-speed Internet service providers that operate in this market. If they are able to collude on the quantity of subscriptions that will be sold and on the price that will be charged for subscriptions, then their agreement will stipulate that
   a. each firm will charge a price of $120 and each firm will sell 5,000 subscriptions.
   b. each firm will charge a price of $160 and each firm will sell 4,000 subscriptions.
   c. each firm will charge a price of $100 and each firm will sell 3,000 subscriptions.
   d. each firm will charge a price of $200 and each firm will sell 3,000 subscriptions.

92. **Refer to Table 17-4.** Assume there are two profit-maximizing high-speed Internet service providers operating in this market. Further assume that they are not able to collude on the price and quantity of subscriptions to sell. How many subscriptions will be sold altogether when this market reaches a Nash equilibrium?
   a. 6,000
   b. 8,000
   c. 10,000
   d. 12,000
Imagine a small town in which only two residents, Kunal and Naj, own wells that produce safe drinking water. Each week Kunal and Naj work together to decide how many gallons of water to pump, to bring the water to town, and to sell it at whatever price the market will bear. Assume Kunal and Naj can pump as much water as they want without cost so that the marginal cost of water equals zero.

The weekly town demand schedule and total revenue schedule for water are shown in the table below.

<table>
<thead>
<tr>
<th>Weekly Quantity (in gallons)</th>
<th>Price</th>
<th>Weekly Total Revenue (and Total Profit)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$12</td>
<td>$0</td>
</tr>
<tr>
<td>25</td>
<td>11</td>
<td>275</td>
</tr>
<tr>
<td>50</td>
<td>10</td>
<td>500</td>
</tr>
<tr>
<td>75</td>
<td>9</td>
<td>675</td>
</tr>
<tr>
<td>100</td>
<td>8</td>
<td>800</td>
</tr>
<tr>
<td>125</td>
<td>7</td>
<td>875</td>
</tr>
<tr>
<td>150</td>
<td>6</td>
<td>900</td>
</tr>
<tr>
<td>175</td>
<td>5</td>
<td>875</td>
</tr>
<tr>
<td>200</td>
<td>4</td>
<td>800</td>
</tr>
<tr>
<td>225</td>
<td>3</td>
<td>675</td>
</tr>
<tr>
<td>250</td>
<td>2</td>
<td>500</td>
</tr>
<tr>
<td>275</td>
<td>1</td>
<td>275</td>
</tr>
<tr>
<td>300</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Refer to Table 17-5.** If the market for water were perfectly competitive instead of monopolistic, how many gallons of water would be produced and sold?

a. 25  
b. 100  
c. 200  
d. 300

**Refer to Table 17-5.** The socially efficient level of water supplied to the market would be

a. 50 gallons.  
b. 150 gallons.  
c. 225 gallons.  
d. 300 gallons.

**Refer to Table 17-5.** Suppose the town enacts new antitrust laws that prohibit Kunal and Naj from operating as a monopolist. What will quantity of water will each of them produce once the Nash equilibrium is reached?

a. Each will produce 50 gallons, for a total of 100 gallons.  
b. Each will produce 75 gallons, for a total of 150 gallons.  
c. Each will produce 100 gallons, for a total of 200 gallons.  
d. Each will produce 125 gallons, for a total of 250 gallons.

**Refer to Table 17-5.** Suppose the town enacts new antitrust laws that prohibit Kunal and Naj from operating as a monopolist. Once the Nash equilibrium is reached, how much profit will each producer earn?

a. $400.00  
b. $437.50  
c. $450.00  
d. $800.00
97. As a group, oligopolists earn the highest profit when they
a. achieve a Nash equilibrium.
b. produce a total quantity of output that falls short of the Nash-equilibrium total quantity.
c. produce a total quantity of output that exceeds the Nash-equilibrium total quantity.
d. charge a price that falls short of the Nash-equilibrium price.

98. In order to be successful, a cartel must
a. find a way to encourage members to produce more than they would otherwise produce.
b. agree on the total level of production for the cartel, but they need not agree on the amount
   produced by each member.
c. agree on the total level of production and on the amount produced by each member.
d. agree on the prices charged by each member, but they need not agree on amounts
   produced.

99. When oligopolistic firms interacting with one another each choose their best strategy given the strategies
chosen by other firms in the market, we have
a. a cartel.
b. a group of oligopolists behaving as a monopoly.
c. a Nash equilibrium.
d. the perfectly competitive outcome.

100. For cartels, as the number of firms (members of the cartel) increases,
a. the monopoly outcome becomes more likely.
b. the magnitude of the price effect decreases.
c. the more concerned each seller is about its own impact on the market price.
d. the easier it becomes to observe members violating their agreements.

101. A group of firms that act in unison to maximize collective profits is called a
a. monopolistically competitive industry.
b. monopoly.
c. cartel.
d. Nash equilibrium market.

102. In imperfectly competitive markets, increasing production will decrease the price of all units sold. This
concept is known as the
a. income effect.
b. cost effect.
c. output effect.
d. price effect.

103. Oligopolies would like to act like a
a. duopoly, but self-interest often drives them closer to the perfectly competitive outcome.
b. competitive firm, but self-interest often drives them closer to the duopoly outcome.
c. monopoly, but self-interest often drives them to charge a higher price than would be
   charged by a monopoly.
d. monopoly, but self-interest often drives them closer to the perfectly competitive outcome.
104. Refer to Figure 17-1. Suppose this market is served by a duopoly in which each firm faces the marginal cost curve shown in the diagram. The marginal revenue curve that a monopolist would face in this market is also shown. Which of the following statements is true?
   a. The total output in this market will likely be 2 units when the market is served by a duopoly.
   b. The price in this market will likely be $6 when the market is served by a duopoly.
   c. The total revenue to each firm will likely be more than $16 when the market is served by a duopoly.
   d. The total output in this market will likely be less than 4 units when the market is served by a duopoly.

105. Refer to Figure 17-1. If this game is played only once, then the most likely outcome is that
   a. both firms produce a low level of output.
   b. ABC produces a low level of output and XYZ produces a high level of output.
   c. ABC produces a high level of output and XYZ produces a low level of output.
   d. both firms produce a high level of output.

106. Refer to Figure 17-1. If this game is played repeatedly and ABC uses a tit-for-tat strategy, it will choose a
   a. high level of output in the first round and in subsequent rounds it will choose whatever XYZ chose in the previous round.
   b. low level of output in the first round and in subsequent rounds it will choose whatever XYZ chose in the previous round.
   c. high level of output in all rounds, regardless of the choice made by XYZ.
   d. high level of output in all rounds, regardless of the choice made by XYZ.

Table 17-6. The table shows the demand schedule for a particular product.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
</tr>
</tbody>
</table>
107. **Refer to Table 17-6.** Suppose the market for this product is served by two firms that have formed a cartel. If the marginal cost of production is $0 and there is no fixed cost, the combined profit of the cartel will be
   a. $16
   b. $24
   c. $30
   d. $32

**Table 17-9**
Only two firms, Acme and Pinnacle, sell a particular product. The table below shows the demand curve for their product. Each firm has the same constant marginal cost of $10 and zero fixed cost.

<table>
<thead>
<tr>
<th>Price</th>
<th>Quantity</th>
<th>Total Revenues</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>65</td>
<td>100</td>
<td>6500</td>
</tr>
<tr>
<td>60</td>
<td>200</td>
<td>12000</td>
</tr>
<tr>
<td>55</td>
<td>300</td>
<td>16500</td>
</tr>
<tr>
<td>50</td>
<td>400</td>
<td>20000</td>
</tr>
<tr>
<td>45</td>
<td>500</td>
<td>22500</td>
</tr>
<tr>
<td>40</td>
<td>600</td>
<td>24000</td>
</tr>
<tr>
<td>35</td>
<td>700</td>
<td>24500</td>
</tr>
<tr>
<td>30</td>
<td>800</td>
<td>24000</td>
</tr>
<tr>
<td>25</td>
<td>900</td>
<td>22500</td>
</tr>
<tr>
<td>20</td>
<td>1000</td>
<td>20000</td>
</tr>
<tr>
<td>15</td>
<td>1100</td>
<td>16500</td>
</tr>
<tr>
<td>10</td>
<td>1200</td>
<td>12000</td>
</tr>
<tr>
<td>5</td>
<td>1300</td>
<td>6500</td>
</tr>
<tr>
<td>0</td>
<td>1400</td>
<td>0</td>
</tr>
</tbody>
</table>

108. **Refer to Table 17-9.** If Acme and Pinnacle operate to jointly maximize profits, then what is the price?
   a. $45
   b. $40
   c. $35
   d. $30

109. **Refer to Table 17-9.** If Acme and Pinnacle operate to jointly maximize profits, then what quantity is sold?
   a. 800
   b. 700
   c. 600
   d. 500

110. **Refer to Table 17-9.** Acme and Pinnacle agree to maximize joint profits. However, while Acme produces the agreed upon amount, Pinnacle breaks the agreement and produces 100 more than agreed, how much profit does Pinnacle make?
   a. $10,000
   b. $9,000
111. Refer to Table 17-9. Acme and Pinnacle agree to jointly maximize profits. If Acme and Pinnacle each break the agreement and each produce 100 more than agreed upon, how much less profit does each make?
   a. $250
   b. $750
   c. $1,000
   d. $2,000

112. Refer to Table 17-9. If this market were perfectly competitive instead of oligopolistic, what quantity would be produced?
   a. 1400
   b. 1300
   c. 1200
   d. 1100

113. Refer to Table 17-9. How much less do each of these firms earn in the Nash equilibrium than if they jointly maximize profits?
   a. $250
   b. $500
   c. $750
   d. $1000

Table 17-10
The table shows the town of Driveaway’s demand schedule for gasoline. Assume the town’s gasoline seller(s) incurs a cost of $2 for each gallon sold, with no fixed cost.

<table>
<thead>
<tr>
<th>Quantity (in gallons)</th>
<th>Price</th>
<th>Total Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$8</td>
<td>$0</td>
</tr>
<tr>
<td>50</td>
<td>7</td>
<td>350</td>
</tr>
<tr>
<td>100</td>
<td>6</td>
<td>600</td>
</tr>
<tr>
<td>150</td>
<td>5</td>
<td>750</td>
</tr>
<tr>
<td>200</td>
<td>4</td>
<td>800</td>
</tr>
<tr>
<td>250</td>
<td>3</td>
<td>750</td>
</tr>
<tr>
<td>300</td>
<td>2</td>
<td>600</td>
</tr>
<tr>
<td>350</td>
<td>1</td>
<td>350</td>
</tr>
<tr>
<td>400</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

114. Refer to Table 17-10. Suppose there are exactly two sellers of gasoline in Driveaway: Amogo and Spilmerica. If Amogo sells 150 gallons and Spilmerica sells 100 gallons, then
   a. Amogo’s profit is $150 and Spilmerica’s profit is $100.
   b. Amogo’s profit is $100 and Spilmerica’s profit is $66.67.
   c. Amogo’s profit is $75 and Spilmerica’s profit is $50.
   d. there is an excess supply of gasoline in Driveaway.

115. The likely outcome of the standard prisoners’ dilemma game is that
   a. neither prisoner confesses.
   b. exactly one prisoner confesses.
   c. both prisoners confess.
   d. Not enough information is given to answer this question.
Two home-improvement stores (Lopes and HomeMax) in a growing urban area are interested in expanding their market share. Both are interested in expanding the size of their store and parking lot to accommodate potential growth in their customer base. The following game depicts the strategic outcomes that result from the game. Increases in annual profits of the two home-improvement stores are shown in the table below.

<table>
<thead>
<tr>
<th>HomeMax</th>
<th>Increase the size of store and parking lot</th>
<th>Do not increase the size of store and parking lot</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lopes = $1.0 million</td>
<td>Lopes = $0.4 million</td>
</tr>
<tr>
<td></td>
<td>HomeMax = $1.5 million</td>
<td>HomeMax = $3.4 million</td>
</tr>
<tr>
<td></td>
<td>Lopes = $3.2 million</td>
<td>Lopes = $2.00 million</td>
</tr>
<tr>
<td></td>
<td>HomeMax = $0.6 million</td>
<td>HomeMax = $2.5 million</td>
</tr>
</tbody>
</table>

Refer to Table 17-13. Pursuing its own best interest, HomeMax will

a. increase the size of its store and parking lot only if Lopes also increases the size of its store and parking lot.

b. increase the size of its store and parking lot only if Lopes does not increase the size of its store and parking lot.

c. increase the size of its store and parking lot regardless of the decision made by Lopes.

d. not increase the size of its store and parking lot regardless of the decision made by Lopes.

Refer to Table 17-13. If both stores follow a dominant strategy, HomeMax's annual profit will grow by

a. $0.6 million.

b. $1.5 million.

c. $2.5 million.

d. $3.4 million.

Much of the research on game theory in recent decades was driven by attempts to analyze actions of players during

a. the Great Depression of the 1930s.

b. World War II.

c. the Cold War between the United States and the Soviet Union.

d. the ascendancy of the conservative movement in the United States in the 1970s and 1980s.

Games that are played more than once generally

a. lead to outcomes dominated purely by self-interest.

b. lead to outcomes that do not reflect joint rationality.

c. encourage cheating on cartel production quotas.

d. make collusive arrangements easier to enforce.

Very often, the reason that players can solve the prisoners’ dilemma and reach the most profitable outcome is that

a. each player tries to capture a large portion of the market share.

b. the players play the game not once but many times.

c. the game becomes more competitive.

d. self interest results in the Nash equilibrium which is the best outcome for the players.

When the prisoners’ dilemma game is generalized to describe situations other than those that literally involve two prisoners, we see that cooperation between the players of the game
a. can be difficult to maintain, but only when cooperation would make at least one of the players of the game worse off.
b. can be difficult to maintain, even when cooperation would make both players of the game better off.
c. always works to the benefit of society as a whole.
d. always works to the detriment of society as a whole.

122. We know that people tend to overuse common resources. This problem can be viewed as an example of
a. a game in which the players succeed in reaching the cooperative outcome.
b. the prisoners’ dilemma.
c. a situation to which game theory does not apply because of a lack of strategic thinking.
d. a situation to which game theory does not apply because of too many decision-makers.

123. The paradoxical nature of oligopoly can be demonstrated by the fact that, even though the monopoly outcome is best for the oligopolists,
a. they collude to set the output level equal to the Nash equilibrium level of output.
b. they have incentives to increase production above the monopoly outcome.
c. they do not behave as profit maximizers.
d. self-interest juxtaposes the profits earned at the Nash equilibrium.

Scenario 17-3. Consider two countries, Muria and Zenya, that are engaged in an arms race. Each country must decide whether to build new weapons or to disarm existing weapons. Each country prefers to have more arms than the other because a large arsenal gives it more influence in world affairs. But each country also prefers to live in a world safe from the other country’s weapons. The following table shows the possible outcomes for each decision combination. The numbers in each cell represent the country’s ranking of the outcome (4 = best outcome, 1 = worst outcome).

<table>
<thead>
<tr>
<th>Muria</th>
<th>Build new weapons</th>
<th>Disarm existing weapons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Build new weapons</td>
<td>Muria: 2</td>
<td>Zenya: 2</td>
</tr>
<tr>
<td>Disarm existing weapons</td>
<td>Muria: 1</td>
<td>Zenya: 4</td>
</tr>
<tr>
<td></td>
<td>Muria: 4</td>
<td>Zenya: 1</td>
</tr>
<tr>
<td></td>
<td>Muria: 3</td>
<td>Zenya: 3</td>
</tr>
</tbody>
</table>

124. Refer to Scenario 17-3. Which of these statements is correct?
(i) Muria is better off building new weapons if Zenya builds new weapons.
(ii) Muria is better off building new weapons if Zenya disarms existing weapons.
(iii) Building new weapons is Muria's dominant strategy.

a. (i) and (ii)
b. (ii) and (iii)
c. (i) and (iii)
d. (i), (ii), and (iii)
125. Dave and Andy are competitors in a local market. Each is trying to decide if it is better to advertise on TV, on radio, or not at all. If they both advertise on TV, each will earn a profit of $4,000. If they both advertise on radio, each will earn a profit of $7,000. If neither advertises at all, each will earn a profit of $10,000. If one advertises on TV and other advertises on radio, then the one advertising on TV will earn $6,000 and the other will earn $5,000. If one advertises on TV and the other does not advertise, then the one advertising on TV will earn $11,000 and the other will earn $2,000. If one advertises on radio and the other does not advertise, then the one advertising on radio will earn $12,000 and the other will earn $4,000. If both follow their dominant strategy, then Dave will
a. advertise on TV and earn $4,000.
b. advertise on radio and earn $7,000.
c. advertise on TV and earn $11,000.
d. not advertise and earn $10,000.

126. Laurel and Janet are competitors in a local market and each is trying to decide if it is worthwhile to advertise. If both of them advertise, each will earn a profit of $5,000. If neither of them advertise, each will earn a profit of $10,000. If one advertises and the other doesn’t, then the one who advertises will earn a profit of $12,000 and the other will earn $2,000. In this version of the prisoners’ dilemma, if the game is played only once, Laurel should
a. advertise, but if the game is to be repeated many times she should probably not advertise.
b. advertise, and if the game is to be repeated many times she should still probably advertise.
c. not advertise, but if the game is to be repeated many times she should probably advertise.
d. not advertise, and if the game is to be repeated many times she should still not advertise.

**Table 17-14**
This table shows a game played between two players, A and B. The payoffs in the table are shown as (Payoff to A, Payoff to B).

<table>
<thead>
<tr>
<th></th>
<th>Right</th>
<th>Left</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up</td>
<td>(2, 2)</td>
<td>(3, 1)</td>
</tr>
<tr>
<td>Down</td>
<td>(1, 3)</td>
<td>(0, 0)</td>
</tr>
</tbody>
</table>

127. Refer to Table 17-14. Which of the following statements about this game is true?
a. Up is a dominant strategy for A and Right is a dominant strategy for B.
b. Up is a dominant strategy for A and Left is a dominant strategy for B.
c. Down is a dominant strategy for A and Right is a dominant strategy for B.
d. Down is a dominant strategy for A and Left is a dominant strategy for B.

**Table 17-17**
This table shows a game played between two firms, Firm A and Firm B. In this game each firm must decide how much output (Q) to produce: 2 units or 3 units. The profit for each firm is given in the table as (Profit for Firm A, Profit for Firm B).

<table>
<thead>
<tr>
<th></th>
<th>Q=2</th>
<th>Q=3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm A</td>
<td>(10, 10)</td>
<td>(8, 12)</td>
</tr>
<tr>
<td></td>
<td>(12, 8)</td>
<td>(6, 6)</td>
</tr>
</tbody>
</table>

128. Refer to Table 17-17. In this game,
a. neither player has a dominant strategy.
b. both players have a dominant strategy.
c. Firm A has a dominant strategy, but Firm B does not have a dominant strategy.
d. Firm B has a dominant strategy, but Firm A does not have a dominant strategy.

129. Refer to Table 17-17. Which of the following outcomes represent the Nash equilibrium in this game?
   a. \( Q=2 \) for Firm A and \( Q=3 \) for Firm B.
   b. \( Q=3 \) for Firm A and \( Q=2 \) for Firm B.
   c. There is no Nash equilibrium in this game since neither player has a dominant strategy.
   d. Both a and b are correct.

130. The prisoners' dilemma game
   a. is a situation in which two players both have dominant strategies which lead to the highest total payoff for the two players.
   b. has no Nash equilibrium since players, after agreeing to play their dominant strategy, will have an incentive to switch to another strategy.
   c. has a Nash equilibrium, but the Nash equilibrium outcome is not the outcome the players would agree to if they could cooperate with each other.
   d. Both a and c are correct.

Table 17-19
Consider a small town that has two grocery stores from which residents can choose to buy a gallon of milk. The store owners each must make a decision to set a high milk price or a low milk price. The payoff table, showing profit per week, is provided below. The profit in each cell is shown as (Store 1, Store 2).

<table>
<thead>
<tr>
<th>Store 1</th>
<th>Low Price</th>
<th>High Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Price</td>
<td>(500, 500)</td>
<td>(800, 100)</td>
</tr>
<tr>
<td>High Price</td>
<td>(100, 800)</td>
<td>(650, 650)</td>
</tr>
</tbody>
</table>

131. Refer to Table 17-19. If grocery store 1 sets a low price, what price should grocery store 2 set? And what will grocery store 2's payoff equal?
   a. Low price, $500
   b. High price, $800
   c. Low price, $100
   d. High price, $650

132. Refer to Table 17-19. What is grocery store 2's dominant strategy?
   a. Grocery store 2 does not have a dominant strategy.
   b. Grocery store 2 should always set a low price.
   c. Grocery store 2 should always set a high price.
   d. Grocery store 2 should set a low price when grocery store 1 sets a low price, and grocery store 2 should set a high price when grocery store 1 sets a high price.

Figure 17-2. Hector and Bart are roommates. On a particular day, their apartment needs to be cleaned. Each person has to decide whether to take part in cleaning. At the end of the day, either the apartment will be completely clean (if one or both roommates take part in cleaning), or it will remain dirty (if neither roommate cleans). With happiness measured on a scale of 1 (very unhappy) to 10 (very happy), the possible outcomes are as follows:
### 133. **Refer to Figure 17-2.** In pursuing his own self-interest, Hector will
a. refrain from cleaning whether or not Bart cleans.
b. clean only if Bart cleans.
c. clean only if Bart refrains from cleaning.
d. clean whether or not Bart cleans.

### 134. **Refer to Table 17-21.** If Paul chooses Drive Straight, what will John choose to do and what will John’s payoff equal?

<table>
<thead>
<tr>
<th>John</th>
<th>Turn</th>
<th>Drive Straight</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Paul</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turn</td>
<td>(10, 10)</td>
<td>(5, 20)</td>
</tr>
<tr>
<td>Drive Straight</td>
<td>(20, 5)</td>
<td>(0, 0)</td>
</tr>
</tbody>
</table>

a. Turn, 5
b. Drive Straight, 0
c. Turn, 20
d. Drive Straight, 5

### 135. **Refer to Table 17-21.** How many Nash equilibria are there in this Chicken game?

a. 0
b. 1
c. 2
d. 3

---

**Table 17-24**
Two firms are considering going out of business and selling their assets. Each considers what happens if the other goes out of business. The payoff matrix below shows the net gain or loss to each firm.

<table>
<thead>
<tr>
<th>Firm B</th>
<th>Stays in business</th>
<th>Sells business</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A gains $9 million</td>
<td>A gains $7 million</td>
</tr>
<tr>
<td></td>
<td>B gains $7 million</td>
<td>B gains $15 million</td>
</tr>
<tr>
<td></td>
<td>A gains $15 million</td>
<td>A gains $1 million</td>
</tr>
<tr>
<td></td>
<td>B gains $8 million</td>
<td>B gains $3 million</td>
</tr>
</tbody>
</table>

136. Refer to Table 17-24. Which firm’s dominant strategy is to sell?
   a. firm A’s and firm B’s
   b. firm A’s but not firm B’s
   c. firm B’s but not firm A’s
   d. neither firm A’s nor firm B’s

Table 17-25
There are just two producers of a certain product. Each is considering offering promotional discounts.

<table>
<thead>
<tr>
<th>Firm B</th>
<th>Does not offer discount</th>
<th>Offers discount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Firm A profit = $90,000</td>
<td>Firm A profit = $120,000</td>
</tr>
<tr>
<td></td>
<td>Firm B profit = $90,000</td>
<td>Firm B profit = $70,000</td>
</tr>
<tr>
<td></td>
<td>Firm A profit = $70,000</td>
<td>Firm A profit = $80,000</td>
</tr>
<tr>
<td></td>
<td>Firm B profit = $120,000</td>
<td>Firm B profit = $80,000</td>
</tr>
</tbody>
</table>

137. Refer to Table 17-25. The dominant strategy
   a. for both firms is to offer the discount.
   b. for both firms is to not offer the discount.
   c. for firm A is to offer the discount. The dominant strategy for firm B is to not offer the discount.
   d. for firm A is to not offer the discount. The dominant strategy for firm B is to offer the discount.

Figure 17-4. Two companies, Acme and Bilco, are sellers in the same market. Each company decides whether to charge a high price or a low price. In the figure, the dollar amounts are payoffs and they represent annual profits for the two companies.
138. Refer to Figure 17-4. The dominant strategy for Acme is to
a. charge a high price, and the dominant strategy for Bilco is to charge a high price.
b. charge a high price, and the dominant strategy for Bilco is to charge a low price.
c. charge a low price, and the dominant strategy for Bilco is to charge a high price.
d. charge a low price, and the dominant strategy for Bilco is to charge a low price.

139. The Sherman Antitrust Act prohibits executives of competing companies from
a. fixing prices, but it does not prohibit them from talking about fixing prices.
b. even talking about fixing prices.
c. sharing with one another their knowledge of game theory.
d. failing to stand by agreements that they had made with one another.

140. The Clayton Act
a. preceded the Sherman Act.
b. replaced the Sherman Act.
c. strengthened the Sherman Act.
d. was specifically designed to reduce the ability of cartels to organize.

141. According to the Clayton Act,
a. lawyers are given an incentive to reduce the number of cases involving cooperative arrangements.
b. individuals can sue to recover damages from illegal cooperative agreements.
c. the government was able to incarcerate the CEO of a firm for illegal pricing arrangements.
d. private lawsuits are discouraged.

142. The practice of selling a product to retailers and requiring the retailers to charge a specific price for the product is called
a. fixed retail pricing.
b. resale price maintenance.
c. cost plus pricing.
d. unfair trade.

143. Economists claim that a resale price maintenance agreement is not anti-competitive because
a. suppliers are never able to exercise noncompetitive market power.
b. if a supplier has market power, it will be likely to exert that power through wholesale price rather than retail price.

c. retail markets are inherently noncompetitive.

d. retail cartel agreements cannot increase retail profits.

144. Although the practice of predatory pricing is a common claim in antitrust suits, some economists are skeptical of this argument because they believe
a. the evidence of its practice is nearly impossible to collect.

b. predatory pricing is not a profitable business strategy.

c. even though predatory pricing is a profitable business strategy, it is on balance beneficial to society.

d. predatory pricing actually attracts new firms to the industry.

145. Predatory pricing occurs when
a. firms collude to set prices. Economists are certain this practice is profitable.

b. firms collude to set prices. Economists are skeptical that this practice is profitable.

c. A monopolist decreases its prices to maintain its monopoly. Economists are certain this practice is profitable.

146. Tying involves a firm
a. colluding with another firm to restrict output and raise prices.

b. selling two individual products together for a single price rather than selling each product individually at separate prices.

c. temporarily cutting the price of its product to drive a competitor out of the market.

d. requiring that the firm reselling its product do so at a specified price.

147. Suppose that Makemoney Movies produces two new films — *The Hulk* and *The Piano*. Makemoney offers theaters the two films together at a single price but will not supply the movies separately. What do economists call this business practice?

a. predatory pricing

b. resale price maintenance

c. tying

d. leverage

148. All cartels are inherently reliant on
a. a horizontal demand curve.

b. an inelastic demand for their product.

c. the cooperation of their members.

d. enforcement of antitrust laws.

149. In 1971, Congress passed a law that banned cigarette advertising on television. After the ban it is most likely that the

(i) profits of cigarette companies increased.

(ii) prices of cigarettes increased.

(iii) total costs incurred by cigarette companies increased.

a. (i) only

b. (i) and (ii)

c. (ii) and (iii)

d. (i), (ii), and (iii)
150. A central issue in the Microsoft antitrust lawsuit involved Microsoft's integration of its Internet browser into its Windows operating system, to be sold as one unit. This practice is known as
   a. tying.
   b. predation.
   c. wholesale maintenance.
   d. retail maintenance.

Short Answer

151. Why does a typical monopolistically competitive firm face a downward-sloping demand curve?

152. Use a graph to demonstrate why a profit-maximizing monopolistically competitive firm must operate at excess capacity. Explain why a perfectly competitive firm is not subject to the same constraint.

153. In a small college town, four microbreweries have opened in the last two years. Demonstrate the effect of new market entrants on demand for existing firms (microbreweries) that already served this market. Assume that the local community now places a moratorium on new liquor licenses for microbreweries. How will this moratorium affect the long-run profitability of incumbent firms?

154. What is meant by the term "excess capacity" as it relates to monopolistically competitive firms?

155. Evaluate the following statement in the context of business-stealing and product-variety externalities: "We have too many student apartments in this town already. Statistics show that vacancy rates average 15 percent during any given semester."

156. Assume the role of a critic of advertising. Describe the characteristics of advertising that reduce the effectiveness of markets and decrease the social welfare of society.

157. Evaluate the following statement: "Advertisements that use celebrity endorsements are devoid of any value and do not enhance the efficient functioning of markets."

158. Professional organizations (for example, the American Medical Association and the American Bar Association) have been active advocates for regulation to restrict the right of professionals to advertise. Describe what economic incentives might exist for existing professionals to restrict advertising.

159. Discuss how brand names may enhance the efficiency of markets in a less developed country.

160. As developing countries make a transition to market-based economies, one of the first major capital investments is in "Western-quality" hotels. Explain why brand-name hotel accommodations are a critical step in attracting foreign investment.

161. In markets where the government imposes an excise tax on unit sales, it also has a tendency to dabble with restrictions on advertising (for example, cigarettes and hard liquor). Do potential (or actual) restrictions on advertising in these markets serve the interest of a government that is interested in maximizing its tax revenue from the sale of these products? Explain your answer.

162. Even when allowed to collude, firms in an oligopoly may choose to cheat on their agreements with the rest of the cartel. Why?
163. What effect does the number of firms in an oligopoly have on the characteristics of the market?

164. Assume that demand for a product that is produced at zero marginal cost is reflected in the table below.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$36</td>
</tr>
<tr>
<td>200</td>
<td>$33</td>
</tr>
<tr>
<td>400</td>
<td>$30</td>
</tr>
<tr>
<td>600</td>
<td>$27</td>
</tr>
<tr>
<td>800</td>
<td>$24</td>
</tr>
<tr>
<td>1000</td>
<td>$21</td>
</tr>
<tr>
<td>1200</td>
<td>$18</td>
</tr>
<tr>
<td>1400</td>
<td>$15</td>
</tr>
<tr>
<td>1600</td>
<td>$12</td>
</tr>
<tr>
<td>1800</td>
<td>$9</td>
</tr>
<tr>
<td>2000</td>
<td>$6</td>
</tr>
<tr>
<td>2200</td>
<td>$3</td>
</tr>
<tr>
<td>2400</td>
<td>$0</td>
</tr>
</tbody>
</table>

a. What is the profit-maximizing level of production for a group of oligopolistic firms that operate as a cartel?

b. Assume that this market is characterized by a duopoly in which collusive agreements are illegal. What market price and quantity will be associated with a Nash equilibrium?

165. Describe the source of tension between cooperation and self-interest in a market characterized by oligopoly. Use an example of an actual cartel arrangement to demonstrate why this tension creates instability in cartels.

166. Describe the output and price effects that influence the profit-maximizing decision faced by a firm in an oligopoly market. How does this differ from output and price effects in a monopoly market?

167. Explain how the output effect and the price effect influence the production decision of the individual oligopolist.

168. Nike and Reebok (athletic shoe companies) are considering whether to advertise during the Super Bowl. Devise a simple prisoners' dilemma game to demonstrate the strategic considerations that are relevant to this decision. Does the repeated game scenario differ from a single period game? Is it possible that a repeated game (without collusive agreements) could lead to an outcome that is better than a single-period game? Explain the circumstances in which this may be true.

169. Explain the practice of resale price maintenance and discuss why it is controversial.

170. Explain the practice of tying and discuss why it is controversial.
Lecture 11 Practice
Answer Section

MULTIPLE CHOICE

1. ANS: B   
   NAT: Analytic   
   LOC: Monopolistic competition   
   TOP: Imperfect competition   
   MSC: Definitional

2. ANS: D   
   NAT: Analytic   
   LOC: Monopolistic competition   
   TOP: Imperfect competition   
   MSC: Interpretive

3. ANS: B   
   NAT: Analytic   
   LOC: Monopolistic competition   
   TOP: Oligopoly   
   MSC: Interpretive

4. ANS: B   
   NAT: Analytic   
   LOC: Monopolistic competition   
   TOP: Concentration ratio   
   MSC: Interpretive

5. ANS: C   
   NAT: Analytic   
   LOC: Monopolistic competition   
   TOP: Concentration ratio   
   MSC: Applicative

6. ANS: B   
   NAT: Analytic   
   LOC: Monopolistic competition   
   TOP: Concentration ratio   
   MSC: Applicative

7. ANS: B   
   NAT: Analytic   
   LOC: Monopolistic competition   
   TOP: Concentration ratio   
   MSC: Applicative

8. ANS: B   
   NAT: Analytic   
   LOC: Monopolistic competition   
   TOP: Concentration ratio   
   MSC: Applicative

9. ANS: A   
   NAT: Analytic   
   LOC: Monopolistic competition   
   TOP: Concentration ratio   
   MSC: Applicative

10. ANS: C   
    NAT: Analytic   
    LOC: Monopolistic competition   
    TOP: Monopolistic competition   
    MSC: Definitional

11. ANS: A   
    NAT: Analytic   
    LOC: Monopolistic competition   
    TOP: Monopolistic competition Perfect competition   
    MSC: Definitional

12. ANS: D   
    NAT: Analytic   
    LOC: Monopolistic competition   
    TOP: Monopolistic competition Perfect competition   
    MSC: Interpretive

13. ANS: C   
    NAT: Analytic   
    LOC: Monopolistic competition   
    TOP: Monopolistic competition   
    MSC: Interpretive

14. ANS: C   
    NAT: Analytic   
    LOC: Monopolistic competition   
    TOP: Monopolistic competition Demand curve   
    MSC: Interpretive
<table>
<thead>
<tr>
<th>Q.</th>
<th>ANS</th>
<th>PTS</th>
<th>DIF</th>
<th>LOC</th>
<th>MSC</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.</td>
<td>C</td>
<td>1</td>
<td>2</td>
<td>Monopolistic competition</td>
<td>Interpretive</td>
</tr>
<tr>
<td>16.</td>
<td>D</td>
<td>1</td>
<td>2</td>
<td>Monopolistic competition</td>
<td>Interpretive</td>
</tr>
<tr>
<td>17.</td>
<td>A</td>
<td>1</td>
<td>2</td>
<td>Profit maximization</td>
<td>Monopolistic competition</td>
</tr>
<tr>
<td>18.</td>
<td>C</td>
<td>1</td>
<td>2</td>
<td>Profit maximization</td>
<td>Monopolistic competition</td>
</tr>
<tr>
<td>19.</td>
<td>B</td>
<td>1</td>
<td>2</td>
<td>Profit maximization</td>
<td>Monopolistic competition</td>
</tr>
<tr>
<td>20.</td>
<td>B</td>
<td>1</td>
<td>3</td>
<td>Profit maximization</td>
<td>Monopolistic competition</td>
</tr>
<tr>
<td>21.</td>
<td>C</td>
<td>1</td>
<td>2</td>
<td>Monopolistic competition</td>
<td>Monopolistic competition</td>
</tr>
<tr>
<td>22.</td>
<td>B</td>
<td>1</td>
<td>2</td>
<td>Profit maximization</td>
<td>Monopolistic competition</td>
</tr>
<tr>
<td>23.</td>
<td>C</td>
<td>1</td>
<td>2</td>
<td>Profit maximization</td>
<td>Monopolistic competition</td>
</tr>
<tr>
<td>24.</td>
<td>B</td>
<td>1</td>
<td>2</td>
<td>Profit maximization</td>
<td>Monopolistic competition</td>
</tr>
<tr>
<td>25.</td>
<td>C</td>
<td>1</td>
<td>2</td>
<td>Profit maximization</td>
<td>Monopolistic competition</td>
</tr>
<tr>
<td>26.</td>
<td>C</td>
<td>1</td>
<td>3</td>
<td>Profit maximization</td>
<td>Monopolistic competition</td>
</tr>
<tr>
<td>27.</td>
<td>C</td>
<td>1</td>
<td>2</td>
<td>Long-run equilibrium</td>
<td>Monopolistic competition</td>
</tr>
<tr>
<td>28.</td>
<td>A</td>
<td>1</td>
<td>2</td>
<td>Profit maximization</td>
<td>Monopolistic competition</td>
</tr>
<tr>
<td>29.</td>
<td>C</td>
<td>1</td>
<td>2</td>
<td>Profit maximization</td>
<td>Monopolistic competition</td>
</tr>
<tr>
<td>30.</td>
<td>A</td>
<td>1</td>
<td>3</td>
<td>Profit maximization</td>
<td>Monopolistic competition</td>
</tr>
<tr>
<td>31.</td>
<td>C</td>
<td>1</td>
<td>3</td>
<td>Profit maximization</td>
<td>Monopolistic competition</td>
</tr>
</tbody>
</table>
NAT: Analytic  LOC: Monopolistic competition  TOP: Long-run equilibrium
MSC: Analytical

32. ANS: B  PTS: 1  DIF: 3  REF: 16-2
NAT: Analytic  LOC: Monopolistic competition  TOP: Long-run equilibrium

33. ANS: D  PTS: 1  DIF: 2  REF: 16-2
NAT: Analytic  LOC: Monopolistic competition  TOP: Long-run equilibrium

34. ANS: B  PTS: 1  DIF: 2  REF: 16-2
NAT: Analytic  LOC: Monopolistic competition  TOP: Long-run equilibrium

35. ANS: B  PTS: 1  DIF: 2  REF: 16-2
NAT: Analytic  LOC: Monopolistic competition  TOP: Long-run equilibrium

36. ANS: B  PTS: 1  DIF: 2  REF: 16-2
NAT: Analytic  LOC: Monopolistic competition  TOP: Long-run equilibrium

37. ANS: B  PTS: 1  DIF: 2  REF: 16-2
NAT: Analytic  LOC: Monopolistic competition  TOP: Long-run equilibrium

38. ANS: C  PTS: 1  DIF: 2  REF: 16-2
NAT: Analytic  LOC: Monopolistic competition  TOP: Long-run equilibrium

39. ANS: A  PTS: 1  DIF: 2  REF: 16-2
NAT: Analytic  LOC: Monopolistic competition  TOP: Long-run equilibrium

40. ANS: B  PTS: 1  DIF: 3  REF: 16-2
NAT: Analytic  LOC: Monopolistic competition  TOP: Long-run equilibrium

41. ANS: A  PTS: 1  DIF: 3  REF: 16-2
NAT: Analytic  LOC: Monopolistic competition  TOP: Long-run equilibrium

42. ANS: B  PTS: 1  DIF: 3  REF: 16-2
NAT: Analytic  LOC: Monopolistic competition  TOP: Long-run equilibrium

43. ANS: C  PTS: 1  DIF: 2  REF: 16-2
NAT: Analytic  LOC: Monopolistic competition  TOP: Profit maximization

44. ANS: A  PTS: 1  DIF: 2  REF: 16-2
NAT: Analytic  LOC: Monopolistic competition  TOP: Profit maximization

45. ANS: C  PTS: 1  DIF: 2  REF: 16-2
NAT: Analytic  LOC: Monopolistic competition  TOP: Long-run equilibrium

46. ANS: B  PTS: 1  DIF: 2  REF: 16-2
NAT: Analytic  LOC: Monopolistic competition  TOP: Monopolistic competition | Profit maximization

47. ANS: C  PTS: 1  DIF: 2  REF: 16-2
NAT: Analytic  LOC: Monopolistic competition
48. ANS: C  PTS: 1  DIF: 3  REF: 16-2
   NAT: Analytic  LOC: Monopolistic competition  TOP: Efficient scale
   MSC: Applicative

49. ANS: A  PTS: 1  DIF: 2  REF: 16-2
   NAT: Analytic  LOC: Monopolistic competition  TOP: Excess capacity
   MSC: Applicative

50. ANS: B  PTS: 1  DIF: 2  REF: 16-2
   NAT: Analytic  LOC: Monopolistic competition  TOP: Excess capacity
   MSC: Interpretive

51. ANS: B  PTS: 1  DIF: 2  REF: 16-2
   NAT: Analytic  LOC: Monopolistic competition  TOP: Welfare
   MSC: Interpretive

52. ANS: B  PTS: 1  DIF: 2  REF: 16-2
   NAT: Analytic  LOC: Monopolistic competition  TOP: Welfare
   MSC: Interpretive

53. ANS: D  PTS: 1  DIF: 2  REF: 16-2
   NAT: Analytic  LOC: Monopolistic competition  TOP: Welfare | Deadweight loss
   MSC: Interpretive

54. ANS: A  PTS: 1  DIF: 2  REF: 16-2
   NAT: Analytic  LOC: Monopolistic competition  TOP: Regulation
   MSC: Interpretive

55. ANS: C  PTS: 1  DIF: 2  REF: 16-2
   NAT: Analytic  LOC: Monopolistic competition  TOP: Externalities
   MSC: Interpretive

56. ANS: B  PTS: 1  DIF: 2  REF: 16-2
   NAT: Analytic  LOC: Monopolistic competition  TOP: Externalities
   MSC: Interpretive

57. ANS: A  PTS: 1  DIF: 2  REF: 16-2
   NAT: Analytic  LOC: Monopolistic competition  TOP: Externalities
   MSC: Interpretive

58. ANS: B  PTS: 1  DIF: 2  REF: 16-2
   NAT: Analytic  LOC: Monopolistic competition  TOP: Externalities
   MSC: Applicative

59. ANS: D  PTS: 1  DIF: 3  REF: 16-2
   NAT: Analytic  LOC: Monopolistic competition  TOP: Profit maximization
   MSC: Applicative

60. ANS: A  PTS: 1  DIF: 2  REF: 16-2
   NAT: Analytic  LOC: Monopolistic competition  TOP: Externalities | Market failure
   MSC: Interpretive

61. ANS: B  PTS: 1  DIF: 1  REF: 16-3
   NAT: Analytic  LOC: Monopolistic competition  TOP: Advertising
   MSC: Applicative

62. ANS: C  PTS: 1  DIF: 2  REF: 16-3
   NAT: Analytic  LOC: Monopolistic competition  TOP: Advertising
   MSC: Interpretive

63. ANS: C  PTS: 1  DIF: 2  REF: 16-3
   NAT: Analytic  LOC: Monopolistic competition  TOP: Advertising
   MSC: Interpretive
<table>
<thead>
<tr>
<th>No.</th>
<th>ANS</th>
<th>PTS</th>
<th>DIF</th>
<th>NAT</th>
<th>LOC</th>
<th>TOP</th>
<th>MSC</th>
</tr>
</thead>
<tbody>
<tr>
<td>64.</td>
<td>B</td>
<td>1</td>
<td>2</td>
<td>Analytic</td>
<td>Monopolistic competition</td>
<td>Advertising</td>
<td>Interpretive</td>
</tr>
<tr>
<td>65.</td>
<td>C</td>
<td>1</td>
<td>2</td>
<td>Analytic</td>
<td>Monopolistic competition</td>
<td>Advertising</td>
<td>Interpretive</td>
</tr>
<tr>
<td>66.</td>
<td>C</td>
<td>1</td>
<td>2</td>
<td>Analytic</td>
<td>Monopolistic competition</td>
<td>Advertising</td>
<td>Interpretive</td>
</tr>
<tr>
<td>67.</td>
<td>B</td>
<td>1</td>
<td>2</td>
<td>Analytic</td>
<td>Monopolistic competition</td>
<td>Advertising</td>
<td>Interpretive</td>
</tr>
<tr>
<td>68.</td>
<td>C</td>
<td>1</td>
<td>1</td>
<td>Analytic</td>
<td>Monopolistic competition</td>
<td>Advertising</td>
<td>Interpretive</td>
</tr>
<tr>
<td>69.</td>
<td>B</td>
<td>1</td>
<td>1</td>
<td>Analytic</td>
<td>Monopolistic competition</td>
<td>Advertising</td>
<td>Analytical</td>
</tr>
<tr>
<td>70.</td>
<td>B</td>
<td>1</td>
<td>1</td>
<td>Analytic</td>
<td>Monopolistic competition</td>
<td>Advertising</td>
<td>Interpretive</td>
</tr>
<tr>
<td>71.</td>
<td>B</td>
<td>1</td>
<td>1</td>
<td>Analytic</td>
<td>Monopolistic competition</td>
<td>Advertising</td>
<td>Interpretive</td>
</tr>
<tr>
<td>72.</td>
<td>D</td>
<td>1</td>
<td>2</td>
<td>Analytic</td>
<td>Monopolistic competition</td>
<td>Advertising</td>
<td>Interpretive</td>
</tr>
<tr>
<td>73.</td>
<td>C</td>
<td>1</td>
<td>1</td>
<td>Analytic</td>
<td>Monopolistic competition</td>
<td>Advertising</td>
<td>Definitional</td>
</tr>
<tr>
<td>74.</td>
<td>B</td>
<td>1</td>
<td>2</td>
<td>Analytic</td>
<td>Monopolistic competition</td>
<td>Advertising</td>
<td>Interpretive</td>
</tr>
<tr>
<td>75.</td>
<td>D</td>
<td>1</td>
<td>2</td>
<td>Analytic</td>
<td>Monopolistic competition</td>
<td>Advertising</td>
<td>Interpretive</td>
</tr>
<tr>
<td>76.</td>
<td>D</td>
<td>1</td>
<td>2</td>
<td>Analytic</td>
<td>Monopolistic competition</td>
<td>Advertising</td>
<td>Interpretive</td>
</tr>
<tr>
<td>77.</td>
<td>D</td>
<td>1</td>
<td>2</td>
<td>Analytic</td>
<td>Monopolistic competition</td>
<td>Long-run equilibrium</td>
<td>Interpretive</td>
</tr>
<tr>
<td>78.</td>
<td>C</td>
<td>1</td>
<td>2</td>
<td>Analytic</td>
<td>Monopolistic competition</td>
<td>Profit maximization</td>
<td>Analytical</td>
</tr>
<tr>
<td>79.</td>
<td>B</td>
<td>1</td>
<td>2</td>
<td>Analytic</td>
<td>Monopolistic competition</td>
<td>Monopolistic competition</td>
<td>Analytical</td>
</tr>
<tr>
<td>80.</td>
<td>C</td>
<td>1</td>
<td>1</td>
<td>Analytic</td>
<td>Monopolistic competition</td>
<td>Monopolistic competition</td>
<td>Analytical</td>
</tr>
</tbody>
</table>
NAT: Analytic  LOC: Monopolistic competition
TOP: Perfect competition | Monopolistic competition  MSC: Definitional
81. ANS: D  PTS: 1  DIF: 2  REF: 16-4
NAT: Analytic  LOC: Monopolistic competition
TOP: Monopolistic competition | Monopoly  MSC: Interpretive
82. ANS: B  PTS: 1  DIF: 2  REF: 17-1
NAT: Analytic  LOC: Oligopoly  TOP: Oligopoly | Monopoly
MSC: Applicative
83. ANS: A  PTS: 1  DIF: 2  REF: 17-1
NAT: Analytic  LOC: Oligopoly  TOP: Competitive markets
MSC: Applicative
84. ANS: D  PTS: 1  DIF: 2  REF: 17-1
NAT: Analytic  LOC: Perfect competition  TOP: Perfect competition
MSC: Applicative
85. ANS: A  PTS: 1  DIF: 2  REF: 17-1
NAT: Analytic  LOC: Oligopoly  TOP: Duopoly  MSC: Applicative
86. ANS: B  PTS: 1  DIF: 2  REF: 17-1
NAT: Analytic  LOC: Oligopoly  TOP: Oligopoly | Cartels
MSC: Interpretive
87. ANS: C  PTS: 1  DIF: 2  REF: 17-1
NAT: Analytic  LOC: Oligopoly  TOP: Cartels  MSC: Interpretive
88. ANS: C  PTS: 1  DIF: 2  REF: 17-1
NAT: Analytic  LOC: Monopoly  TOP: Monopoly  MSC: Applicative
89. ANS: C  PTS: 1  DIF: 3  REF: 17-1
NAT: Analytic  LOC: Oligopoly  TOP: Nash equilibrium
MSC: Applicative
90. ANS: A  PTS: 1  DIF: 3  REF: 17-1
NAT: Analytic  LOC: Monopoly  TOP: Monopoly  MSC: Applicative
91. ANS: D  PTS: 1  DIF: 3  REF: 17-1
NAT: Analytic  LOC: Oligopoly  TOP: Duopoly | Collusion
MSC: Applicative
92. ANS: B  PTS: 1  DIF: 3  REF: 17-1
NAT: Analytic  LOC: Oligopoly  TOP: Nash equilibrium
MSC: Applicative
93. ANS: D  PTS: 1  DIF: 2  REF: 17-1
NAT: Analytic  LOC: Oligopoly  TOP: Competitive markets
MSC: Applicative
94. ANS: D  PTS: 1  DIF: 2  REF: 17-1
NAT: Analytic  LOC: Oligopoly  TOP: Competitive markets
MSC: Applicative
95. ANS: C  PTS: 1  DIF: 3  REF: 17-1
NAT: Analytic  LOC: The role of government  TOP: Nash equilibrium
MSC: Applicative
96. ANS: A  PTS: 1  DIF: 3  REF: 17-1
NAT: Analytic  LOC: The role of government  TOP: Nash equilibrium
MSC: Applicative
97. ANS: B  PTS: 1  DIF: 2  REF: 17-1
NAT: Analytic  LOC: Oligopoly  TOP: Oligopoly | Nash equilibrium
MSC: Analytical
<table>
<thead>
<tr>
<th>Q</th>
<th>ANS</th>
<th>PTS</th>
<th>DIF</th>
<th>REF</th>
<th>NAT</th>
<th>LOC</th>
<th>TOP</th>
<th>MSC</th>
</tr>
</thead>
<tbody>
<tr>
<td>98</td>
<td>C</td>
<td>1</td>
<td>2</td>
<td>17-1</td>
<td>Analytic</td>
<td>Oligopoly</td>
<td>Cartels</td>
<td>Interpretive</td>
</tr>
<tr>
<td>99</td>
<td>C</td>
<td>1</td>
<td>2</td>
<td>17-1</td>
<td>Analytic</td>
<td>Oligopoly</td>
<td>Nash equilibrium</td>
<td>Defineitonal</td>
</tr>
<tr>
<td>100</td>
<td>B</td>
<td>1</td>
<td>2</td>
<td>17-1</td>
<td>Analytic</td>
<td>Oligopoly</td>
<td>Cartels</td>
<td>Interpretive</td>
</tr>
<tr>
<td>101</td>
<td>C</td>
<td>1</td>
<td>1</td>
<td>17-1</td>
<td>Analytic</td>
<td>Oligopoly</td>
<td>Cartels</td>
<td>Definitional</td>
</tr>
<tr>
<td>102</td>
<td>D</td>
<td>1</td>
<td>2</td>
<td>17-1</td>
<td>Analytic</td>
<td>Oligopoly</td>
<td>Profit maximization</td>
<td>Definitional</td>
</tr>
<tr>
<td>103</td>
<td>D</td>
<td>1</td>
<td>2</td>
<td>17-1</td>
<td>Analytic</td>
<td>Oligopoly</td>
<td>Oligopoly</td>
<td>Interpretive</td>
</tr>
<tr>
<td>104</td>
<td>D</td>
<td>1</td>
<td>3</td>
<td>17-1</td>
<td>Analytic</td>
<td>Oligopoly</td>
<td>Duopoly</td>
<td>Interpretive</td>
</tr>
<tr>
<td>105</td>
<td>B</td>
<td>1</td>
<td>2</td>
<td>17-2</td>
<td>Analytic</td>
<td>Oligopoly</td>
<td>Game theory</td>
<td>Applicative</td>
</tr>
<tr>
<td>106</td>
<td>B</td>
<td>1</td>
<td>2</td>
<td>17-2</td>
<td>Analytic</td>
<td>Oligopoly</td>
<td>Game theory</td>
<td>Applicative</td>
</tr>
<tr>
<td>107</td>
<td>D</td>
<td>1</td>
<td>2</td>
<td>17-1</td>
<td>Analytic</td>
<td>Oligopoly</td>
<td>Cartels</td>
<td>Applicative</td>
</tr>
<tr>
<td>108</td>
<td>B</td>
<td>1</td>
<td>2</td>
<td>17-1</td>
<td>Analytic</td>
<td>Oligopoly</td>
<td>Monopoly</td>
<td>Applicative</td>
</tr>
<tr>
<td>109</td>
<td>C</td>
<td>1</td>
<td>2</td>
<td>17-1</td>
<td>Analytic</td>
<td>Oligopoly</td>
<td>Monopoly</td>
<td>Applicative</td>
</tr>
<tr>
<td>110</td>
<td>A</td>
<td>1</td>
<td>3</td>
<td>17-1</td>
<td>Analytic</td>
<td>Oligopoly</td>
<td>Oligopoly</td>
<td>Analytical</td>
</tr>
<tr>
<td>111</td>
<td>C</td>
<td>1</td>
<td>3</td>
<td>17-1</td>
<td>Analytic</td>
<td>Oligopoly</td>
<td>Oligopoly</td>
<td>Analytical</td>
</tr>
<tr>
<td>112</td>
<td>C</td>
<td>1</td>
<td>2</td>
<td>17-1</td>
<td>Analytic</td>
<td>Oligopoly</td>
<td>Competitive markets</td>
<td>Applicative</td>
</tr>
<tr>
<td>113</td>
<td>D</td>
<td>1</td>
<td>2</td>
<td>17-1</td>
<td>Analytic</td>
<td>Oligopoly</td>
<td>Nash equilibrium</td>
<td>Analytical</td>
</tr>
<tr>
<td>114</td>
<td>A</td>
<td>1</td>
<td>2</td>
<td>17-1</td>
<td>Analytic</td>
<td>Oligopoly</td>
<td>Duopoly</td>
<td>Applicative</td>
</tr>
<tr>
<td>115</td>
<td>C</td>
<td>1</td>
<td>1</td>
<td>17-2</td>
<td>Analytic</td>
<td>Oligopoly</td>
<td>Prisoners' dilemma</td>
<td>Interpretive</td>
</tr>
<tr>
<td>116</td>
<td>C</td>
<td>1</td>
<td>2</td>
<td>17-2</td>
<td>Analytic</td>
<td>Oligopoly</td>
<td>Dominant strategy</td>
<td>Applicative</td>
</tr>
<tr>
<td>117</td>
<td>B</td>
<td>1</td>
<td>2</td>
<td>17-2</td>
<td>Analytic</td>
<td>Oligopoly</td>
<td>Game theory</td>
<td>Dominant strategy</td>
</tr>
<tr>
<td>118</td>
<td>C</td>
<td>1</td>
<td>2</td>
<td>17-2</td>
<td>Analytic</td>
<td>Oligopoly</td>
<td>Game theory</td>
<td>Interpretive</td>
</tr>
</tbody>
</table>
119. ANS: D PTS: 1  DIF: 2  REF: 17-2
NAT: Analytic  LOC: Oligopoly  TOP: Game theory  MSC: Interpretive
120. ANS: B  PTS: 1  DIF: 2  REF: 17-2
NAT: Analytic  LOC: Oligopoly  TOP: Prisoners' dilemma
MSC: Interpretive
121. ANS: B  PTS: 1  DIF: 2  REF: 17-2
NAT: Analytic  LOC: Oligopoly  TOP: Prisoners' dilemma
MSC: Interpretive
122. ANS: B  PTS: 1  DIF: 2  REF: 17-2
NAT: Analytic  LOC: Oligopoly  TOP: Common resources | Prisoners' dilemma
MSC: Applicative
123. ANS: B  PTS: 1  DIF: 2  REF: 17-2
NAT: Analytic  LOC: Oligopoly  TOP: Oligopoly  MSC: Interpretive
124. ANS: D  PTS: 1  DIF: 2  REF: 17-2
NAT: Analytic  LOC: Oligopoly  TOP: Game theory  MSC: Applicative
125. ANS: A  PTS: 1  DIF: 3  REF: 17-2
NAT: Analytic  LOC: Oligopoly  TOP: Prisoners' dilemma
MSC: Applicative
126. ANS: A  PTS: 1  DIF: 3  REF: 17-2
NAT: Analytic  LOC: Oligopoly  TOP: Prisoners' dilemma
MSC: Applicative
127. ANS: A  PTS: 1  DIF: 2  REF: 17-2
NAT: Analytic  LOC: Oligopoly  TOP: Game theory  MSC: Applicative
128. ANS: A  PTS: 1  DIF: 2  REF: 17-2
NAT: Analytic  LOC: Oligopoly  TOP: Game theory | Dominant strategy
MSC: Applicative
129. ANS: D  PTS: 1  DIF: 2  REF: 17-2
NAT: Analytic  LOC: Oligopoly  TOP: Game theory | Nash equilibrium
MSC: Applicative
130. ANS: C  PTS: 1  DIF: 2  REF: 17-2
NAT: Analytic  LOC: Oligopoly  TOP: Prisoners' dilemma
MSC: Applicative
131. ANS: A  PTS: 1  DIF: 2  REF: 17-2
NAT: Analytic  LOC: Oligopoly  TOP: Game theory  MSC: Applicative
132. ANS: B  PTS: 1  DIF: 2  REF: 17-2
NAT: Analytic  LOC: Oligopoly  TOP: Dominant strategy
MSC: Applicative
133. ANS: A  PTS: 1  DIF: 2  REF: 17-2
NAT: Analytic  LOC: Oligopoly  TOP: Game theory | Dominant strategy
MSC: Applicative
134. ANS: A  PTS: 1  DIF: 2  REF: 17-2
NAT: Analytic  LOC: Oligopoly  TOP: Game theory  MSC: Applicative
135. ANS: C  PTS: 1  DIF: 3  REF: 17-2
NAT: Analytic  LOC: Oligopoly  TOP: Nash equilibrium
MSC: Applicative
136. ANS: D  PTS: 1  DIF: 3  REF: 17-2
NAT: Analytic  LOC: Oligopoly  TOP: Prisoners' dilemma
MSC: Analytical
137. ANS: A  PTS: 1  DIF: 3  REF: 17-2
**SHORT ANSWER**

151. **ANS:**
Because its product is different from those offered by other firms.

PTS: 1  DIF: 1  REF: 16-1  NAT: Analytic
LOC: Monopolistic competition  TOP: Demand curve
MSC: Interpretive

152. **ANS:**
Competitive firms do not face downward-sloping demand. The graph shows the firm choosing a level of production in which the intersection of marginal revenue and marginal cost occurs at an output level where average total cost is decreasing. This profit-maximizing output level is less than the efficient scale (minimum of average total cost), and therefore the firm is said to be operating with excess capacity.

The arrival of a new entrant should be graphically depicted by a leftward shift in the demand curves faced by all incumbent firms. If firms are able to make economic profits, these will be able to be maintained in the long run if new entrants are not allowed (which would essentially be a barrier to entry, meaning the market would no longer be characterized as monopolistically competitive).
Monopolistically competitive firms produce a level of output lower than the efficient scale of output and are therefore said to have excess capacity.

Business-stealing effect: if new entrants into the market can be profitable, then average vacancy rates are likely to rise above 15 percent.

Product-variety effect: if new entrants to the market are able to identify niche markets which are profitable (i.e., offer club rooms, pools, athletic facilities, etc.), then product variety will increase, and average vacancy rates are likely to rise above 15 percent.

Advertising manipulates people's tastes and is psychological rather than informational. As a result, advertising creates a desire for a product that might not otherwise exist. Advertising may also impede competition by convincing consumers that products that are identical have significant differences.

Some people argue that celebrity endorsements are a signal of quality due to the high cost of the advertisement. If so, then these advertisements relay information about product quality and enhance the effective functioning of markets.

If advertising increases information about prices and services, then providers of professional services will be required to compete with each other on the basis of price and service. As such, existing professionals will be subject to more competitive pressure in the markets they service, and individual profits are likely to fall.

Recognizable brand names signal quality products. In the tourist- and business-services market, this signal can be critical at the early stages of development to ensure visitors have a quality experience when other information is unavailable or unreliable.

Brand-name hotels are a critical first step to economic development because their recognized signal of quality reduces the barriers of facilitating foreign visitors (and their money).
161. ANS:
In the case of the examples given, demand is quite inelastic, so restrictions on advertising are not likely to have a large impact on total sales but may have an impact on the distribution of sales across brand names. As such, government revenue is largely unaffected if the tax is on unit sales.

PTS: 1  DIF: 3  REF: 16-3  NAT: Analytic

162. ANS:
Individual profits can be increased at the expense of group profits if individuals cheat on the cartel's cooperative agreement.

PTS: 1  DIF: 2  REF: 17-1  NAT: Analytic

163. ANS:
As the number of firms increases, the equilibrium quantity of goods provided increases and price falls; the market begins to resemble a competitive one.

PTS: 1  DIF: 2  REF: 17-1  NAT: Analytic

164. ANS:
\[\begin{align*}
a. & \quad Q = 1200 \\ b. & \quad Q = 1600, \ P = 12
\end{align*}\]

PTS: 1  DIF: 3  REF: 17-1  NAT: Analytic

165. ANS:
The source of the tension exists because total profits are maximized when oligopolists cooperate on price and quantity by operating as a monopolist. However, individual profits can be gained by individuals cheating on their cooperative agreement. This is why cooperative agreements among members of a cartel are inherently unstable. This is evident in the problem OPEC experiences in enforcing the cooperative agreement on production and price of crude oil.

PTS: 1  DIF: 2  REF: 17-1  NAT: Analytic

166. ANS:
Output effect: Price > Marginal cost => increased output will add to profit
Price effect: increased quantity is sold at a lower price => lower revenue (profit?)

An oligopolist must take into account how the output and price effects will be influenced by competitors' production decisions, or it must assume competitors' production will not change in response to its own actions.

PTS: 1  DIF: 3  REF: 17-1  NAT: Analytic

167. ANS:
Since the individual oligopolist faces a downward-sloping demand curve, she realizes that if she increases output, all output must be sold at a lower market price. As such, the revenue from selling the additional units at the lower market price must exceed the loss in revenue from selling all previous units at the new lower price. Otherwise, profits will fall as output (production) is increased.
168. ANS:
The answer should show that if both shoe companies decide to advertise they will both be worse off than if they did not. It should also show that each company has the individual incentive to advertise. The dominant strategy of both companies will be to advertise, regardless of what the other is doing. If the game is repeated more than once it is possible that the shoe companies will decide not to advertise in the hopes that the other company adequately understands the mutually beneficial gains that come from not advertising.

169. ANS:
Resale price maintenance is a requirement by producers that retailers sell their product for a price specified by the manufacturer. It is controversial because on the surface it appears to limit the ability of retailers to compete on the basis of price. However, if the manufacturer does not exercise resale price maintenance a free-rider problem may become evident among the retailers and ultimately lead to lower profits for the manufacturer.

170. ANS:
Tying is the practice of bundling goods for sale. It is controversial because it is perceived as a tool for expanding the market power of firms by forcing consumers to purchase additional products. However, economists are skeptical that a buyer's willingness to pay increases just because two products are bundled together. In other words, simply bundling two products together doesn't necessarily add any value. It is more accurately believed to be a form of price discrimination.