MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

1) Perfect competition occurs in a market where there are
   A) a few firms producing goods which differ somewhat in quality.
   B) many firms producing goods which differ somewhat in quality.
   C) many firms producing identical goods.
   D) a few firms producing identical goods.

2) In a perfectly competitive market, there must be
   A) many sellers, but there might be only one or two buyers.
   B) one firm that sets the price for the others to follow.
   C) many buyers and many sellers.
   D) many buyers, but there might be only one or two sellers.

3) In perfect competition, the product of a single firm
   A) has many perfect complements.
   B) has many perfect substitutes.
   C) is sold under many differing brand names.
   D) is sold to different customers at different prices.

4) In perfect competition, restrictions on entry into an industry
   A) apply to capital but not to labor.
   B) apply to labor but not to capital.
   C) apply to both capital and labor.
   D) do not exist.

5) In perfect competition, the elasticity of demand for the product of a single firm is
   A) 1.
   B) between 0 and 1.
   C) 0.
   D) infinite.

6) A price-taking firm faces a
   A) horizontal demand curve.
   B) downward-sloping supply curve.
   C) downward-sloping marginal revenue curve.
   D) downward-sloping average revenue curve.

7) In perfect competition, the marginal revenue of an individual firm
   A) equals the price of the product.
   B) is zero.
   C) is positive but less than the price of the product.
   D) exceeds the price of the product.

8) For a perfectly competitive firm, marginal revenue
   A) equals the price.
   B) exceeds the price.
   C) is zero.
   D) is positive but less than the price.
9) Figure 12.1 portrays a total revenue curve for a perfectly competitive firm. Curve A is straight because the firm
   A) has perfect information.         B) faces constant returns to scale.                              
   C) wants to maximize profits.      D) is a price taker.                                        

10) By producing less, a firm can reduce
    A) neither its variable costs nor its fixed costs.       B) its fixed costs and its variable costs.  
    C) its fixed costs but not its variable costs.          D) its variable costs but not its fixed costs. 

11) In Figure 12.1, marginal revenue
    A) does not change as output increases.                  B) rises as output increases.                
    C) cannot be determined.                                D) falls as output increases.               

Table 12.1

<table>
<thead>
<tr>
<th>Quantity sold</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>$15</td>
</tr>
<tr>
<td>6</td>
<td>$15</td>
</tr>
<tr>
<td>7</td>
<td>$15</td>
</tr>
</tbody>
</table>

12) In Table 12.1, if the quantity sold by the firm rises from 5 to 6, its marginal revenue is
   A) $15.  B) $90.  C) $30.  D) $75.

13) Katie's strawberry farm produces for a perfectly competitive market. The farm's total revenue curve is drawn on a diagram with total revenue on the vertical axis and bushels of strawberries on the horizontal axis. An increase in the price of strawberries will
   A) shift the vertical intercept of the total revenue curve up.
   B) shift the horizontal intercept of the total revenue curve to the right.
   C) make the total revenue curve steeper.
   D) make the total revenue curve flatter.

Table 12.2

<table>
<thead>
<tr>
<th>Output</th>
<th>Total revenue</th>
<th>Total cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$0</td>
<td>$25</td>
</tr>
<tr>
<td>1</td>
<td>$30</td>
<td>$49</td>
</tr>
<tr>
<td>2</td>
<td>$60</td>
<td>$69</td>
</tr>
<tr>
<td>3</td>
<td>$90</td>
<td>$91</td>
</tr>
<tr>
<td>4</td>
<td>$120</td>
<td>$117</td>
</tr>
<tr>
<td>5</td>
<td>$150</td>
<td>$147</td>
</tr>
<tr>
<td>6</td>
<td>$180</td>
<td>$180</td>
</tr>
</tbody>
</table>

14) In Table 12.2, the firm
   A) must be in a perfectly competitive industry, because its marginal revenue is constant.
   B) must be in a perfectly competitive industry, because its marginal cost curve eventually rises.
   C) cannot be in a perfectly competitive industry, because its long run profits are greater than zero.
   D) cannot be in a perfectly competitive industry, because its short run profits are greater than zero.

15) A perfectly competitive firm's marginal revenue exceeds its marginal cost at its current output. The firm will
   A) reduce its output.  B) raise its price.
   C) lower its price.  D) increase its output.

16) The short-run supply curve for a competitive firm is the same as its marginal cost curve
   A) above its shutdown point.  B) everywhere.
   C) above the horizontal axis.  D) below its shutdown point.
Table 12.2
----------------------------------------
Output | Total revenue | Total cost |
----------------------------------------
0       | $0            | $25       |
1       | $30           | $49       |
2       | $60           | $69       |
3       | $90           | $91       |
4       | $120          | $117      |
5       | $150          | $147      |
6       | $180          | $180      |
----------------------------------------

17) In Table 12.2, the marginal cost of the third unit of output is  

18) When Swanky, Inc. makes exactly zero economic profit, Sidney, the owner,  
   A) is taking a loss.  
   B) will shut down in the short run.  
   C) will boost output.  
   D) is receiving compensation for the time and capital that he has supplied.  

19) A perfectly competitive firm will have an economic profit of zero if, at its profit-maximizing output, its marginal revenue equals its  
   A) average total cost.  
   B) average fixed cost.  
   C) average variable cost.  
   D) marginal cost.  

20) A firm maximizes profit by producing the output at which marginal cost equals  
   A) average total cost.  
   B) marginal revenue.  
   C) average fixed cost.  
   D) average variable cost.  

21) A firm should expand output as long as its  
   A) average total revenue exceeds its average variable cost.  
   B) average total revenue exceeds its average total cost.  
   C) marginal cost exceeds its marginal revenue.  
   D) marginal revenue exceeds its marginal cost.  

22) It pays a firm to shut down if price is  
   A) above minimum average variable cost.  
   B) above maximum variable cost.  
   C) below minimum average variable cost.  
   D) below maximum variable cost.
23) Figure 12.5 represents a firm in a perfectly competitive market. If the firm does not shut down, the lowest output that it will produce is
A) 8 units.  
B) less than 5 units.  
C) 5 units.  
D) 10 units.

24) In a perfectly competitive industry, a permanent decrease in demand initially brings a lower price, economic  
A) profit, and exit.  
B) profit, and entry.  
C) loss, and entry.  
D) loss, and exit.

25) Refer to Figure 12.6. Given the market price of \( P_1 \), in the long run  
A) market supply will decrease.  
B) firms that remain in the market will expand production.  
C) new firms will enter the market.  
D) market demand will increase.
26) In Figure 12.4, the firm is making an economic loss at
   A) point c.  
   B) points b and d.  
   C) point a.  
   D) points a, b, and d.  

Table 12.4
-------------------------------------------
<table>
<thead>
<tr>
<th>Output (tons of rice per year)</th>
<th>Total cost (dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1,000</td>
</tr>
<tr>
<td>1</td>
<td>1,200</td>
</tr>
<tr>
<td>2</td>
<td>1,600</td>
</tr>
<tr>
<td>3</td>
<td>2,200</td>
</tr>
<tr>
<td>4</td>
<td>3,000</td>
</tr>
<tr>
<td>5</td>
<td>4,000</td>
</tr>
</tbody>
</table>
-------------------------------------------

27) Refer to Table 12.4. If rice sells for $600 a ton, Chip's profit-maximizing output is
   A) between three and four tons.  
   B) less than one ton.  
   C) between two and three tons.  
   D) between one and two tons.  

28) Refer to Table 12.4. If rice sells for $600 a ton, the firm's short run profit
   A) cannot be determined.  
   B) is about $400.  
   C) is about negative $400.  
   D) is approximately $0.  

29) Refer to Table 12.4. If rice sells for $600 a ton, the firm will
   A) shut down because profit is negative.  
   B) stay open because profit is positive.  
   C) shut down because the price is below the minimum average variable cost.  
   D) stay open because the price is above the minimum average variable cost.
30) Figure 12.3 graphs a firm’s total revenue and total cost curves. Which one of the following statements is FALSE?

A) At output Q_2, the firm suffers an economic loss.
B) At output Q_1, the firm makes zero economic profit.
C) At an output above Q_3, the firm suffers an economic loss.
D) Total profit is the vertical distance by which the total revenue curve exceeds the total cost curve.