Sample Exam Questions/Chapter 17

1. Consider an economy with just two citizens. If Sanjay's marginal benefit from mosquito control is $10 and Anjuli's marginal benefit is $25, then the optimal level of a public good like mosquito control occurs when the marginal cost of mosquito control is:
   A) $25.00.
   B) $17.50.
   C) $10.00.
   D) $35.00.

2. To maximize society's welfare, the government should produce a public good up to the point at which the marginal social benefit ________ the marginal social cost.
   A) equals
   B) exceeds
   C) is less than
   D) is equal to or greater than

Use the following to answer question 3:

Figure: Traffic Lights in Plymouth
3. (Figure: Traffic Lights in Plymouth) Plymouth has 1,000 residents. The figure Traffic Lights in Plymouth shows the marginal social benefit and marginal cost of traffic lights in town. We know that each of the residents has the same individual marginal benefit per traffic light. Without government intervention, the town will have ________ traffic lights.
   A) 0
   B) 4
   C) 8
   D) 12

Use the following to answer questions 4-5:

Figure: Market Failure

![Market Failure Diagram]

4. (Figure: Market Failure) Look at the figure Market Failure. Suppose the supply curve represents the marginal cost of providing street lights in a neighborhood that is composed of two people, Ann and Joe. The demand curve represents the marginal benefit that Ann receives from the street lights. Suppose that Joe's marginal benefit from the street lights is a constant amount equal to $AC$. The marginal social benefit of $F$ street lights is
   A) 0
   B) $B$
   C) less than $B$
   D) greater than $B$
5. (Figure: Market Failure) In the figure Market Failure, if production in this competitive market is at quantity $E$, then:
   A) marginal benefit is equal to marginal cost.
   B) marginal benefit is less than marginal cost.
   C) marginal benefit is greater than marginal cost.
   D) price is equal to marginal cost and greater than marginal benefit.

Use the following to answer question 6:

<table>
<thead>
<tr>
<th>Quantity of Security Guards</th>
<th>Total Cost</th>
<th>Total Individual Benefit to Each Resident</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>150</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>300</td>
<td>16</td>
</tr>
<tr>
<td>3</td>
<td>450</td>
<td>18</td>
</tr>
<tr>
<td>4</td>
<td>600</td>
<td>19</td>
</tr>
</tbody>
</table>

6. (Table: Security in a Residential Community) The table Security in a Residential Community shows the total cost of hiring a 24-hour security service in a community of 100 residents and each individual resident's total benefit from the service. The marginal cost of hiring the third security guard is ________, and the marginal social benefit is ________.
   A) $150; $200
   B) $450; $1,800
   C) $150; $600
   D) $450; $600

7. A good that is nonexcludable but rival in consumption is considered a:
   A) common resource good.
   B) private good.
   C) public good.
   D) normal good.
8. (Table: Marginal Benefit from Additional Streetlights) Dave and Art live in a new housing development and would like to have streetlights installed. The table Marginal Benefit from Additional Streetlights shows Dave's and Art's individual marginal benefit of different numbers of streetlights. Suppose that the marginal cost of installing a streetlight is $6. If Dave had to pay for streetlights on his own, how many streetlights would there be?

A) 0  
B) 1  
C) 2  
D) 3

9. A public good is a good:

A) whose consumption is nonexcludable and nonrival.  
B) for which the marginal cost of adding another consumer is high.  
C) that the market will usually provide efficiently.  
D) whose consumption is rival.
Answer Key

1. D
2. A
3. A
4. D
5. C
6. A
7. A
8. C
9. A