1. Utility is:
   a. the pleasure or satisfaction derived from consuming a good
   b. subjective
   c. not directly measurable
   d. All of the above

2. Suppose that the marginal utility you derive from the last slice of cheese pizza purchased is 50 utils and its price is $1.00. Also, the marginal utility you derive from the last bottle of soda purchased is 300 utils and its price is $3.00.
   a. You are presently maximizing your total utility from consuming pizza and soda
   b. You can increase your total utility by purchasing more pizza and less soda
   c. You can increase your total utility by purchasing more soda and less pizza
   d. You can increase your total utility by purchasing zero units of both goods

3. Suppose that as Joe Smith consumes additional chocolate bars his total utility increases. We can conclude that:
   a. the marginal utility of chocolate bars must be increasing
   b. the marginal utility of chocolate bars must be decreasing
   c. the marginal utility of chocolate bars may either be increasing or decreasing, but the marginal utility of chocolate bars must be positive
   d. the marginal utility of chocolate bars must be increasing at a decreasing rate

4. If we use the dollar as a unit of measurement of utility, then:
   a. the individual’s demand curve is also his marginal utility curve
   b. the reason the demand curve is negatively sloped is because an individual experiences a decrease in marginal utility as she consumes additional units of a good
   c. consumers no longer have a budget constraint when buying goods in the marketplace
   d. Both a and b

5. Which of the following statements is true?
   a. If a consumer is satisfying the equimarginal rule, then she must be consuming the bundle of goods that maximizes her total utility
   b. The equimarginal rule states how a consumer will allocate her money income among goods to maximize her total utility
   c. The equimarginal rule is a more rigorous restatement of the rationality assumption
   d. All of the above

6. If I conclude that I should see fewer movies and go to more football games, the marginal utility of the last dollar spent on movies is ______ the marginal utility of the last dollar spent on football games.
   a. more than
   b. less than
   c. increasing more rapidly than
   d. diminishing more rapidly than
Questions 7 and 8 refer to the following table that gives the marginal utility, measured in utils, for different quantities of apples consumed.

<table>
<thead>
<tr>
<th>Apples</th>
<th>Marginal Utility</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>-2</td>
</tr>
</tbody>
</table>

7. The total utility of consuming 2 apples is:
   a. 6   b. 7   c. 13   d. 14

8. If apples are free, then a consumer who acts in her own self-interest would consume how many apples?
   a. 1   b. 2   c. 3   d. 4

9. Consumer surplus is:
   a. the amount by which quantity supplied exceeds quantity demanded at the current market price
   b. the difference between the maximum amount a consumer is willing to pay for a good and the amount she must actually pay for the good.
   c. a measure of the gain that a consumer experiences from making a voluntary exchange in the marketplace
   d. Both b and c

10. Suppose that George goes to a bakery to buy donuts for breakfast. The maximum amount he is willing to pay for a first donut is $2.00, a second donut is $1.50, a third donut is $1.00; a fourth donut is $0.50, and a fifth donut is $0.00. The bakery charges a price of $1.00 per donut. If George is rational, he will buy ____ donuts and gets consumer surplus of ____.
    a. 4; 5
    b. 2; 5
    c. 3; 1.50
    d. 1; 0.50

11. Suppose that government places a price ceiling on gasoline which is below the equilibrium price of gasoline. Which of the following mechanisms would we observe being used to ration the available amount of gasoline?
    a. Gasoline allocated on a first come first serve basis
    b. Gasoline allocated according to sellers preferences
    c. Gasoline bought and sold on a black market
    d. All of the above are possible
12. A price ceiling set above the equilibrium price for a good will result in which of the following?
   a. A continuation of the market determined equilibrium price and quantity bought and sold of the good
   b. Quantity demanded exceeding quantity supplied, and thus a shortage of the good
   c. Quantity supplied exceeding quantity demanded, and thus a surplus of the good
   d. A new market determined price at a higher price and lower quantity bought and sold of the good

13. Suppose that Michigan imposes a minimum wage rate that is above the equilibrium wage rate in the labor market in Michigan. Economic theory predicts that this will result in:
   a. an increase in the unemployment rate in Michigan
   b. a decrease in the unemployment rate in Michigan
   c. no change in the unemployment rate in Michigan
   d. an increase in the output of goods and services produced in Michigan

14. The term “production function” refers to:
   a. the use of machines in production
   b. the relationship between inputs and outputs
   c. the purposes and functions of production
   d. the role of labor unions in manufacturing

15. About two-thirds of the private rental housing in New York city is subject to rent controls. The rent control price is set below the market equilibrium price. Which of the following does economic theory predict will result from these rent controls?
   a. Over time, developers and Landlords will build more apartment buildings to offset the money they lose from being required to charge a lower rent
   b. Landlords will improve their apartment units to attract more tenants to offset the money they lose from being required to charge a lower rent
   c. There will be a surplus of rental apartment units in New York City because of the lower rents that landlords must charge.
   d. None of the above

16. David owns a consulting firm. He moved his office from a building downtown to the carriage house he owns in back of his house. How will this change his costs and profits?
   a. Explicit cost will decrease and accounting profit will increase.
   b. Implicit cost will decrease and accounting profit will increase.
   c. Implicit cost will increase and accounting profit will decrease.
   d. Explicit cost will increase and economic profit will remain the same.

17. Ted Jones left his job as a salesman that paid $20,000 per year, and invested $100,000 (which he could otherwise have used to purchase a government bond yielding 10% per year) to start a restaurant. His accounting profits for the year were $50,000. However, from this information we know that his economic profits were:
   a. $20,000
   b. $30,000
   c. $80,000
   d. -$70,000
18. If General Motors Corporation is making a negative economic profit, we can conclude that:
   a. it is making a positive accounting profit.
   b. it is making a zero accounting profit.
   c. it is making a negative accounting profit.
   d. All of the above are possible.

19. A firm produces a product with one variable input and one fixed input. When the amount of the variable input employed is increased, its marginal product will:
   a. continually rise
   b. decline at first, then rise
   c. decline at first, then remain constant
   d. rise at first, then decline

Questions 20 and 21 refer to the following table, which represents a firm’s short-run production function.

<table>
<thead>
<tr>
<th>Capital</th>
<th>Labor</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>52</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>75</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>92</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>105</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>96</td>
</tr>
</tbody>
</table>

20. Diminishing marginal returns occurs with the addition of labor unit number:
   a. 3   b. 4   c. 5   d. 6

21. Even if workers would work for free, a profit maximizing firm would not hire more than ______ units of labor.
   a. 3   b. 4   c. 5   d. 6

22. A furniture manufacturer that produces chairs found that when it employed 20 workers the average product of labor was 15 chairs per hour and the marginal product of labor was also 15 chairs per hour. If the company were to hire one more worker, then:
   a. the average product of workers would become greater than 15.
   b. the marginal product of workers would become greater than 15.
   c. the average product and marginal product of workers would both remain at 15.
   d. the average product and marginal product of workers would both become less than 15.

23. The owner of a construction company increases the amount of capital that his workers use. The average product of labor will ______ and the marginal product of labor will ______.
   a. increase, increase
   b. decrease, decrease
   c. increase, decrease
   d. decrease, increase
24. Which of the following is true of stage 1 of production?
   a. Marginal product is increasing
   b. Average product is increasing
   c. Output (total product) is decreasing
   d. All of the above

25. A profit maximizing firm will never operate in which of the following stages of production?
   a. Stage 1
   b. Stage 2
   c. Stage 3
   d. Both b and c

Questions 26 and 27 refer to the following table, which provides information on the total fixed cost and total variable cost of producing different amounts of output.

<table>
<thead>
<tr>
<th>Output</th>
<th>Total Fixed Cost</th>
<th>Total Variable Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$500</td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>$500</td>
<td>$200</td>
</tr>
<tr>
<td>2</td>
<td>$500</td>
<td>$360</td>
</tr>
<tr>
<td>3</td>
<td>$500</td>
<td>$500</td>
</tr>
<tr>
<td>4</td>
<td>$500</td>
<td>$700</td>
</tr>
<tr>
<td>5</td>
<td>$500</td>
<td>$1000</td>
</tr>
<tr>
<td>6</td>
<td>$500</td>
<td>$1,800</td>
</tr>
</tbody>
</table>

26. The average total cost of producing 4 units of output is:
   a. $700
   b. $300
   c. $200
   d. $175

27. The marginal cost of producing the 6th unit of output is:
   a. $800
   b. $700
   c. $300
   d. $175

Questions 28 refers to the following table, which gives information on the total cost of producing different amounts of output.

<table>
<thead>
<tr>
<th>Output</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$100</td>
</tr>
<tr>
<td>1</td>
<td>$190</td>
</tr>
<tr>
<td>2</td>
<td>$210</td>
</tr>
<tr>
<td>3</td>
<td>$300</td>
</tr>
<tr>
<td>4</td>
<td>$420</td>
</tr>
<tr>
<td>5</td>
<td>$600</td>
</tr>
</tbody>
</table>
28. When 4 units of output are produced, the average variable cost is:
   a. $25
   b. $80
   c. $105
   d. Cannot be determined from the information provided in the table

29. At 100 units of output, a firm’s marginal cost and average total cost each equal $50. 
   Therefore, at 99 units of output:
   a. marginal cost and average total cost are each less than $50
   b. marginal cost and average total cost are each greater than $50
   c. marginal cost is less than $50 and average total cost is greater than $50
   d. marginal cost is greater than $50 and average total cost is less than $50

30. When the law of diminishing returns sets in:
   a. total variable cost of producing output begins to rise
   b. average total cost of producing output begins to rise
   c. average variable cost of producing output begins to rise
   d. marginal cost of producing output begins to rise

31. Suppose that you pay $300 for season tickets to 5 University of Michigan home football 
games. Without season tickets, the ticket price for each single home football game is $70. 
The marginal cost to you of going to any one game is:
   a. $300
   b. $70
   c. $60
   d. $0

32. Corporation X and corporation Y produce the same amount of output and have identical 
total variables costs. However, Corporation X’s total fixed costs are $10,000 per month 
higher than corporation Y’s. Which of the following is true?
   a. Corporation X and corporation Y have the same marginal cost
   b. Corporation X has a higher marginal cost than corporation Y
   c. Corporation X has a lower marginal cost than corporation Y
   d. None of the above

33. Which of following would be likely to result in economies of scale?
   a. Specialization of labor
   b. Management problems
   c. Advancements in technology
   d. An increase in input prices

34. Which of the following is a major reason the U.S. auto industry has become more capital 
   intensive over time?
   a. The price of capital is increasing relative to the price of labor
   b. The price of labor is increasing relative to the price of capital
   c. To achieve economies of scale
   d. To avoid economies of scale
35. Which of the following occurs when a firm experiences increasing returns to scale?
   a. The productivity of the firm decreases as the firm gets bigger
   b. The long-run average total cost of producing output increases
   c. The long-run average total cost of producing output decreases
   d. Both a and b

36. For a person who operates a vehicle, the money spent on the annual automobile insurance premium is a ______ and the money spent on gasoline is a ____.
   a. fixed cost; fixed cost
   b. variable cost; variable cost
   c. variable cost; fixed cost
   d. fixed cost; variable cost

37. Suppose that the objective of a student is to maximize the amount of economic knowledge she “produces” for the test. The day before the test, she should quit studying when:
   a. the marginal product of an additional hour of studying begins to diminish
   b. the marginal product of an additional hour of studying is zero
   c. the average product of an additional hour of studying is zero
   b. the marginal product of an additional hour of studying equals the average product of an additional hour of studying.