Multiple Choice (3 points each)

1. Profit:
   A) Is the difference between total revenue and total cost.
   B) Is the "residual" that the owners of a business receive.
   C) Motivates people to own and operate a business.
   D) All of the above.

2. Perfect competition is a situation in which:
   A) Owners take on additional risk and earn huge profits.
   B) Companies constantly raise the price of goods and services in order to compete with each other.
   C) There are many buyers but only a few sellers.
   D) There are many firms and no buyer or seller has market power.

3. A perfectly competitive firm is a price taker because:
   A) It has no control over the selling price of its product.
   B) It has market power.
   C) Market demand is downward sloping.
   D) Its product are differentiated.

4. If a perfectly competitive firm can sell 200 computers at $700 each, in order to sell one more computer, the firm:
   A) Must lower its price.
   B) Can raise its price.
   C) Can sell the 201st computer at $700.
   D) Cannot sell an additional computer at any price because the market is at equilibrium.

5. The market demand curve for perfectly competitive firms is:
   A) Downward sloping.
   B) Used to determine equilibrium price.
   C) The sum of individual demand curves.
   D) All of the above.

6. The demand curve confronting a competitive firm:
   A) Equals the marginal revenue curve.
   B) Is horizontal, as is the market demand curve.
   C) Slopes downward, while the market demand curve is horizontal.
   D) Slopes downward and the marginal revenue curve is below it.

7. The fact that a perfectly competitive firm's total revenue curve is an upward-sloping straight line implies that:
   A) The total profit curve is also an upward-sloping straight line.
   B) Product price is constant at all levels of output.
   C) Product price decreases as output increases and demand is elastic.
   D) Product price increases at all output levels.
8. For the perfectly competitive firm, the marginal revenue is always:
   A) Below the firm's demand curve.
   B) Equal to the market price.
   C) Equal to marginal cost.
   D) Declining.

9. Short-run profits are maximized, for a perfectly competitive firm, at the rate of output where:
   A) Average total costs are minimized.
   B) Total revenue is maximized.
   C) Marginal revenue is zero.
   D) Marginal revenue is equal to marginal cost.

10. At the profit-maximizing output for a perfectly competitive firm:
    A) Average revenue = average total cost.
    B) Total revenue = price.
    C) Marginal cost = price.
    D) Total cost = total revenue.

11. A perfectly competitive firm should expand output when:
    A) $P < ATC$.
    B) $P > ATC$.
    C) $P < MC$.
    D) $P > MC$.

12. A firm experiencing economic losses will still continue to produce output in the short run as long as:
    A) Revenues are greater than total fixed cost.
    B) Price is above average variable cost.
    C) $MR = MC$.
    D) All of the above.

13. When price exceeds average variable cost but not average total cost, the firm should, in the short run:
    A) Shut down.
    B) Produce at the rate of output where $MR = MC$.
    C) Minimize per-unit losses by producing at the rate of output where $ATC$ is minimized in the short run.
    D) Minimize total losses by producing at the rate of output where $ATC$ is minimized.

14. The supply curve for a perfectly competitive firm is upward-sloping, i.e. it takes a higher price to induce greater production, because of:
    A) Increasing total costs.
    B) Increasing fixed costs.
    C) Increasing marginal costs.
    D) The decreasing skill level of additional workers.
15. The marginal cost curve and the supply curve are not the same for a perfectly competitive firm when price:
   A) Is above the average total cost curve.
   B) Is above the demand curve.
   C) Falls below the average variable cost curve.
   D) Falls below the demand curve.

16. If a perfectly competitive firm is producing at its profit-maximizing output in the short run and fixed costs decline, the firm should:
   A) Use less capital but increase output by hiring more labor.
   B) Not change output.
   C) Reduce output.
   D) Increase output.

Figure 7.1

17. Refer to data in Figure 7.1. The shape of the total cost curve reflects:
   A) Diminishing opportunity costs.
   B) The law of rising fixed costs.
   C) The law of diminishing returns.
   D) Economies and diseconomies of scale.

18. Refer to data in Figure 7.1. The profit-maximizing output for this firm is:
   A) Above 220 units.
   B) 220 units.
   C) 160 units.
   D) 90 units.
19. Refer to Figure 7.2 for a perfectly competitive firm. If the market price is $15:
   A) The firm should produce 31 units.
   B) The firm will have normal profits.
   C) Economic profits will be zero.
   D) All of the above.

20. Refer to Figure 7.2 for a perfectly competitive firm. If the market price is $23:
   A) The firm should produce 39 units.
   B) The firm will have above normal profits.
   C) Economic profits are greater than zero.
   D) All of the above.

21. Refer to Figure 7.2 for a perfectly competitive firm. This firm should shutdown at any price below:
   A) $4.
   B) $10.
   C) $15.
   D) $23.
22. Refer to Figure 7.4 for a perfectly competitive firm. At the profit-maximizing output, total profits would be equal to:
A) OAHE.
B) OBGE.
C) BAHG.
D) CAHF.

23. For a competitive market in the long run:
A) Economic profits induce firms to enter until profits are normal.
B) Economic losses induce firms to exit until profits are normal.
C) Economic profit is zero at equilibrium.
D) All of the above.

24. The exit of firms from a market, ceteris paribus:
A) Shifts the market supply curve to the right.
B) Reduces the economic losses of remaining firms in a market.
C) Increases the equilibrium output in the market.
D) All of the above.

25. Which of the following characterizes a firm that is in long-run perfectly competitive equilibrium where profits are maximized?
A) \( P = \text{minimum } \text{ATC} \).
B) Price equals marginal cost.
C) Zero economic profit.
D) All of the above.

26. A perfectly competitive market results in productive efficiency because:
A) Price is driven down to minimum \( \text{ATC} \).
B) Price rises high enough to equal marginal cost.
C) Zero economic profit is achieved.
D) \( MC < P \).
27. Marginal cost pricing results in the most desirable mix of goods and services (allocative efficiency) from the consumer's standpoint because:
A) Firms are forced to produce at the most technically efficient output level.
B) Economic profits are zero.
C) Prices are forced down to the lowest possible level.
D) The prices consumers pay are a reflection of the value of the goods and services given up.

In Figure 8.1, diagram "a" presents the cost curves that are relevant to a firm's production decision, and diagram "b" shows the market demand and supply curves for the market. Use both diagrams to answer the indicated questions.

**Figure 8.1**

28. In Figure 8.1, at a price of \( p_3 \) in the long run:
A) Firms will enter the market.
B) Firms will exit the market.
C) Economic profits equal zero.
D) \( P = ATC \).
29. Refer to Figure 8.4 for a perfectly competitive market and firm. Which of the following is likely to occur in the market in the long run, *ceteris paribus*?

A) An increase in demand.
B) An increase in supply.
C) A decrease in demand.
D) A decrease in supply.

30. Refer to Figure 8.5 for a perfectly competitive firm. Which of the following is *not* true for this firm?

A) The firm is using the fewest resources possible to produce each unit of output.
B) The firm is practicing marginal cost pricing.
C) The price is a reflection of the highest-valued good that could have been produced with the resources the firm used on the last unit it produced.
D) The firm should leave this market in an effort to earn economic profits.
True/False (3 points each)

1. ___ The market demand curve for a product is always downward sloping.
2. ___ The total revenue curve of a perfectly competitive firm is a horizontal line.
3. ___ For perfectly competitive firms, marginal revenue always equals price.
4. ___ In the short run, a firm will maximize profits if it increases output when marginal revenue is less than marginal cost.
5. ___ When price does not cover average total cost at any rate of output, the firm should shut down in the short run.
6. ___ Market supply is the horizontal sum of the individual $MC$ curves above the $AVC$ in a perfectly competitive market.
7. ___ A necessary condition for the operation of a perfectly competitive market is free entry and exit from the market.
8. ___ In a perfectly competitive market, firms will earn economic profits in the long run.
9. ___ Economic losses mean firms exit from a market in the short run.
10. ___ Exit and shutdown mean the same thing.