

MICROECONOMICS

Section I

Time—70 minutes

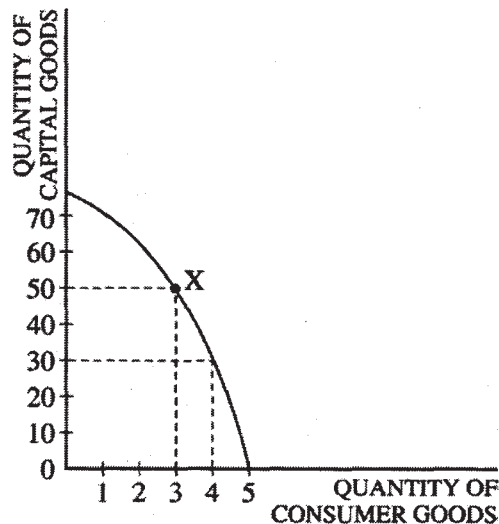
60 Questions

Directions: Each of the questions or incomplete statements below is followed by five suggested answers or completions. Select the one that is best in each case and then fill in the corresponding oval on the answer sheet.

1. A professor hires two aides, assigning them the tasks of reading student papers and of typing lecture notes on a computer. One of the aides, Ben, can read 1 page of a student paper per minute or type 50 words of lecture notes per minute, and the other aide, Ann, can read 3 pages of a student paper per minute or type 60 words of lecture notes per minute.

Which of the following statements is true?

- (A) Ann has a comparative advantage in reading student papers, and Ben has a comparative advantage in typing lecture notes.
- (B) Ann has an absolute advantage in reading student papers, and Ben has an absolute advantage in typing lecture notes.
- (C) Ben has a comparative advantage in reading student papers, and Ann has a comparative advantage in typing lecture notes.
- (D) Ben has a comparative advantage in both reading student papers and typing lecture notes.
- (E) Ben has an absolute advantage in both reading student papers and typing lecture notes.



2. According to the graph above, if a country is currently producing at point X, the opportunity cost of producing another consumer good is
- (A) 20 capital goods
 - (B) more than 20 capital goods
 - (C) fewer than 20 capital goods
 - (D) 20 consumer goods
 - (E) fewer than 20 consumer goods

3. To alleviate a financial crisis, a university increases student fees. This action will increase university revenues if the price elasticity of demand for university education is
 - (A) inelastic
 - (B) unit elastic
 - (C) elastic
 - (D) equal to the price elasticity of supply
 - (E) equal to one
4. Which of the following will occur if the government imposes a price ceiling below the equilibrium price of a good?
 - (A) The quantity sold will exceed the equilibrium quantity.
 - (B) Firms' total revenues will increase if demand is price elastic.
 - (C) There will be a shortage in the market.
 - (D) All firms will shut down, since price is below the equilibrium price.
 - (E) Price will exceed the marginal cost of producing the last unit sold.
5. Which of the following will decrease the demand for beef?
 - (A) An increase in the price of pork, if pork and beef are substitute goods
 - (B) An increase in the price of potatoes, if potatoes and beef are complementary goods
 - (C) A decrease in the cost of transporting beef to consumers
 - (D) An increase in the income levels of most consumers, if beef is a normal good
 - (E) Research showing beef is better for your health than chicken
6. If the price of a firm's variable input increases, which of the following will occur?
 - (A) The firm will decrease its level of production.
 - (B) The price of the good will decrease in the short run.
 - (C) The firm's marginal costs will decrease at every level of output.
 - (D) The firm's average fixed cost will decrease.
 - (E) More firms will enter the industry in the long run.
7. In a given time period, a person consumes more and more of a good or service and, as a result, enjoys each additional unit less and is willing to pay less for each additional unit. This behavior is consistent with the law of
 - (A) diminishing returns
 - (B) diminishing marginal product
 - (C) diminishing marginal utility
 - (D) increasing costs
 - (E) scarce resources
8. Which of the following best describes the relationship between the average total cost curve and the marginal cost curve in the short run?
 - (A) If the average total cost curve is rising, the marginal cost curve is above the average total cost curve.
 - (B) If the average total cost curve is rising, the marginal cost curve is below the average total cost curve.
 - (C) If the average total cost curve is above the marginal cost curve, the marginal cost curve is rising.
 - (D) If the average total cost curve is below the marginal cost curve, the marginal cost curve is falling.
 - (E) If the average and marginal cost curves intersect, the marginal cost curve is at a minimum.
9. One characteristic of perfectly competitive markets is that individual firms
 - (A) engage in product differentiation
 - (B) are free to enter or exit an industry in the long run
 - (C) earn positive economic profits in the long run
 - (D) advertise to increase market share
 - (E) face a downward-sloping demand curve

10. At the current production level of good X, price is greater than marginal cost. Which of the following actions would lead to greater efficiency?
- Decreasing the production of good X
 - Increasing the production of good X
 - Maintaining the current level of production of good X
 - Imposing a tax on the production of good X
 - Imposing an effective price floor on good X
11. Which of the following is true of a monopolistically competitive firm in long-run equilibrium?
- Price is greater than marginal cost, and marginal revenue is equal to average total cost.
 - Price is greater than marginal revenue, and marginal cost is equal to average total cost.
 - Price is greater than marginal revenue, and marginal cost is greater than average total cost.
 - Marginal revenue is equal to marginal cost, and price is equal to average total cost.
 - Marginal revenue is greater than marginal cost, and price is equal to average total cost.
12. Generally, monopolies are considered inefficient because they
- produce at a point where marginal cost is less than marginal revenue
 - produce at a point where marginal cost exceeds price
 - produce more output than does a competitive industry with similar cost conditions
 - lead to an overallocation of resources in the affected market
 - lead to an underallocation of resources in the affected market
13. A profit-maximizing firm that sells its output in a perfectly competitive market hires two additional workers, calculating that the contribution to total revenue of the last worker hired just equals the extra cost of hiring that worker. Six months later, the firm finds that the last worker's contribution to total revenue is less than the extra cost of hiring that worker. Which of the following may have occurred in the interim to explain this change?
- The firm laid off some workers.
 - The market supply for the firm's product decreased.
 - The market demand for the firm's product decreased.
 - A technological advance increased the productivity of the firm's workforce.
 - The firm negotiated new contracts with workers, lowering wages.
14. Suppose that a large number of unskilled workers enter a nation's labor market. If the labor market is competitive, the number of unskilled workers hired and the wage rate will most likely change in which of the following ways?
- | | Number of
Unskilled Workers Hired | Wage Rate |
|-----|--------------------------------------|------------|
| (A) | Increase | Increase |
| (B) | Increase | Decrease |
| (C) | Increase | Not change |
| (D) | Decrease | Increase |
| (E) | Decrease | Decrease |
15. A society that wishes to achieve greater income equality is most likely to have which of the following?
- A regressive income tax system and high estate and gift taxes
 - A regressive income tax system and low estate and gift taxes
 - A progressive income tax system and high estate and gift taxes
 - A progressive income tax system and low estate and gift taxes
 - A proportional income tax system and high estate and gift taxes

Section I

16. The study of economics is primarily concerned with which of the following?
- (A) The testing of hypotheses under controlled conditions
 - (B) The allocation of scarce resources, given unlimited wants
 - (C) The fair and equal treatment of all households
 - (D) The provision of conclusive answers to public policy issues
 - (E) The development of the dynamics of group behavior
17. Mr. Carpenter devotes his working time to producing tables and chairs. An increase in the demand for chairs will result in
- (A) an increase in the amount of time he devotes to producing tables
 - (B) an increase in his opportunity cost of producing tables
 - (C) a decrease in the price of lumber
 - (D) a decrease in the price of chairs
 - (E) a decrease in his total revenue
18. Assume that both the supply of and the demand for a good are relatively price elastic. The imposition of a per-unit excise tax on the sale of the good would cause the equilibrium price and quantity to change in which of the following ways?
- | <u>Price</u> | <u>Quantity</u> |
|--------------|-----------------|
| (A) Increase | Increase |
| (B) Increase | No change |
| (C) Increase | Decrease |
| (D) Decrease | No change |
| (E) Decrease | Decrease |
19. Assume that consumers consider potatoes to be an inferior good, but consider rice to be a normal good. An increase in consumers' incomes will most likely affect the equilibrium price and quantity of potatoes and rice in which of the following ways?
- | <u>Potatoes</u> | | <u>Rice</u> | |
|-----------------|-----------------|--------------|-----------------|
| <u>Price</u> | <u>Quantity</u> | <u>Price</u> | <u>Quantity</u> |
| (A) Decrease | Decrease | Increase | Increase |
| (B) Decrease | Increase | Increase | Decrease |
| (C) Decrease | Decrease | Decrease | Decrease |
| (D) Increase | Increase | Decrease | Decrease |
| (E) Increase | Decrease | Increase | Decrease |
20. Assume that a consumer spends all her income on the purchase of two goods. If the consumer's income doubles and the prices of the two goods also double, the quantity of the two goods purchased will
- (A) also double
 - (B) more than double
 - (C) increase, but it will be less than double
 - (D) not change
 - (E) depend on the slope of the demand curve
21. Economies of scale exist when
- (A) the doubling of all inputs doubles the output produced
 - (B) short-run average total cost decreases as output increases
 - (C) short-run average total cost remains constant as output increases
 - (D) long-run average total cost increases as output increases
 - (E) long-run average total cost decreases as output increases
22. Locotek produces toy trains and pays each worker \$350 per week. Five workers can produce 40 trains per week and six workers can produce 45 trains per week. The marginal product per week of the sixth worker is
- (A) \$70
 - (B) \$350
 - (C) 5 trains
 - (D) 7.5 trains
 - (E) 42.5 trains
23. If the only two firms in an industry successfully collude to maximize their joint profit, the price for the product will be
- (A) equal to the marginal cost of production
 - (B) equal to the average total cost of production
 - (C) above the marginal cost of production
 - (D) above the monopoly price
 - (E) below the average variable cost of production

24. If there are many firms in an industry and each firm's product is indistinguishable from the products of all other firms, the individual firm's demand curve will be

- (A) upward sloping and different for each firm
- (B) downward sloping and different for each firm
- (C) downward sloping and identical for every firm
- (D) horizontal and different for each firm
- (E) horizontal and identical for every firm

25. A monopoly is different from a perfectly competitive firm in that a monopoly

- (A) does not have a U-shaped average total cost curve
- (B) has an average fixed cost curve that is perfectly horizontal
- (C) has a marginal revenue curve that lies below its demand curve
- (D) always earns economic profits
- (E) operates in the inelastic segment of its demand curve

26. Price discrimination occurs when

- (A) the supply of the product is elastic
- (B) a product's average cost is greater than its average revenue
- (C) a product's average cost is less than its average revenue
- (D) differences in a product's price reflect differences in marginal costs
- (E) differences in a product's price do not reflect differences in costs of production

27. If a 5 percent wage increase in a particular labor market results in a 10 percent decrease in employment, the demand for labor is

- (A) perfectly elastic
- (B) relatively elastic
- (C) unit elastic
- (D) relatively inelastic
- (E) perfectly inelastic

| Number of Workers | Hourly Wage | Marginal Factor Cost | Marginal Revenue Product |
|-------------------|-------------|----------------------|--------------------------|
| 10 | \$5.00 | | |
| 11 | 5.10 | \$6.10/hr | \$8.70/hr |
| 12 | 5.20 | 6.30/hr | 7.60/hr |
| 13 | 5.30 | 6.50/hr | 6.50/hr |
| 14 | 5.40 | 6.70/hr | 5.40/hr |
| 15 | 5.50 | 6.90/hr | 4.30/hr |

28. According to the information in the table above, the twelfth worker would increase the hourly profit by

- (A) \$0.20
- (B) \$1.10
- (C) \$1.30
- (D) \$2.40
- (E) \$5.20

29. Characteristics of a pure public good include which of the following?

- I. Nonpaying consumers cannot be excluded from consuming the good.
- II. Consumption by any one person does not reduce the availability of the good to others.
- III. The amount consumed depends on the price paid.

- (A) I only
- (B) II only
- (C) III only
- (D) I and II only
- (E) II and III only

Section I

30. Which of the following tends to increase the gap in earnings between skilled and unskilled workers over time?

- (A) An increase in the demand for unskilled workers relative to skilled workers
- (B) An increase in the supply of skilled workers relative to unskilled workers
- (C) A decrease in the demand for unskilled workers relative to skilled workers
- (D) A decrease in both the demand for and the supply of skilled workers
- (E) An increase in both the demand for and supply of unskilled workers

31. For an economy with a straight-line production possibilities curve, which of the following must be true?

- I. The opportunity cost of producing another unit is constant.
- II. Resources are completely adaptable to alternative uses.
- III. Resources are used efficiently.

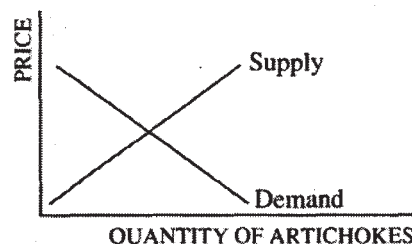
- (A) I only
- (B) II only
- (C) III only
- (D) I and II
- (E) II and III

32. Consumer surplus is defined as

- (A) opportunity cost minus total revenue
- (B) total revenue minus opportunity cost
- (C) the difference between the resource costs and the price that consumers pay
- (D) the difference between the value that consumers place on a good and the price they pay
- (E) the sum of external costs and benefits

33. Which of the following would cause the equilibrium price of good X to increase?

- (A) Producers of good X find a new technology that reduces the cost of producing X.
- (B) The price of an essential input in the production of good X increases.
- (C) Goods X and Y are complements, and the government imposes a tax on good Y.
- (D) Good X is a normal good, and the government increases income taxes by 3%.
- (E) Good X is an inferior good, and the government decreases income taxes by 10%.



34. The graph above shows the supply and demand curves for artichokes. The surgeon general announces that eating an artichoke a day dramatically reduces one's likelihood of developing cancer. Simultaneously an infestation of the artichoke weevil severely damages the crop. Which of the following will definitely occur as a result?

- (A) The supply of artichokes will increase.
- (B) The price of artichokes will increase.
- (C) The demand for artichokes will decrease.
- (D) The quantity of artichokes grown will decrease.
- (E) The profits of farmers who specialize in growing artichokes will decrease.

35. The price of an airline ticket is typically lower if a traveler buys the ticket several weeks before the flight's departure date rather than on the day of departure. This pricing strategy is based on the assumption that

- (A) travelers are not aware of how airline prices change across time
- (B) travelers do not have alternative modes of transportation
- (C) travelers will pay any price to travel as the departure date approaches
- (D) the marginal cost of the last few seats on an airplane is higher than that for the first few seats
- (E) travelers' demand becomes less elastic as the departure date approaches

36. Technological advances will lead to

- (A) an increase in marginal utility
- (B) a decrease in average total costs
- (C) a decrease in net exports
- (D) an increase in marginal costs
- (E) diseconomies of scale

37. Marginal cost is defined as the

- (A) change in total cost resulting from producing an additional unit of output
- (B) change in total cost resulting from using an additional unit of input
- (C) difference between total cost and total variable cost
- (D) difference between total variable cost and total fixed cost
- (E) difference between average total cost and average variable cost divided by output

Questions 38-39 are based on the following matrix.

| | | FIRM B'S PRICING STRATEGY | |
|---------------------------|------|---------------------------|-------------|
| | | High | Low |
| FIRM A'S PRICING STRATEGY | High | \$100, \$100 | \$50, \$150 |
| | Low | \$150, \$50 | \$50, \$50 |

The payoff matrix above gives the profits associated with the strategic choices of two firms in an oligopolistic industry. The first entry in each cell is the profit to Firm A and the second to Firm B.

38. If the two firms collude, Firm A's and Firm B's profits would be which of the following?

| | <u>Firm A</u> | <u>Firm B</u> |
|-----|---------------|---------------|
| (A) | \$150 | \$ 50 |
| (B) | \$100 | \$100 |
| (C) | \$100 | \$150 |
| (D) | \$ 50 | \$100 |
| (E) | \$ 50 | \$ 50 |

39. If each firm simultaneously chooses its pricing strategy without collusion, Firm A's and Firm B's profits would be which of the following?

| | <u>Firm A's Profit</u> | <u>Firm B's Profit</u> |
|-----|------------------------|------------------------|
| (A) | \$150 | \$ 50 |
| (B) | \$100 | \$100 |
| (C) | \$100 | \$150 |
| (D) | \$ 50 | \$100 |
| (E) | \$ 50 | \$ 50 |

Section I

40. In the short run, a perfectly competitive firm should shut down whenever
- (A) minimum average variable cost exceeds price
 - (B) minimum average total cost exceeds price
 - (C) marginal revenue exceeds marginal cost
 - (D) marginal cost exceeds marginal revenue
 - (E) it is losing money
41. A constant-cost, perfectly competitive industry is in long-run equilibrium. If the demand for the good increases, which of the following will occur in the long run?
- (A) The price will remain unchanged.
 - (B) The price will increase.
 - (C) The price will decrease.
 - (D) Economic profits will increase.
 - (E) Economic profits will decrease.
42. Assume a firm uses only two inputs, capital (K) and labor (L), to produce its output. Let the marginal product of capital be MP_K , the marginal product of labor be MP_L , the price of capital be P_K , and the price of labor be P_L . The least-cost combination of capital and labor needed to produce a given level of output is given by which of the following?
- (A) $MP_L/P_L = MP_K/P_K$
 - (B) $MP_L/P_L > MP_K/P_K$
 - (C) $MP_L/P_K = MP_K/P_L$
 - (D) $(MP_L)P_L = (MP_K)P_K$
 - (E) $MP_L = MP_K$
43. A firm's demand curve for labor is equal to a segment of its
- (A) average variable cost curve
 - (B) total revenue curve
 - (C) marginal cost curve
 - (D) marginal revenue product curve
 - (E) average product curve
44. A Lorenz curve can be used by economists to do which of the following?
- (A) Show the distribution of personal income
 - (B) Show the amount of wealth in a nation
 - (C) Show the amount of consumption in a nation
 - (D) Explain why different households have different incomes
 - (E) Explain why income is equally distributed in socialist countries
45. The surgeon general has determined that smoking causes cancer and heart disease for both smokers and passive smokers, nonsmokers who breathe smoke-filled air. If cigarette prices are determined in a free market, which of the following will be true?
- (A) The price of cigarettes will be too low and the quantity sold will be too high.
 - (B) The price of cigarettes will be efficient but the quantity sold will be too high.
 - (C) The market will be efficient because markets always equate marginal benefits and marginal costs.
 - (D) The price of cigarettes will reflect the marginal social benefit received by nonsmokers.
 - (E) The price of cigarettes will overstate the true social cost imposed on nonsmokers.
46. An opportunity cost is entailed in which of the following situations?
- I. A student decides to attend college full-time.
 - II. A family uses its \$20,000 savings to purchase an automobile.
 - III. A farmer decides to grow more wheat and less corn.
- (A) I only
 - (B) II only
 - (C) III only
 - (D) I and III only
 - (E) I, II, and III

47. If the demand for good Y increases as the price of good X decreases, it can be concluded that
- (A) X and Y are substitute goods
 - (B) X and Y are complementary goods
 - (C) X is an inferior good and Y is a superior good
 - (D) X is a superior good and Y is an inferior good
 - (E) both X and Y are inferior goods
48. If the market demand for a good is inelastic and the supply is elastic, which of the following is true when there is an increase in sales tax?
- (A) Consumers will bear most of the burden of the tax.
 - (B) Producers will bear all of the burden of the tax.
 - (C) Producers will bear most of the burden of the tax or risk losing sales.
 - (D) Both consumers and producers will share the burden of the tax equally.
 - (E) The price of the good will not change.
49. If a perfectly competitive firm increases its price above the market equilibrium price, which of the following will be true for this firm?
- (A) Its total revenue will increase.
 - (B) Its profit will increase.
 - (C) Its sales will decrease but profit will not be affected.
 - (D) Its demand curve will become downward sloping.
 - (E) It will not be able to sell any output.
50. Leather and beef are jointly produced such that an increase in the production of one results in an equal increase in the production of the other. An increase in the demand for leather will most likely cause
- (A) a decrease in the price of leather
 - (B) a decrease in the price of beef
 - (C) a decrease in the equilibrium quantity of beef sold
 - (D) an increase in the demand for beef in the short run
 - (E) an increase in the supply of leather
51. Which of the following best explains why the short-run average total cost curve is U-shaped?
- (A) Spreading total fixed costs over a larger output, and constant returns
 - (B) Spreading total fixed costs over a larger output, and eventually diminishing returns
 - (C) Increasing total fixed costs and increasing returns
 - (D) Increasing average variable costs and decreasing returns
 - (E) Decreasing average variable costs and increasing returns
52. Assume that a firm is maximizing short-run profits and that price is greater than average variable cost. Which of the following must be true at the firm's level of output?
- (A) Marginal revenue is equal to average total cost.
 - (B) Marginal revenue is greater than total variable cost.
 - (C) Marginal revenue is equal to price, which is greater than average total cost.
 - (D) Marginal revenue is equal to marginal cost.
 - (E) Price is equal to average total cost.
53. A single-price monopolist's marginal revenue is
- (A) equal to its price
 - (B) less than its price
 - (C) greater than its price
 - (D) negative when it maximizes revenues
 - (E) zero when it maximizes profit
54. When marginal product exceeds average product, which of the following must be true?
- (A) Average product is increasing.
 - (B) Average product is decreasing.
 - (C) Marginal product is increasing.
 - (D) Total product is decreasing.
 - (E) Total product is at its maximum.

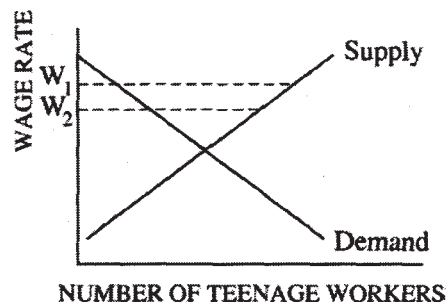
Section I

55. Which of the following is true if a monopolist's marginal revenue is negative at the current level of output?

- (A) Demand for its product is unit elastic.
- (B) Demand for its product is price elastic.
- (C) Demand for its product is price inelastic.
- (D) Marginal cost is equal to price.
- (E) Marginal revenue is equal to price.

56. A merger of two firms may increase economic efficiency by

- (A) decreasing average total cost through an increase in economies of scale
- (B) decreasing output to reduce marginal cost and equalize price
- (C) increasing economic profits but decreasing consumer surplus
- (D) increasing consumer surplus by decreasing economic profits
- (E) increasing consumer surplus by shifting the demand curve for the product to the right



57. The graph above illustrates the labor market for teenage workers. The current minimum wage for all workers is W_1 . If Congress introduces a sub-minimum wage, W_2 that applies only to teenagers, what is the most likely effect on teenage employment?

- (A) Teenage employment will increase because firms will want to hire more teenagers at W_2 than at W_1 .
- (B) Teenage employment will increase because more teenagers will want to work at W_2 than at W_1 .
- (C) Teenage employment will decrease because fewer teenagers will want to work at W_2 than at W_1 .
- (D) Teenage employment will decrease because firms will want to hire fewer teenagers at W_2 than at W_1 .
- (E) Teenage employment will stay the same because the market-clearing wage is lower than W_1 and W_2 .

58. Marginal revenue product is defined as the
- (A) change in income that occurs when an individual works additional hours
 - (B) change in total revenue that occurs when one additional unit of the good is produced
 - (C) change in total revenue that occurs when one additional unit of an input is employed
 - (D) total revenue divided by the quantity of labor employed
 - (E) change in total cost that occurs when one additional unit of an input is employed
59. An increase in the marginal social benefit of consuming a public good should result in
- (A) a decrease in public production of the good
 - (B) an increase in the optimal quantity of the good
 - (C) a decrease in the optimal quantity of the good
 - (D) a decrease in the social costs associated with producing the good
 - (E) a decrease in the social costs associated with consuming the good
60. An industry will produce more than the socially efficient level of output under which of the following conditions?
- (A) The production or consumption of a good generates a positive externality.
 - (B) The production or consumption of a good generates a negative externality.
 - (C) The industry is a monopoly.
 - (D) The industry produces a public good.
 - (E) The industry produces a private good.

END OF SECTION I