

MICROECONOMICS

1990

C-26

Section I

Time—60 minutes

50 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. Problems faced by all economic systems include which of the following?
- I. How to allocate scarce resources among unlimited wants
 - II. How to decentralize markets
 - III. How to decide what to produce, how to produce, and for whom to produce
 - IV. How to set government production quotas
- (A) I only
 - (B) I and III only
 - (C) II and III only
 - (D) I, II, and III only
 - (E) I, II, III, and IV

2. Which of the following would necessarily cause a fall in the price of a product?
- (A) An increase in population and a decrease in the price of an input
 - (B) An increase in population and a decrease in the number of firms producing the product
 - (C) An increase in average income and an improvement in production technology
 - (D) A decrease in the price of a substitute product and an improvement in production technology
 - (E) A decrease in the price of a substitute product and an increase in the price of an input

3. The market equilibrium price of home heating oil is \$1.50 per gallon. If a price ceiling of \$1.00 per gallon is imposed, which of the following will occur in the market for home heating oil?
- I. Quantity supplied will increase.
 - II. Quantity demanded will increase.
 - III. Quantity supplied will decrease.
 - IV. Quantity demanded will decrease.
- (A) II only
 - (B) I and II only
 - (C) I and IV only
 - (D) II and III only
 - (E) III and IV only

4. Suppose that a family buys all its clothing from a discount store and treats these items as inferior goods. Under such circumstances, this family's consumption of discount store clothing will necessarily
- (A) increase when a family member wins the state lottery
 - (B) increase when a family member gets a raise in pay at work
 - (C) remain unchanged when its income rises or falls due to events beyond the family's control
 - (D) decrease when a family member becomes unemployed
 - (E) decrease when a family member experiences an increase in income

5. Which of the following describes what will happen to market price and quantity if firms in a perfectly competitive market form a cartel and act as a profit-maximizing monopoly?
- | <u>Price</u> | <u>Quantity</u> |
|--------------|-----------------|
| (A) Decrease | Decrease |
| (B) Decrease | Increase |
| (C) Increase | Increase |
| (D) Increase | Decrease |
| (E) Increase | No change |

6.

<u>Quantity Produced</u>	<u>Total Cost</u>
0	\$ 5
1	17
2	28
3	41
4	61
5	91

- Barney's Bait Company can sell all the lures it produces at the market price of \$14. On the basis of the cost information in the table above, how many lures should the bait company make?
- (A) 1
 - (B) 2
 - (C) 3
 - (D) 4
 - (E) 5

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7. A natural monopoly occurs in an industry if
- economies of scale allow at most one firm of efficient size to exist in that market
 - a single firm has control over a scarce and essential resource
 - a single firm produces inputs for use by other firms
 - a single firm has the technology to produce the product sold in that market
 - above-normal profits persist in the industry
8. The typical firm in a monopolistically competitive industry earns zero profit in long-run equilibrium because
- advertising costs make monopolistic competition a high-cost market structure rather than a low-cost market structure
 - the firms in the industry do not operate at the minimum point on their long-run average cost curves
 - there are no restrictions on entering or exiting from the industry
 - the firms in the industry are unable to engage in product differentiation
 - there are close substitutes for each firm's product
9. Which of the following inevitably causes a shift in the market demand for workers with a certain skill?
- An increase in the demand for goods produced by these workers
 - A decrease in tax rates on the income of these workers
 - An increase in the equilibrium wages received by these workers
 - An increase in the supply of these workers
 - The creation of a federally subsidized program to train new workers
10. If hiring an additional worker would increase a firm's total cost by less than it would increase its total revenue, the firm should
- not hire the worker
 - hire the worker
 - hire the worker only if another worker leaves or is fired
 - hire the worker only if the worker can raise the firm's productivity
 - reduce the number of workers employed by the firm
11. If a firm wants to produce a given amount of output at the lowest possible cost, it should use each resource in such a manner that
- it uses more of the less expensive resource
 - it uses more of the resource with the highest marginal product
 - each resource has just reached the point of diminishing marginal returns
 - the marginal products of each resource are equal
 - the marginal products per dollar spent on each resource are equal
12. In which of the following ways does the United States government currently intervene in the working of the market economy?
- It produces certain goods and services.
 - It regulates the private sector to achieve a more efficient allocation of resources.
 - It redistributes income through taxation and public expenditures.
- I only
 - II only
 - III only
 - II and III only
 - I, II, and III
13. If it were possible to increase the output of military goods and simultaneously to increase the output of the private sector of an economy, which of the following statements about the economy and its current position relative to its production possibilities curve would be true?
- The economy is inefficient and inside the curve.
 - The economy is inefficient and on the curve.
 - The economy is efficient and on the curve.
 - The economy is efficient and inside the curve.
 - The economy is efficient and outside the curve.
14. An effective price floor introduced in the market for rice will result in
- a decrease in the price of rice and an increase in the quantity of rice sold
 - a decrease in the price of rice and a decrease in the quantity of rice sold
 - a decrease in the price of rice and an excess demand for rice
 - an increase in the price of rice and an excess supply of rice
 - an increase in the price of rice and an excess demand for rice

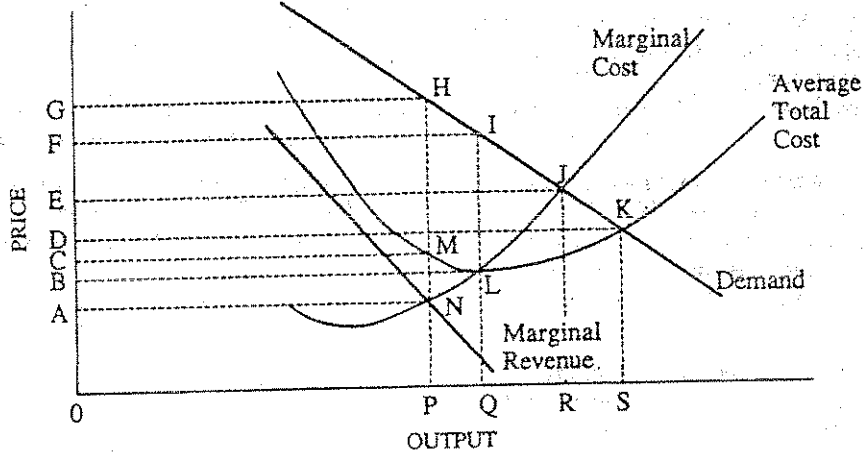
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15. Marginal revenue is the change in revenue that results from a one-unit increase in the

- (A) variable input
- (B) variable input price
- (C) output level
- (D) output price
- (E) fixed cost

16. A leftward shift in the supply curve of corn would result from

- (A) a decrease in the price of corn
- (B) a decrease in the price of farm machinery
- (C) an increase in the demand for corn bread
- (D) an increase in the labor costs of producing corn
- (E) an increase in consumers' incomes



17. The diagram above depicts cost and revenue curves for a firm. What are the firm's profit-maximizing output and price?

Output	Price
(A) 0S	0D
(B) 0R	0E
(C) 0Q	0F
(D) 0Q	0B
(E) 0P	0G

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18. The government is considering imposing a 3 percent tax on either good A or good B. In order to generate the largest revenue, the tax should be imposed on the good for which

- (A) demand is perfectly elastic
- (B) demand is perfectly inelastic
- (C) demand is unit elastic
- (D) supply is perfectly elastic
- (E) supply is unit elastic

19. Which of the following statements has to be true in a perfectly competitive market?

- (A) A firm's marginal revenue equals price.
- (B) A firm's average total cost is above price in the long run.
- (C) A firm's average fixed cost rises in the short run.
- (D) A firm's average variable cost is higher than price in the long run.
- (E) Large firms have lower costs than small firms.

20. Assume that an electric power company owns two plants and that, on a particular day, 10,000 kilowatts of electricity are demanded by the public. In order to minimize the total cost of providing the 10,000 kilowatts, the company should allocate production so that

- (A) marginal costs are the same for both plants
- (B) average total costs are the same for both plants
- (C) total variable costs are the same for both plants
- (D) the sum of total variable cost and total fixed cost is the same for both plants
- (E) only the plant with the lower average cost is used to produce the 10,000 kilowatts of electricity

21. Suppose that the consumption of a certain product results in benefits to others besides the consumers of the product. Which of the following statements is most likely to be true?

- (A) The demand for the product is price inelastic.
- (B) A perfectly competitive industry will not produce the optimal quantity of the product.
- (C) A perfectly competitive industry will not produce the product.
- (D) Optimality requires that consumers of this product be taxed.
- (E) Producers of this product earn an economic profit.

Questions 22-23 are based on the table below, which lists the total output of workers in Greta's Jacket Shop.

Number of Workers	Total Output
2	12
3	22
4	28
5	32

22. Which of the following is the marginal product of the fourth worker?

- (A) 4
- (B) 5
- (C) 6
- (D) 28
- (E) 112

23. Greta already employs 3 workers. If the price of jackets is \$5 and the wage rate is \$25, she should

- (A) go out of business altogether
- (B) lay off the third worker
- (C) keep the third worker but not employ more workers
- (D) hire two more workers
- (E) hire one more worker

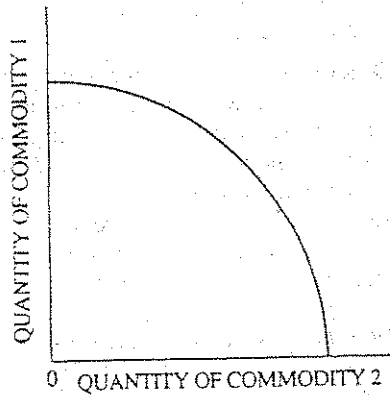
24. A city council is deciding what price to set for a trip on the city's commuter train line. If the council wants to maximize profits, it will set a price so that

- (A) price equals marginal cost
- (B) price equals average cost
- (C) price equals marginal revenue
- (D) marginal revenue equals marginal cost
- (E) marginal revenue equals average total cost

25. The demand curve for cars is downward sloping because an increase in the price of cars leads to

- (A) the increased use of other modes of transportation
- (B) a fall in the expected future price of cars
- (C) a decrease in the number of cars available for purchase
- (D) a rise in the prices of gasoline and other oil-based products
- (E) a change in consumers' tastes in cars

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26. Which of the following best explains the shape of the production possibilities curve for the two-commodity economy shown above?
- (A) The opportunity cost of producing an additional unit of each commodity stays the same as production of the commodity expands.
 - (B) The opportunity cost of producing an additional unit of each commodity decreases as production of the commodity expands.
 - (C) The opportunity cost of producing an additional unit of each commodity increases as production of the commodity expands.
 - (D) The quantity demanded of each commodity decreases as consumption of the commodity increases.
 - (E) The quantity demanded of each commodity increases as the production of the commodity expands.

27. In the long run, compared with a perfectly competitive firm, a monopolistically competitive firm with the same costs will have
- (A) a higher price and higher output
 - (B) a higher price and lower output
 - (C) a lower price and higher output
 - (D) a lower price and lower output
 - (E) the same price and lower output

28. Assume that products X and Y are substitutes. If the cost of producing X decreases and the price of Y increases, which of the following will occur to the equilibrium price and quantity of X?

<u>Price of X</u>	<u>Quantity of X</u>
(A) Increase	Increase
(B) Increase	Decrease
(C) Increase	Increase or decrease
(D) Increase or decrease	Increase
(E) Decrease	Decrease

29. Suppose that an effective minimum wage is imposed in a certain labor market above the equilibrium wage. If labor supply in that market subsequently increases, which of the following will occur?
- (A) Unemployment in that market will increase.
 - (B) Quantity of labor supplied will decrease.
 - (C) Quantity of labor demanded will increase.
 - (D) Market demand will increase.
 - (E) The market wage will increase.
30. Imperfectly competitive firms may be allocatively inefficient because they produce at a level of output such that
- (A) average cost is at a minimum
 - (B) price equals marginal revenue
 - (C) marginal revenue is greater than marginal cost
 - (D) price equals marginal cost
 - (E) price is greater than marginal cost

Questions 31-33 are based on the table below, which shows a firm's total cost for different levels of output.

<u>Output</u>	<u>Total Cost</u>
0	\$24
1	33
2	41
3	48
4	54
5	61
6	69

31. Which of the following is the firm's marginal cost of producing the fourth unit of output?
- (A) \$54.00
 - (B) \$13.50
 - (C) \$ 7.50
 - (D) \$ 6.00
 - (E) \$ 1.50
32. Which of the following is the firm's average total cost of producing 3 units of output?
- (A) \$48.00
 - (B) \$16.00
 - (C) \$14.00
 - (D) \$13.50
 - (E) \$ 7.00
33. Which of the following is the firm's average fixed cost of producing 2 units of output?
- (A) \$24.00
 - (B) \$20.50
 - (C) \$12.00
 - (D) \$ 8.00
 - (E) \$ 7.50

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34. In the short run, if the product price of a perfectly competitive firm is less than the minimum average variable cost, the firm will
- raise its price
 - increase its output
 - decrease its output slightly but increase its profit margin
 - lose more by continuing to produce than by shutting down
 - lose less by continuing to produce than by shutting down
35. Which of the following statements is true of perfectly competitive firms in long-run equilibrium?
- Firm revenues will decrease if production is increased.
 - Total firm revenues are at a maximum.
 - Average fixed cost equals marginal cost.
 - Average total cost is at a minimum.
 - Average variable cost is greater than marginal cost.
36. Assume that both input and product markets are competitive. If the product price rises, in the short run firms will increase production by increasing
- the stock of fixed capital until marginal revenue equals the product price
 - the stock of fixed capital until the average product of capital equals the price of capital
 - labor input until the marginal revenue product of labor equals the wage rate
 - labor input until the marginal product of labor equals the wage rate
 - labor input until the ratio of product price to the marginal product of labor equals the wage rate
37. Half of the inhabitants of an island oppose building a new bridge to the mainland, since they say it will destroy the island's quaint atmosphere. The economic concept that is most relevant to the decision of whether or not to build the bridge is
- externalities
 - natural monopoly
 - economic rent
 - imperfect competition
 - perfect competition
38. Which of the following best states the thesis of the law of comparative advantage?
- Differences in relative costs of production are the key to determining patterns of trade.
 - Differences in absolute costs of production determine which goods should be traded between nations.
 - Tariffs and quotas are beneficial in increasing international competitiveness.
 - Nations should not specialize in the production of goods and services.
 - Two nations will not trade if one is more efficient than the other in the production of all goods.
39. A student who attends college would pay \$10,000 annually for tuition, books, and fees. If the student's next best alternative is to work and earn \$15,000 a year, the opportunity cost of a year in college would be equal to
- zero, since the lost opportunity to earn income is offset by the opportunity to attend college.
 - \$5,000, representing the difference between forgone income and college costs
 - \$10,000, since opportunity costs include only actual cash outlays
 - \$15,000, representing forgone income, since the costs of tuition, books, and fees will be more than offset by additional income earned after graduation
 - \$25,000, representing the sum of tuition, books, fees, and forgone income
40. If an increase in the price of good X causes a drop in demand for good Y, good Y is
- an inferior good
 - a luxury good
 - a necessary good
 - a substitute for good X
 - a complement to good X
41. An improvement in production technology for a certain good leads to
- an increase in demand for the good
 - an increase in the supply of the good
 - an increase in the price of the good
 - a shortage of the good
 - a surplus of the good

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42. A firm doubles all of its inputs and finds that it has more than doubled its output. This situation is an example of

- (A) increasing marginal returns
- (B) diminishing marginal returns
- (C) constant returns to scale
- (D) increasing returns to scale
- (E) decreasing returns to scale

43. Reducing the tariff on Canadian beer sold in the United States will most likely have which of the following effects on the market for beer produced and sold in the United States?

- (A) The quantity of United States beer purchased will increase.
- (B) Total expenditure on United States beer will increase.
- (C) The supply of United States beer will increase.
- (D) The price of United States beer will decrease.
- (E) More workers will be employed in the production of United States beer.

44. Suppose that the license paid by each business to operate in a city increases from \$400 per year to \$500 per year. What effect will this increase have on a firm's short-run costs?

	<u>Marginal Cost</u>	<u>Average Total Cost</u>	<u>Average Variable Cost</u>
(A)	Increase	Increase	Increase
(B)	Increase	Increase	No effect
(C)	No effect	No effect	No effect
(D)	No effect	Increase	Increase
(E)	No effect	Increase	No effect

45. In a perfectly competitive market, an individual farmer intending to increase her revenue decides to increase the price of her crop by 20 percent. As a result her total revenue will

- (A) decrease
- (B) stay the same
- (C) increase by less than 20 percent
- (D) increase by 20 percent
- (E) increase by more than 20 percent

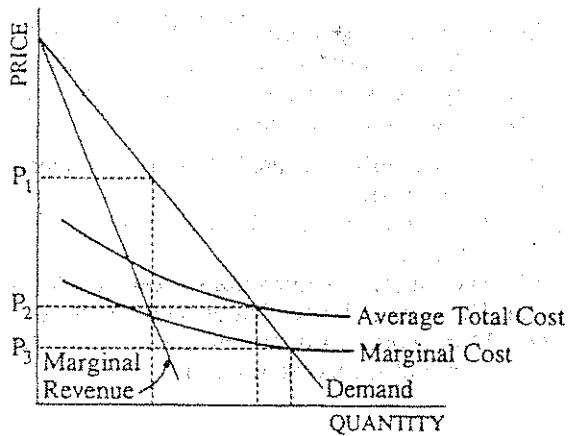
46. If the supply of a factor of production is fixed, which of the following will be true of its price?

- (A) Supply is irrelevant to the determination of factor price.
- (B) A positive factor price cannot be justified on economic grounds.
- (C) Factor price will be determined by the demand for the fixed amount of the factor.
- (D) Factor price will not be determined by supply and demand analysis.
- (E) Factor price will be zero, since no payment is necessary to secure the services of the factor.

47. Which of the following is true if a perfectly competitive industry is earning zero economic profits in the long run?

- (A) The level of investment in long-run equilibrium is greater than the efficient level.
- (B) Relatively few firms are able to survive the competitive pressures in the long run.
- (C) Some firms will be forced to transfer their resources to more lucrative uses.
- (D) The resources invested in this industry are earning at least as high a return as they would in any alternative use.
- (E) Firms will exit until economic profits become positive.

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48. The figure above shows cost and revenue curves for a public regulated power company and three possible prices for its output. Which of the following statements about those prices is most accurate?

- (A) If P_1 were approved, regulation would not be needed and the company would have every incentive to lower rates to P_2 .
- (B) P_1 is inefficient; it is better to have several utilities serve the area than to approve P_1 .
- (C) P_2 is ideal; it gives stockholders the maximum rate of return and protects consumers from exploitation.
- (D) P_3 would maximize consumer welfare; greater electric use at this low rate would guarantee stockholders a fair rate of return.
- (E) P_3 would maximize consumer welfare, but a public subsidy would be needed to keep the company in business.

49. NOT SCORED*

50. In a market economy, public goods such as community police protection are unlikely to be provided in sufficient quantity by the private sector because
- (A) private firms are less efficient at producing public goods than is the government
 - (B) the use of public goods cannot be withheld from those who do not pay for them
 - (C) consumers lack information about the benefits of public goods
 - (D) consumers do not value public goods highly enough for firms to produce them profitably
 - (E) public goods are inherently too important to be left to private firms to produce

* This question was not scored. Therefore, the maximum number of multiple-choice questions that candidates could answer correctly was 49.

END OF SECTION I

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY
CHECK YOUR WORK ON THIS SECTION.

DO NOT GO ON TO SECTION II UNTIL YOU ARE TOLD TO DO SO.