2021 AP Microeconomics International Exam Questions

Extrated from the AP Question Bank

Contents

1 Multiple Choice Questions **2**

2 Section II **17**

3 Answers for Multiple Choice Questions **22**

4 Scoring Guidelines: Free-Response Question 1 **23**

5 Scoring Guidelines: Free-Response Question 2 **25**

6 Scoring Guidelines: Free-Response Question 3 **26**

1 Multiple Choice Questions

The exam begins on the next page.

MICROECONOMICS

SECTION I

Time—1 hour and 10 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 circle on the answer sheet.

1. Raheem is currently working as a financial analyst earning $75,000 a year and is considering quitting his current job to start an art gallery. The estimated annual revenue from the art gallery is $175,000. The annual cost of labor, advertising, and acquiring the art inventory is $125,000. What are Raheem's accounting and economic profits if he opens the art gallery?

   (A) Accounting profit is −$25,000, and economic profit is $50,000.

   (B) Accounting profit is $100,000, and economic profit is $50,000.

   (C) Accounting profit is $50,000, and economic profit is −$25,000.

   (D) Accounting profit is $100,000, and economic profit is −$25,000.

   (E) Accounting profit is $50,000, and economic profit is $100,000.

2. Suppose a firm's production process exhibits diseconomies of scale. How and why will costs change if the firm reduces its output?

   (A) Long-run average total cost will increase because it becomes more difficult for the firm to manage its workforce.

   (B) Long-run average fixed costs will increase because the firm produces fewer units of output.

   (C) Long-run average total cost will decrease because it becomes easier for the firm to manage its workforce.

   (D) Long-run average fixed costs will decrease because the firm produces fewer units of output.

   (E) Long-run average total cost will decrease because it becomes more difficult for the firm to manage its workforce.

3. What does the minimum efficient scale measure?

   (A) The smallest output level at which short-run average total cost is minimized.

   (B) The smallest output level at which short-run total cost is minimized.

   (C) The smallest output level at which long-run average total cost is minimized.

   (D) The largest output level at which long-run average total cost is minimized.

   (E) The largest output level at which long-run total cost is minimized.

4. If a binding minimum wage increases in a perfectly competitive labor market, then which of the following will likely occur in the labor market?

   (A) The supply of workers will increase.

   (B) The supply of workers will decrease.

   (C) The demand for workers will increase.

   (D) The demand for workers will decrease.

   (E) The quantity of workers supplied will increase.

5. Assume that the government imposes a binding price ceiling on a market for an inferior good. Which of the following is most likely to occur in the market if consumers' incomes increase?

   (A) The market demand will shift to the right.

   (B) The market supply will shift to the right.

   (C) The shortage in the market will decrease.

   (D) The surplus in the market will increase.

   (E) The market price will increase.

6. The table provided shows the number of labor hours required to produce a cell phone or a unit of lumber in Estonia and in Finland.

	Cell Phone	Unit of Lumber
Estonia	20 hours	5 hours
Finland	20 hours	4 hours

Based on the information in the table, which of the following is true?

(A) Estonia has a comparative advantage in producing lumber.

(B) Finland has a comparative advantage in producing cell phones.

(C) Finland has an absolute advantage in producing lumber.

(D) Estonia has both the absolute and comparative advantages in producing lumber.

(E) Neither country has a comparative advantage in producing cell phones

7. Which of the following will shift the demand curve for a factor of production to the left?

(A) A decrease in the price of the factor of production

(B) A decrease in the price of a substitute factor of production

(C) An increase in the price of the product produced by the factor

(D) An increase in the marginal product of the factor

(E) An improvement in technology used by the factor of production

8. Suppose the market for health-care workers is perfectly competitive. Which of the following will happen in the market for health-care workers in the short run if the demand for health care increases?

(A) The supply curve of health-care workers will shift to the right.

(B) The supply curve of health-care workers will shift to the left

(C) The demand curve for health-care workers will shift to the right.

(D) The demand curve for health-care workers will shift to the left.

(E) Neither the demand curve nor the supply curve of health-care workers will shift.

9. If the supply of fish increases, there will be

(A) an increase in the demand for chicken, a substitute good

(B) an increase in the demand for fish

(C) an increase in the price of fish tacos

(D) a decrease in the price of fish

(E) a decrease in the supply of potatoes, a complementary good

10. What will happen to the price and quantity of footballs as a result of an increase in the price of leather used to make footballs?

(A) Price will increase, and quantity will increase.

(B) Price will increase, and quantity will decrease.

(C) Price will decrease, and quantity will increase.

(D) Price will decrease, and quantity will decrease.

(E) Price will not change, and quantity will not change.

11. Suppose hot dogs and hamburgers are substitutes in consumption. If the supply of hot dogs decreases, which of the following will happen in the market for hamburgers?

    (A) The supply curve for hamburgers will shift to the right.

    (B) The supply curve for hamburgers will shift to the left.

    (C) The demand curve for hamburgers will shift to the right.

    (D) The demand curve for hamburgers will shift to the left.

    (E) Both the demand curve and supply curve for hamburgers will shift to the left.

12. Mary manages a manufacturing plant. Two inputs are used to produce the product. To minimize the costs of production, Mary should continue to hire inputs up to the level at which the

    (A) price of each input is equal

    (B) marginal product of each input is equal

    (C) (marginal product $\times$ price) of each input is equal

    (D) (marginal product $\div$ price) of each input is equal

    (E) (marginal product $-$ price) of each input is equal

13. Pickleco, a pickle-producing firm, hires labor and capital in perfectly competitive factor markets. The firm is minimizing its costs at the current production level. The marginal product of labor is 100 units and the marginal product of capital is 60 units. If the rental price of capital is \$12, what is the wage Pickleco is paying its workers?

    (A) \$5.00

    (B) \$8.33

    (C) \$12.00

    (D) \$20.00

    (E) \$40.00

14. At a given quantity of output of a firm, if the marginal product of capital equals the marginal product of labor and the wage rate equals the rental rate of capital, then

    (A) the firm is producing that quantity at the lowest cost

    (B) the firm should use more capital and less labor to minimize cost

    (C) the firm should use less capital and more labor to minimize cost

    (D) the firm should use more of both inputs to increase quantity

    (E) the firm should use less of both inputs to increase quantity

Hours at the library	Total Benefit	Total Cost
1	12	10
2	20	13
3	26	18
4	31	25
5	33	33
6	35	42

15. The table provided shows the total benefits and costs of studying at the library. If the student is rational, the optimal number of hours to spend at the library is

    (A) 2

    (B) 3

    (C) 4

    (D) 5

    (E) 6

16. In relation to tacos, the cross-price elasticity of demand for Good X is negative. What would be the result if the price of tacos increases?

    (A) There will be a movement up the demand curve for Good X because it is a complement to tacos.
    (B) There will be a movement down the demand curve for Good X because it is a complement to tacos.
    (C) The demand for Good X will increase because it is a substitute for tacos.
    (D) The demand for Good X will decrease because it is a complement to tacos.
    (E) The demand for Good X will increase because tacos and Good X are normal goods.

17. Which of the following is true for a perfectly competitive, decreasing-cost industry?

    (A) The price of inputs will decrease as the number of firms in the industry decreases.
    (B) The long-run market supply curve will be downward sloping.
    (C) Firms earn positive economic profit in the long run.
    (D) Firms do not have a shutdown condition.
    (E) There are no economies of scale.

18. A monopsonistic labor market has a

    (A) single employer of labor
    (B) horizontal labor supply curve
    (C) labor force of identically skilled workers
    (D) backward bending labor supply curve
    (E) demand curve for labor that is perfectly elastic

19. With capital held constant, when Zane employs one additional worker, the marginal product of labor decreases by 5 units. Which economic concept best characterizes Zane's production process?

    (A) Diminishing marginal returns
    (B) Increasing marginal returns
    (C) Constant returns to scale
    (D) Economies of scale
    (E) Diseconomies of scale

20. Downtown Tech Company and Uptown Tech Company compete in the gaming console market. Downtown Tech Company is deciding whether to charge a high price or a low price for its product. Uptown Tech Company is deciding whether to invest in research and development or advertising. Each company's profit depends on the actions taken by the other firm, which are listed in the payoff matrix provided. The first entry in the matrix is Downtown Tech Company's profit, and the second is Uptown Tech Company's profit. Each firm independently and simultaneously selects an action. Each firm knows all of the information about the payoffs associated with the strategies each firm can choose.

		Uptown Tech Company	
		Research and Development	Advertising
Downtown Tech Company	High Price	\$500, \$250	\$100, \$700
	Low Price	\$200, \$400	\$600, \$350

The Nash equilibrium to this game, if one exists, is which of the following?

(A) High Price, Research and Development

(B) Low Price, Advertising

(C) High Price, Advertising

(D) Low Price, Research and Development

(E) None of the strategy pairs represents a Nash equilibrium.

21. In a command economy, the quantity of computers produced would be determined by

(A) factory owners

(B) the government

(C) consumers and producers

(D) international trade

(E) the wealthy

22. If a firm experiences economies of scale over the entire range of output, the long-run average cost curve will be

(A) U-shaped

(B) upward sloping

(C) downward sloping

(D) horizontal

(E) below the marginal cost curve

23. Which of the following is always true about a negative externality?

(A) It can be corrected by the government subsidizing the good or activity that creates the externality.

(B) It results in a market output that is smaller than the socially optimal output.

(C) It results in a market output that is greater than the socially optimal output.

(D) It results in a larger deadweight loss than a positive externality does.

(E) It results in a smaller deadweight loss than a positive externality does.

24. Where on a graph of a production possibilities curve would a point showing that an economy is using its resources efficiently be located?

    (A) On the production possibilities curve
    (B) Inside the production possibilities curve
    (C) Beyond the production possibilities curve
    (D) On the y-axis and below the production possibilities curve
    (E) On the x-axis and below the production possibilities curve

25. If the imposition of a per-unit tax on a good reduces the total consumer surplus by more than the reduction of total producer surplus in a competitive market, then which of the following must be true?

    (A) The price sellers receive decreases by more than the amount of the tax.
    (B) The price buyers pay increases by more than the amount of the tax.
    (C) Demand is less elastic than supply.
    (D) Demand is more elastic than supply.
    (E) Demand and supply are both unit elastic.

26. A 10 percent increase in Sandra's income causes Sandra's consumption of milk to decrease from 10 cartons to 6 cartons. Sandra's income elasticity of demand for milk is

    (A) greater than zero and therefore milk is a necessity
    (B) greater than zero and therefore milk is a normal good
    (C) less than zero and therefore milk is a normal good
    (D) less than zero and therefore milk is an inferior good
    (E) greater than one and therefore milk is a necessity

27. Which of the following is NOT an effective way to manage the inefficiency resulting from a negative externality?

    (A) Government intervention in the form of obligatory controls
    (B) Per-unit taxes
    (C) Assignment of property rights
    (D) Lump-sum taxes
    (E) Private negotiations among affected parties

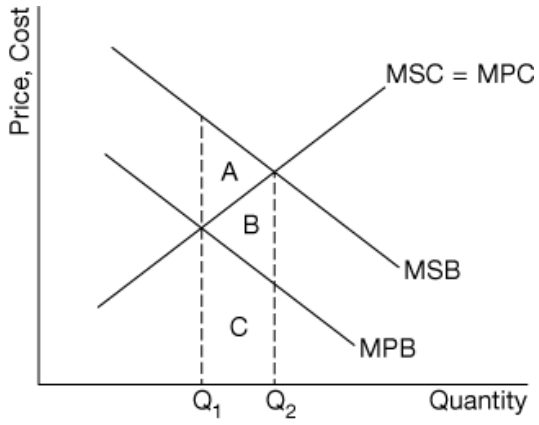
28. A firm's short-run production function uses capital and labor as inputs. Assume the quantity of capital is fixed in the short run. The marginal product of labor will decrease as more labor is used in the short run because each unit of labor will have

    (A) zero units of capital to work with
    (B) fewer units of capital to work with
    (C) an increase in the capital-to-labor ratio
    (D) more units of capital to work with
    (E) an infinite number of units of capital to work with

Price	Quantity Demanded (Units)	Quantity Supplied (Units)
\$1	500	100
\$2	400	200
\$3	300	300
\$4	200	400
\$5	100	500

29. The table provided shows the market demand and supply schedules for wheat. Which of the following is true?

    (A) At a price of \$1, there is excess supply of wheat and the price will decrease.
    (B) At a price of \$2, there is excess demand for wheat and the price will decrease.
    (C) At a price of \$3, there is excess demand for wheat and the price will increase.
    (D) At a price of \$4, there is excess supply of wheat and the price will decrease.
    (E) At a price of \$5, there is excess demand for wheat and the price will increase.



30. The diagram provided illustrates the marginal private benefit (MPB), marginal social benefit (MSB), marginal private cost (MPC), and marginal social cost (MSC) measured in dollars for a competitive market.
Assume that the goal of the government is to increase efficiency in the market. The cost of a government intervention that increases market output from Q_1 to Q_2 is \$1.2 million. The intervention will definitely improve market efficiency if the area of

    (A) A is greater than \$1.2 million

    (B) B is less than \$1.2 million

    (C) C is less than \$1.2 million

    (D) $A+B$ is greater than or equal to \$1.2 million

    (E) $B+C$ is greater than or equal to \$1.2 million

31. Assume that Larry spends his entire allowance on the purchase of pretzels and ice-cream cones. The price of a bag of pretzels is \$1, and the price of an ice-cream cone is \$2. At his current consumption combination, the marginal utility of pretzels is 20 and of ice-cream cones is 60. To maximize his utility, Larry should

    (A) buy more of both goods

    (B) buy less of both goods

    (C) buy more pretzels and fewer ice-cream cones

    (D) buy fewer pretzels and more ice-cream cones

    (E) maintain his current consumption level

32. As the quantity of a good increases, which of the following is true in the elastic region of a monopolist's demand curve?

    (A) Marginal revenue and total revenue are negative.

    (B) Marginal revenue is increasing, and total revenue is positive.

    (C) Marginal revenue is decreasing, and total revenue is negative.

    (D) Marginal revenue is positive, and total revenue is increasing.

    (E) Marginal revenue is negative, and average revenue is decreasing.

33. Which of the following is true of the marginal revenue curve for a monopolistically competitive firm?

    (A) It is the same as the demand curve because there are many firms in the market.

    (B) It is the same as the demand curve because marginal revenue is always equal to price.

    (C) It is upward sloping because total revenue increases as the quantity sold increases.

    (D) It lies below the demand curve because the firm must lower its price for all units in order to increase sales.

    (E) It lies below the demand curve because marginal revenue increases when price decreases.

34. Which of the following is true about price (P), marginal cost (MC), marginal revenue MR, and economic profit of a monopolistically competitive firm in long-run equilibrium?

    (A) P>MC; Marginal revenue is below demand; Economic profit is zero

    (B) P<MC; Marginal revenue is below demand; Economic profit is positive

    (C) P>MC; Marginal revenue is above demand; Economic profit is positive

    (D) P=MR=MC; Marginal revenue is equal to demand; Economic profit is zero

    (E) P=MR=MC; Marginal revenue is above demand; Economic profit is positive

35. A monopoly is producing the allocatively efficient output if, for the last unit produced,

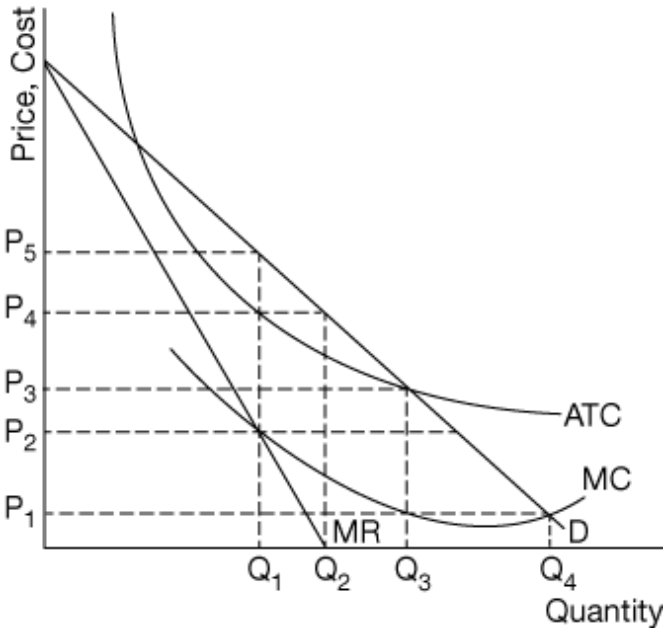
(A) price equals minimum average total cost
(B) price equals marginal cost
(C) marginal cost equals marginal revenue
(D) marginal cost equals average variable cost
(E) marginal revenue equals average variable cost

36. Which of the following is always true for a firm with monopsony power?

(A) The marginal revenue product curve is upward-sloping.
(B) The marginal revenue product curve lies above the input demand curve.
(C) The marginal factor cost curve lies above the input supply curve.
(D) The marginal factor cost curve lies above the input demand curve.
(E) The input demand curve lies above the marginal factor cost curve.

37. National defense is generally provided by the public sector for which of the following reasons?

(A) The opportunity cost of privately providing national defense is too high.
(B) The government always provides the socially optimal quantity.
(C) National defense is a natural monopoly.
(D) National defense is subject to negative externalities.
(E) The benefits of national defense are mostly nonrival and nonexcludable.



38. The graph provided shows the demand (D), marginal revenue (MR), marginal cost (MC), and average total cost (ATC) curves for a monopolist. If a regulatory agency requires that the monopolist set a price that earns the monopolist a normal profit, what price will the monopolist set?

(A) P_1
(B) P_2
(C) P_3
(D) P_4
(E) P_5

Combination	Houses	Grain (inbushels)
A	0	1,000,000
B	1	950,000
C	2	850,000
D	3	700,000
E	4	400,000
F	5	0

39. The table above shows six possible combinations of houses and grain that a country can produce in a year using all currently available resources and technology. The opportunity cost of changing production from combination B to combination C is

(A) 1 house

(B) 2 houses

(C) 100,000 bushels of grain

(D) 850,000 bushels of grain

(E) 950,000 bushels of grain

		Nature View	
		Bids High	Bids Low
Evergreen	Bids High	\$5, \$5	\$0, \$6
	Bids Low	\$6, \$0	\$3, \$3

40. Evergreen and Nature View are bidding for a landscaping contract. The payoff matrix provided shows what each firm's total weekly profit will be for each combination of bids. The first entry in each cell shows the profits of Evergreen, and the second entry shows the profits of Nature View. Evergreen and Nature View act independently and simultaneously, and each firm knows all the information about the payoffs associated with the strategies. Which of the following describes their dominant strategies?

(A) Evergreen does not have a dominant strategy. Nature View's dominant strategy is to bid high.

(B) Evergreen's dominant strategy is to bid high. Nature View does not have a dominant strategy.

(C) Evergreen's dominant strategy is to bid low. Nature View's dominant strategy is to bid high.

(D) Evergreen's dominant strategy is to bid high. Nature View's dominant strategy is to bid high.

(E) Evergreen's dominant strategy is to bid low. Nature View's dominant strategy is to bid low

41. In the short run, a firm in a perfectly competitive industry will definitely

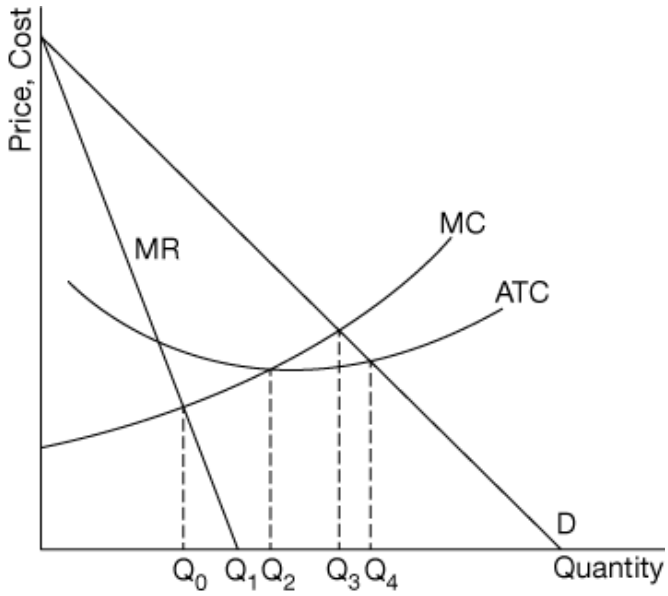
(A) shut down if total revenue is less than total variable cost

(B) produce the market equilibrium output to maximize profit

(C) earn zero economic profit

(D) cover all of its fixed costs

(E) charge a price lower than its competitors to increase its sales



42. The graph above shows the demand (D), marginal revenue (MR), marginal cost (MC), and average total cost (ATC) curves for a monopoly. Based on the information in the graph provided, what is the profit-maximizing quantity for a monopolist that engages in perfect price discrimination?

(A) Q_0

(B) Q_1

(C) Q_2

(D) Q_3

(E) Q_4

Price ($)	Quantity demanded
1	9
2	8
3	7
4	6
5	5
6	4
7	3
8	2
9	1

43. A profit-maximizing monopolist faces the market demand schedule provided and has a constant marginal cost of $5. If the monopolist engages in perfect price discrimination, its total revenue will equal which of the following?

(A) $10

(B) $15

(C) $25

(D) $35

(E) $45

44. Which of the following is NOT an example of physical capital?

(A) A delivery truck

(B) A warehouse

(C) Office furniture

(D) Machinery

(E) Land

45. If the absolute value of the price elasticity of demand for Good X is 0.5, then a 10 percent decrease in the price of Good X will result in which of the following?

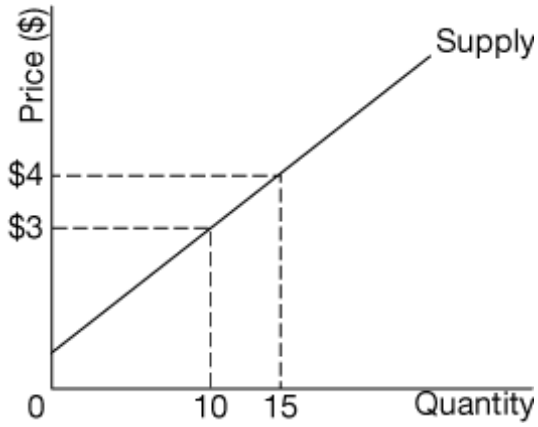
(A) A 5% decrease in the quantity demanded of Good X

(B) A 5% increase in the quantity demanded of Good X

(C) A 5% increase in revenues from the sale of Good X

(D) A 10%decrease in revenues from the sale of Good X

(E) A 10% increase in revenues from the sale of Good X



46. What is the price elasticity of supply between $3 and $4 in the graph above?

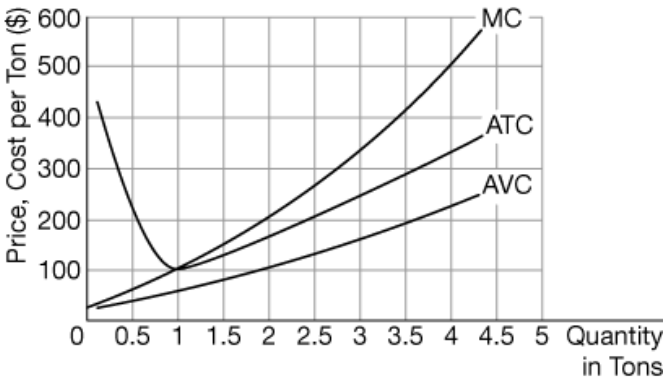
(A) It is greater than 1, and the supply is relatively inelastic

(B) It is greater than 1, and the supply is relatively elastic.

(C) It is equal to 1, and the supply is unit elastic.

(D) It is less than 1, and the supply is relatively elastic.

(E) It is less than 1, and the supply is relatively inelastic.



47. The graph above shows the marginal cost (MC), average total cost (ATC), and average variable cost (AVC) curves for a firm. If the market price is $100 per ton, the firm will maximize profits or minimize losses by doing which of the following?

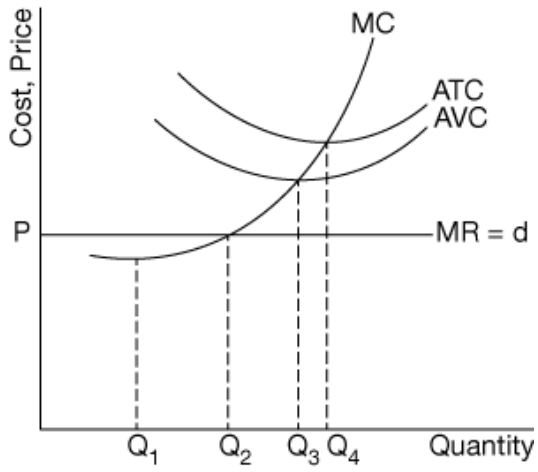
(A) Producing 0 tons and shutting down in the short run

(B) Producing 0 tons and exiting the market in the long run

(C) Producing 1 ton and earning zero economic profit

(D) Producing 1.5 tons and earning zero economic profit

(E) Producing 2 tons and earning zero economic profit

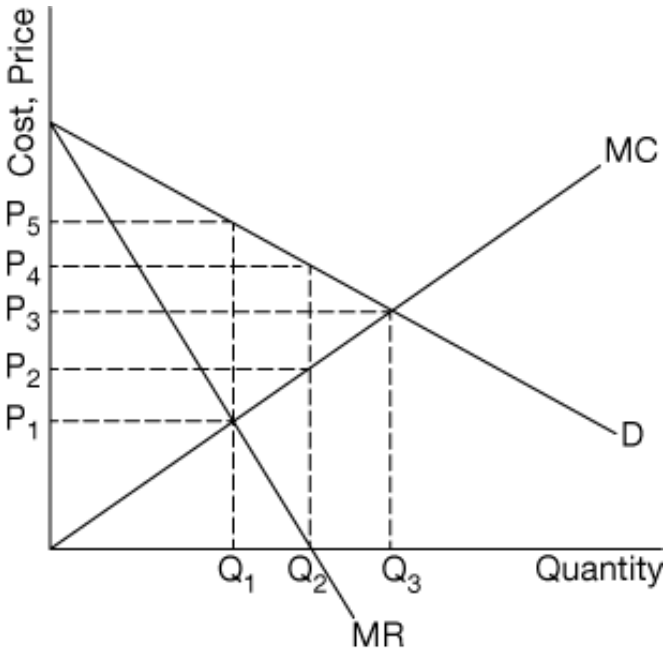


48. The graph provided shows the demand (d), marginal revenue (MR), marginal cost (MC), and average total cost (ATC) curves for a perfectly competitive firm. In order to maximize short-run profits, this perfectly competitive firm should produce at which of the following quantities of production?

    (A) Zero
    (B) Q_1
    (C) Q_2
    (D) Q_3
    (E) Q_4

49. A perfectly competitive firm finds that for the last shirt that it produces and sells, the marginal revenue is \$20 and the marginal cost is \$22. The firm should

    (A) charge \$22 to maximize profit
    (B) produce more shirts to increase profit
    (C) produce fewer shirts to increase profit
    (D) hire more workers to increase production
    (E) shut down if the average variable cost is less than \$20



50. Given the information in the graph provided, what is the monopolist's profit-maximizing quantity and price combination?

    (A) Q_1, P_1
    (B) Q_3, P_3
    (C) Q_2, P_2
    (D) Q_2, P_4
    (E) Q_1, P_5

51. Public goods are under produced in a competitive market because the free-rider problem causes

    (A) supply to be perfectly elastic
    (B) a price ceiling to become binding
    (C) consumers to not reveal their true demand
    (D) positive externalities to increase
    (E) demand to be perfectly inelastic

52. Which of the following will result in the short run if the government imposes a binding quota?

(A) A decrease in the price paid by consumers

(B) A rightward shift in the supply curve

(C) A leftward shift in the demand curve

(D) An increase in consumer surplus

(E) A deadweight loss

53. People must make choices among available options because people

(A) are irrational

(B) have limited wants

(C) have limited resources

(D) are not provided goods by the government

(E) do not receive positive benefits from consuming certain goods

Number of Workers	Number of Units of Capital	Total Products (Quantity)
0	5	0
1	5	1
2	5	3
3	5	7
4	5	10
5	5	12

54. Suppose labor and capital can be hired in a competitive market. The wage is \$15 per worker and the rental rate of capital is \$10 per unit. Based on the table, what are the average variable cost (AVC) and average total cost (ATC) of producing 10 units of output?

(A) AVC is \$5 and ATC is \$12

(B) AVC is \$6 and ATC is \$11

(C) AVC is \$15 and ATC is \$25

(D) AVC is \$60 and ATC is \$110

(E) AVC is \$105 and ATC is \$175

55. A perfectly competitive market produces the socially efficient level of output when the marginal social benefit of the last unit of output produced is

(A) equal to the marginal social cost

(B) less than the marginal social cost

(C) zero

(D) greater than the total producer surplus

(E) equal to the total producer surplus

56. According to the law of demand, which of the following occurs when the price of a good increases?

(A) The demand for the good decreases.

(B) The quantity demanded of a substitute good decreases.

(C) The quantity demanded of a complementary good increases.

(D) The quantity demanded of the good increases.

(E) The quantity demanded of the good decreases.

57. A short-run production function shows the relationship between a firm's inputs and the output it produces when the firm

(A) does not vary any of its inputs

(B) has at least one fixed input

(C) varies all of its inputs

(D) has constant marginal cost

(E) has no fixed costs

58. A market supply curve is more elastic in the long run than in the short run because

(A) producers' marginal costs are increasing

(B) the quantity demanded increases at a steady rate

(C) there are no fixed inputs in the long run

(D) of constant returns to scale in production

(E) of diseconomies of scale in production

59. A Lorenz curve can be used to

(A) show the historical pattern of production

(B) forecast production costs

(C) show inequality in the income distribution

(D) show economies and diseconomies of scale

(E) show the shape of the long-run supply curve

60. Josephine is buying candy and gum. If she is maximizing her utility for the combination of candy and gum she buys, which of the following must hold?

(A) Marginal utility of candy $\div$ price of candy $=$ marginal utility of gum $\div$ price of gum

(B) Total utility of candy $\div$ price of candy $=$ total utility of gum $\div$ price of gum

(C) Marginal utility of candy $\div$ total utility of candy $=$ marginal utility of gum $\div$ total utility of gum

(D) Marginal utility of candy $\times$ price of candy $=$ marginal utility of gum $\times$ price of gum

(E) Total utility of candy $\times$ price of candy $=$ total utility of gum $\times$ price of gum

STOP
END OF SECTION I

2 Section II

Section II begins on the next page.

MICROECONOMICS

SECTION II

Total Time—1 hour

Reading Period—10 minutes

Writing Period—50 minutes

3 Questions

Directions: : You are advised to spend the first 10 minutes reading all of the questions and planning your answers. You will then have 50 minutes to answer all three of the following questions. You may begin writing your responses before the reading period is over. **It is suggested that you spend approximately half your time on the first question and divide the remaining time equally between the next two questions.** Include correctly labeled diagrams, if useful or required, in explaining your answers. A correctly labeled diagram must have all axes and curves clearly labeled and must show directional changes. If the question prompts you to "Calculate," you must show how you arrived at your final answer. Use a pen with black or dark blue ink.

You may plan your answers in this orange booklet, but no credit will be given for anything written in this booklet. **You will only earn credit for what you write in the separate Free Response booklet.**

1. In the small country of Anconia, shoes are produced in a perfectly competitive industry. The equilibrium market price for shoes is $50 per pair. Anconia does not currently trade with other countries.

   (a) Draw a correctly labeled graph of the shoe market in Anconia and indicate the following.
      (i) he equilibrium price in Anconia, labeled $50
      (ii) The equilibrium quantity in Anconia, labeled Q_F

   (b) Now assume that Anconia opens its shoe market to international trade and starts trading shoes with other countries at the world price of $30 per pair.
      (i) On your graph in part (a), show each of the following for the shoe market in Anconia.
         - The world price of shoes, labeled $30
         - The quantity of shoes supplied by producers in Anconia, labeled Q_P
         - The total quantity of shoes purchased by domestic consumers in Anconia, labeled Q_C
      (ii) Using labels from your graph, identify the quantity of shoes imported by Anconia.
      (iii) Did consumers of shoes in Anconia benefit from opening up the shoe market to trade? Explain.
      (iv) On your graph in part (a), show the domestic producer surplus in Anconia with trade, shaded completely.

   (c) Now assume that the government of Anconia places a tariff on imported shoes. Relative to the free-trade outcomes in part (b), identify whether the following would increase, decrease, or remain the same as a result of the implementation of the tariff.
      (i) The price of shoes in Anconia
      (ii) The producer surplus of domestic shoe producers in Anconia

   (d) Explain why a government might prefer to impose a tariff rather than an import quota.

2. Suppose a good is produced in a perfectly competitive market. In this market the marginal social benefit (MSB) exceeds the marginal private benefit (MPB) at every quantity. The marginal social cost (MSC) equals the marginal private cost (MPC) at every quantity.

   (a) Draw a correctly labeled graph of the MSB, MPB, MSC, and MPC curves and show each of the following.
      (i) The market equilibrium quantity, labeled Q_M
      (ii) The socially optimal quantity, labeled Q_S
      (iii) The deadweight loss at the market equilibrium, shaded completely

   (b) Suppose the government is considering two proposals to make consumers internalize the consumption externality.
      - Proposal I: Imposing a binding price ceiling
      - Proposal II: Granting a per-unit subsidy to consumers

      (i) Compared to the market equilibrium in part (a), would the deadweight loss increase, decrease, or remain the same under Proposal I? Explain.
      (ii) Compared to the market equilibrium in part (a), would the quantity produced increase, decrease, or remain the same under Proposal II? Explain.

Number of Trips	Price per Trip ($)	Total Revenue ($)
1	30	30
2	28	56
3	26	78
4	24	96
5	22	110
6	20	120
7	18	126
8	16	128
9	14	126
10	12	120
11	10	110
12	8	96
13	6	78
14	4	56
15	2	30

3. Wrightway has a local monopoly on transportation services from Burginville's city center to its airport. Wrightway's average variable cost and marginal cost for each trip are constant at $8. Wrightway incurs a $20 cost each day regardless of the number of trips it provides. The table above shows the price per trip that Wrightway can charge for different numbers of trips provided in a day.

   (a) Calculate the profit-maximizing number of trips for Wrightway to provide each day. Show your work.

   (b) What is the allocatively efficient number of trips per day?

   (c) Suppose the Burginville City Council is considering two proposals to get Wrightway to reduce deadweight loss from the provision of rides.

   - Proposal I: Grant a $35 daily subsidy to Wrightway
   - Proposal II: Grant a $5 per trip subsidy to Wrightway

   (i) How many trips would Wrightway provide each day under Proposal I?

   (ii) How many trips would Wrightway provide each day under Proposal II?

   (iii) Which of the two proposals is preferable to the Burginville City Council? Explain.

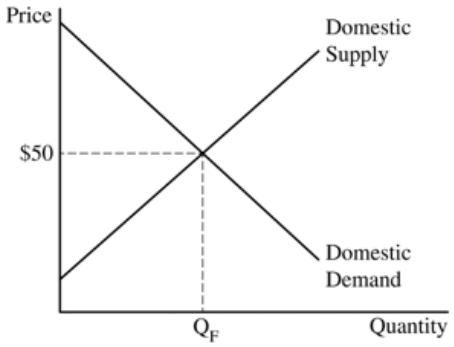
STOP
END OF EXAM

3 Answers for Multiple Choice Questions

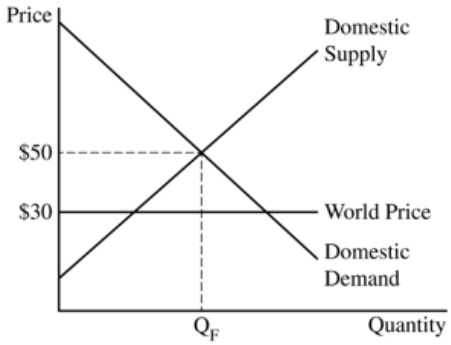
Question	Answer	Question	Answer	Question	Answer	Question	Answer
1	C	16	D	31	D	46	B
2	C	17	B	32	D	47	C
3	C	18	A	33	D	48	A
4	E	19	A	34	A	49	C
5	C	20	E	35	B	50	E
6	C	21	B	36	C	51	C
7	B	22	C	37	E	52	E
8	C	23	C	38	C	53	C
9	D	24	A	39	C	54	B
10	B	25	C	40	E	55	A
11	C	26	D	41	A	56	E
12	D	27	D	42	D	57	B
13	D	28	B	43	D	58	C
14	A	29	D	44	E	59	C
15	B	30	A	45	B	60	A

4 Scoring Guidelines: Free-Response Question 1

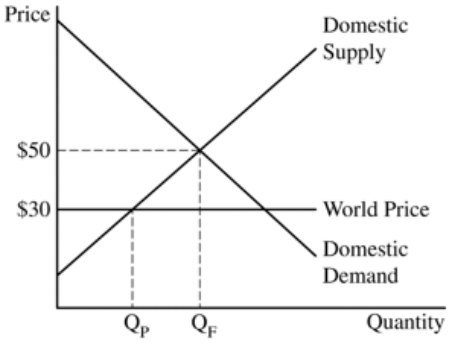
Part (a): 1 point
Draws a correctly labeled graph of the market for shoes in Anconia, with the equilibrium price labeled $50, and the equilibrium quantity labeled Q_F.



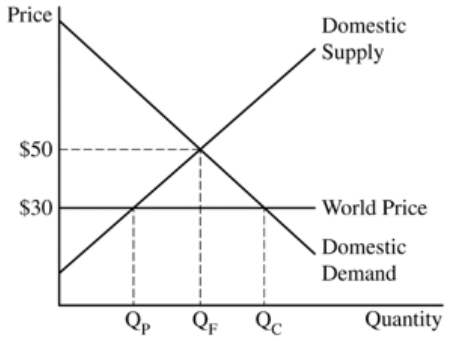
Part (b): 6 points
1 point: On the graph in part (a), shows the world price for shoes, labeled $30.



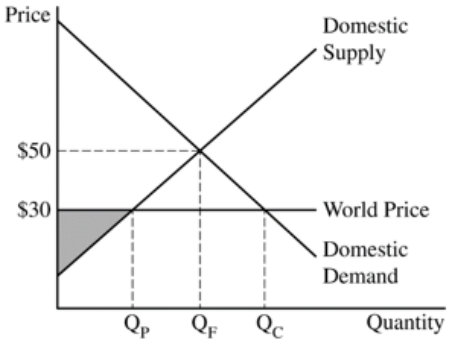
1 point: On the graph in part (a), shows the quantity of shoes supplied by domestic producers in Anconia, labeled Q_P.



1 point: On the graph in part (a), shows the total quantity of shoes purchased by domestic consumers in Anconia, labeled Q_C.



1 point: State that the quantity of shoes imported by Anconia is $QC-Q_P$.
1 point: State that yes, consumers of Anconia benefit from opening up the shoe market to trade and explains that the consumers will be able to buy more shoes at the lower world price.
1 point: On the graph in part (a), shows the area of domestic producer surplus, completely shaded.



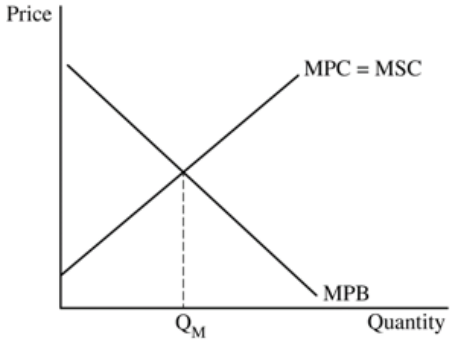
Part (c): 2 points
1 point: States that the price of shoes will increase.
1 point: States that the producer surplus of domestic shoe producers will increase.

Part (d): 1 point
1 point: Explains that tariffs increase government revenue more than quotas do.

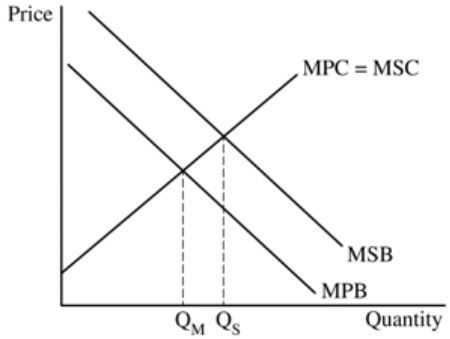
5 Scoring Guidelines: Free-Response Question 2

Part (a): 3 point

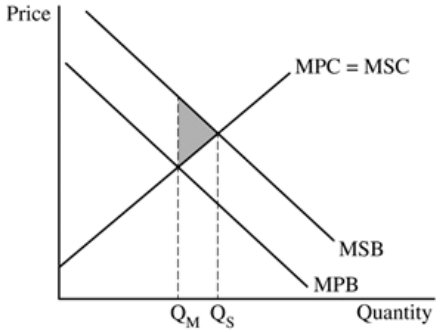
1 point: Draws a correctly labeled graph with an upward-sloping supply curve labeled MPC=MSC, a downward-sloping demand curve labeled MPB, and the market equilibrium quantity labeled Q_M.



1 point: Shows a downward sloping MSB curve that lies above the MPB curve at every quantity and the socially optimal quantity, labeled Q_S.



1 point: Shows the area of deadweight loss, fully shaded.



Part (b): 2 points

1 point: States that the deadweight loss will increase and explains that the price ceiling will cause the quantity to decrease, moving farther away from Q_S.

1 point: States that the quantity produced will increase and explains that the per-unit subsidy increases the MPB, or shifts the demand curve to the right, resulting in a higher equilibrium quantity produced.

6 Scoring Guidelines: Free-Response Question 3

Part (a): 1 point
Calculates the profit-maximizing number of trips as 6 trips and shows the work. The MR of 6 trips is \$10 (= \$120−\$110), which is greater than the MC of \$8; the MR of 7 trips is \$6 (= \$126−\$120), which is less than the MC of \$8.
OR
The total profit of 6 trips is \$52 [= TR−TC = \$120 − (\$20+(6×\$8)) = \$120 − \$68], which is greater than the total profit of 5 trips [= TR − TC = \$110 − (\$20+(5×\$8)) = \$110−\$60=\$50] and is greater than the total profit of 7 trips [=TR −TC = \$126−(\$20+(7×\$8)) = \$126− \$76 = \$50].

Part (b): 1 point
1 point: States that 12 is the allocatively efficient number of trips.

Part (c): 3 points
1 point: States that Wrightway would provide 6 trips.
1 point: States that Wrightway would provide 7 trips.
1 point: States that Proposal II is preferable and explains that the market quantity under Proposal II is closer to the socially efficient quantity with Proposal II (\$35) costing no more than Proposal I (\$5×7).