1. Award: 2.00 points

Suppose the production function is Q = min{K, 2L}. How much output is produced when 4 units of labor and 9 units of capital are employed?

- 2
- 4
- → 8
- 9

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 05-01 Explain alternative ways of measuring the productivity of inputs and the role of the manager in the production process.

2. Award: 2.00 points

Suppose the production function is given by Q = 3K + 4L. What is the average product of capital when 10 units of capital and 10 units of labor are employed?

- 3
- 4
- → 7
- 45

References

Multiple Choice | Difficulty: 01 Easy | Learning Objective: 05-01 Explain alternative ways of measuring the productivity of inputs and the role of the manager in the production process.

3. Award: 2.00 points

For the cost function $C(Q) = 100 + 2Q + 3Q^2$, the marginal cost of producing 2 units of output is:

- 2.
- 3.
- 12.
- → 14.

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 05-05 Calculate average and marginal costs from algebraic or tabular cost data and illustrate the relationship between average and marginal costs.

4. Award: 2.00 points

For the cost function $C(Q) = 100 + 2Q + 3Q^2$, the average fixed cost of producing 2 units of output is:

- 100.
- → 50.
- 3.
- 2.

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 05-05 Calculate average and marginal costs from algebraic or tabular cost data and illustrate the relationship between average and marginal costs.

5. Award: 2.00 points

If a firm's production function is Leontief and the wage rate goes up, the:

- firm must use more labor in order to minimize the cost of producing a given level of output.
- firm must use more capital in order to minimize the cost of producing a given level of output.
- firm must use less labor in order to minimize the cost of producing a given level of output.
- → cost minimizing combination of capital and labor does not change.

References

Multiple Choice | Difficulty: 03 Hard | Learning Objective: 05-01 Explain alternative ways of measuring the productivity of inputs and the role of the manager in the production process.

6. Award: 2.00 points

Which of the following statements is incorrect?

- Fixed costs do not vary with output.
- Sunk costs are those costs that are forever lost after they have been paid.
- → Fixed costs are always greater than sunk costs.
- Fixed costs could be positive when sunk costs are zero.

References

Multiple Choice | Difficulty: 03 Hard | Learning Objective: 05-04 Explain the difference between and the economic relevance of fixed costs; sunk costs; variable costs; and marginal costs.

7. Award: 2.00 points

The production function $Q = L^{.5}K^{.5}$ is called:

→ ○ Cobb Douglas.
○ Leontief.
○ linear.
○ None of the answers are correct.

References

Multiple Choice | Difficulty: 01 Easy | Learning Objective: 05-01 Explain alternative ways of measuring the productivity of inputs and the role of the manager in the production process.

8. Award: 2.00 points

The production function for a competitive firm is $Q = K^{.5}L^{.5}$. The firm sells its output at a price of $10, and can hire labor at a wage of $5. Capital is fixed at one unit. The profit-maximizing quantity of labor is:

○ 2/5.
→ ○ 1.
○ 10.
○ None of the answers are correct.

References

Multiple Choice | Difficulty: 03 Hard | Learning Objective: 05-02 Calculate input demand and the cost-minimizing combination of inputs and use isoquant analysis to illustrate optimal input substitution.

9. Award: 2.00 points

The recipe that defines the maximum amount of output that can be produced with K units of capital and L units of labor is the:

→ ○ production function.
○ technological constraint.
○ research and development schedule.
○ total product.

References

Multiple Choice | Difficulty: 01 Easy | Learning Objective: 05-01 Explain alternative ways of measuring the productivity of inputs and the role of the manager in the production process.

10. Award: 2.00 points

If the last unit of input increases total product, we know that the marginal product is:

→ ○ positive.
○ negative.
○ zero.
○ indeterminate.

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 05-01 Explain alternative ways of measuring the productivity of inputs and the role of the manager in the production process.

11. Award: 2.00 points

Total product begins to fall when:

○ marginal product is maximized.
○ average product is below zero.
○ average product is negative.
→ ○ marginal product is zero.

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 05-01 Explain alternative ways of measuring the productivity of inputs and the role of the manager in the production process.

12. Award: 2.00 points

What is the value marginal product of labor if: P = \$10, MP_L = \$25, and AP_L = 40?

○ \$10,000
○ \$1,000
○ \$400
→ ○ \$250

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 05-01 Explain alternative ways of measuring the productivity of inputs and the role of the manager in the production process.

13. Award: 2.00 points

The production function is $Q = K^{.6} L^{.4}$. The marginal rate of technical substitution is:

- $2/3\ K^{-1} L$.
- $K^{-1} L^{-1}$.
- → $2/3\ K L^{-1}$.
- $K^{.4} L^{-.6}$.

References

Multiple Choice | Difficulty: 03 Hard | Learning Objective: 05-01 Explain alternative ways of measuring the productivity of inputs and the role of the manager in the production process.

14. Award: 2.00 points

For the cost function $C(Q) = 200 + 3Q + 8Q^2 + 4Q^3$, what is the average fixed cost of producing six units of output?

- 18.31
- 212.61
- 42.12
- → 33.33

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 05-05 Calculate average and marginal costs from algebraic or tabular cost data and illustrate the relationship between average and marginal costs.

15. Award: 2.00 points

An isoquant defines the combination of inputs that yield the producer:

- higher levels of output than the desired level of output.
- lower levels of output than the desired level of output.
- → the same level of output.
- None of the statements is correct.

References

Multiple Choice | Difficulty: 01 Easy | Learning Objective: 05-02 Calculate input demand and the cost-minimizing combination of inputs and use isoquant analysis to illustrate optimal input substitution.

16. Award: 2.00 points

An isocost line:

- represents the combinations of w and K that cost the firm the same amount of money.
- → represents the combinations of K and L that cost the firm the same amount of money.
- represents the combinations of r and w that cost the firm the same amount of money.
- has a convex shape.

References

Multiple Choice | Difficulty: 01 Easy | Learning Objective: 05-03 Calculate a cost function from a production function and explain how economic costs differ from accounting costs.

17. Award: 2.00 points

Economies of scope exist when:

- $C(Q_1) + C(Q_2) < C(Q_1, Q_2)$.
- $C(Q_1) - C(Q_2) < C(Q_1, Q_2)$.
- → $C(Q_1) + C(Q_2) > C(Q_1, Q_2)$.
- $C(Q_1) - C(Q_2) > C(Q_1, Q_2)$.

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 05-07 Conclude whether a multiple-output production process exhibits economies of scope or cost complementarities and explain their significance for managerial decisions.

18. Award: 2.00 points

Cost complementarity exists in a multiproduct cost function when:

- the average cost of producing one output is reduced when the output of another product is increased.
- the average cost of producing one output is increased when the output of another product is increased.
- the marginal cost of producing one output is increased when the output of another product is decreased.
- → the marginal cost of producing one output is reduced when the output of another product is increased.

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 05-07 Conclude whether a multiple-output production process exhibits economies of scope or cost complementarities and explain their significance for managerial decisions.

19. Award: 2.00 points

Suppose the cost function is $C(Q) = 50 + Q - 10Q^2 + 2Q^3$. At 3 units of output, the marginal cost curve is:

→ ○ in the increasing stage.
○ in the declining stage.
○ at the minimum level.
○ at the maximum level.

References

Multiple Choice | Difficulty: 03 Hard | Learning Objective: 05-05 Calculate average and marginal costs from algebraic or tabular cost data and illustrate the relationship between average and marginal costs.

20. Award: 2.00 points

Suppose that production for good X is characterized by the following production function, $Q = 4K^{0.5}L^{0.5}$, where K is the fixed input in the short run. If the per-unit rental rate of capital, r, is $12 and the per-unit wage, w, is $20, then the average total cost of using 25 units of capital and 49 units of labor is:

○ $6.25.
→ ○ $9.14.
○ $10.07.
○ There is insufficient information to determine the average total costs.

References

Multiple Choice | Difficulty: 03 Hard | Learning Objective: 05-05 Calculate average and marginal costs from algebraic or tabular cost data and illustrate the relationship between average and marginal costs.

21. Award: 2.00 points

Which of the following forms of payment is NOT an incentive plan?

○ Commission plans for salesmen
→ ○ Flat salary for a plant manager
○ Bonuses for managers that increase as profits increase
○ None of the statements is correct.

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 06-05 Discuss three forces that owners can use to discipline managers.

22. Award: 2.00 points

An example of a job that usually involves a revenue-sharing plan would be:

- waiters and waitresses.
- car salesman.
- insurance agents.
- → All of the statements associated with this question are correct.

References

Multiple Choice	Difficulty: 01 Easy	Learning Objective: 06-07 Discuss four tools the manager can use to mitigate incentive problems in the workplace.

23. Award: 2.00 points

Solving the principal-agent problem ensures that the firm is operating:

- → on the production function.
- above the production function.
- below the production function.
- above the isoquant curve.

References

Multiple Choice	Difficulty: 02 Medium	Learning Objective: 06-04 Describe the principal-agent problem as it relates to owners and managers.

24. Award: 2.00 points

If a manager is not the owner, the manager:

- receives the full benefit of good decisions.
- bears the full cost of bad decisions.
- → does not receive the full benefit nor the full cost of his or her decisions.
- None of the statements is correct.

References

Multiple Choice	Difficulty: 01 Easy	Learning Objective: 06-04 Describe the principal-agent problem as it relates to owners and managers.

25. Award: 2.00 points

Spot markets are an INEFFICIENT way for the firm to purchase inputs if:

- opportunism is a problem.
- suppliers engage in hold-up.
- profit sharing is used to compensate managers.
- → opportunism is a problem and suppliers engage in hold-up.

References

Multiple Choice | Difficulty: 01 Easy | Learning Objective: 06-03 Explain the optimal manner of procuring different types of inputs.

26. Award: 2.00 points

Which of the following is NOT a transaction cost associated with using inputs?

- Time spent negotiating labor contracts with union workers
- Opportunity costs of negotiating the price of renting machines
- → Wages paid to labor
- Costs of searching for a new supplier of machines

References

Multiple Choice | Difficulty: 01 Easy | Learning Objective: 06-02 Identify four types of specialized investments; and explain how each can lead to costly bargaining; underinvestment; and/or a "hold-up problem."

27. Award: 2.00 points

The presence of substantial specialized investment relative to contracting costs suggests that the optimal input procurement method is:

- spot exchange.
- vertical integration.
- contract.
- → vertical integration or contract.

References

Multiple Choice | Difficulty: 01 Easy | Learning Objective: 06-03 Explain the optimal manner of procuring different types of inputs.

28. Award: 2.00 points

The causal view of an industry is that:

→ ○ market structure causes firms to behave in a certain way.
○ market performance causes firms to have a certain structure.
○ market performance causes firms to behave in a certain way.
○ behavior causes firms to have a certain structure.

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 07-04 Describe the structure-conduct-performance paradigm; the feedback critique; and their relation to the five forces framework.

29. Award: 2.00 points

According to the "feedback critique":

○ the conduct of firms in an industry may affect the firm's performance.
○ the conduct of firms in an industry may affect the market structure.
○ market structure may affect the firm's conduct.
→ ○ All of the statements associated with this question are correct.

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 07-04 Describe the structure-conduct-performance paradigm; the feedback critique; and their relation to the five forces framework.

30. Award: 2.00 points

The Dansby-Willig index measures the potential for a change in:

○ production cost.
○ firm's revenue.
○ firm's profit.
→ ○ social welfare.

References

Multiple Choice | Difficulty: 01 Easy | Learning Objective: 07-01 Calculate alternative measures of industry structure; conduct; and performance; and discuss their limitations.

31. Award: 2.00 points

The products in a monopolistically competitive industry are:

- homogeneous.
- → heterogeneous.
- competitive.
- uncompetitive.

References

Multiple Choice | Difficulty: 01 Easy | Learning Objective: 07-05 Identify whether an industry is best described as perfectly competitive; a monopoly; monopolistically competitive; or an oligopoly.

32. Award: 2.00 points

According to the U.S. Department of Justice Merger Guidelines, a Herfindahl-Hirschman index (HHI) above _____ is associated with a highly concentrated industry. Therefore, if the automobile industry had an HHI of 2,200, then a vertical merger between GM and one of its suppliers likely would be:

- 1,300 and rejected since the HHI is above the acceptable threshold
- 2,400 and approved since the HHI is below the acceptable threshold
- 1,800 and rejected since the HHI is above the acceptable threshold
- → None of the answers are correct

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 07-03 Explain the relevance of the Herfindahl-Hirschman index for antitrust policy under the horizontal merger guidelines.

33. Award: 2.00 points

The industry elasticity of demand for good Y is −3, while the elasticity of demand for an individual manufacturer of good Y is −12. Based on the Rothschild approach to measuring market power, we conclude that:

- 1/4, indicating there is significant monopoly power in this industry.
- → 1/4, indicating there is little monopoly power in this industry.
- 4, indicating there is little monopoly power in this industry.
- None of the answers are correct.

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 07-01 Calculate alternative measures of industry structure; conduct; and performance; and discuss their limitations.

34. Award: 2.00 points

Advertising is an aspect of a firm's:

- performance.
- structure.
- environment.
- → conduct.

References

Multiple Choice | Difficulty: 01 Easy | Learning Objective: 07-01 Calculate alternative measures of industry structure; conduct; and performance; and discuss their limitations.

35. Award: 2.00 points

There are five firms in an industry. You know sales of the four largest firms are $1,000,000, $500,000, $400,000, and $178,000. If the C_4 ratio is 95 percent, then the HHI is:

- 1,810.
- 2,755.
- → 3,038.
- 5,017.

References

Multiple Choice | Difficulty: 03 Hard | Learning Objective: 07-01 Calculate alternative measures of industry structure; conduct; and performance; and discuss their limitations.

36. Award: 2.00 points

You are the manager of a firm that sells its product in a competitive market at a price of $50. Your firm's cost function is $C = 40 + 5Q^2$. Your firm's maximum profits are:

- 125.
- 250.
- 100.
- → 85.

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 08-03 Apply the marginal principle to determine the profit-maximizing price and output.

37. Award: 2.00 points

You are the manager of a monopoly that faces a demand curve described by P = 85 − 5Q. Your costs are C = 20 + 5Q. The profit-maximizing output for your firm is:

- 6.
- 5.
- 7.
- → 8.

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 08-03 Apply the marginal principle to determine the profit-maximizing price and output.

38. Award: 2.00 points

You are the manager of a monopoly that faces a demand curve described by P = 63 − 5Q. Your costs are C = 10 + 3Q. The profit-maximizing price is:

- 20.
- 27.
- → 33.
- 55.

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 08-03 Apply the marginal principle to determine the profit-maximizing price and output.

39. Award: 2.00 points

If a monopolistically competitive firm's marginal cost increases, then in order to maximize profits, the firm will:

- → reduce output and increase price.
- increase output and decrease price.
- increase both output and price.
- reduce both output and price.

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 08-03 Apply the marginal principle to determine the profit-maximizing price and output.

40. Award: 2.00 points

The primary difference between monopolistic competition and perfect competition is:

- the ease of entry and exit into the industry.
- the number of firms in the market.
- Both the ease of entry and exit into the industry and the number of firms in the market are correct.
- → None of the answers is correct.

References

Multiple Choice | Difficulty: 01 Easy | Learning Objective: 08-01 Identify the conditions under which a firm operates as perfectly competitive; monopolistically competitive; or a monopoly.

41. Award: 2.00 points

Which of the following industries is best characterized as monopolistically competitive?

- → Toothpaste
- Crude oil
- Agriculture
- Local telephone service

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 08-01 Identify the conditions under which a firm operates as perfectly competitive; monopolistically competitive; or a monopoly.

42. Award: 2.00 points

A firm has a total cost function of $C(Q) = 50 + 10Q^{1/2}$. The firm experiences:

- → economies of scale.
- constant returns to scale.
- diseconomies of scale.
- All of the statements associated with this question are correct, depending on the quantity.

References

Multiple Choice | Difficulty: 03 Hard | Learning Objective: 08-02 Identify sources of (and strategies for obtaining) monopoly power.

43. Award: 2.00 points

"Monopolistic competition is literally a kind of competition. Hence, there is no deadweight loss in a monopolistically competitive market."

- The statement is by definition correct but empirically incorrect.
- The statement is correct.
- → The statement is incorrect.
- None of the answers is correct.

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 08-05 Explain how long-run adjustments impact perfectly competitive; monopoly; and monopolistically competitive firms; discuss the ramifications of each of these market structures on social welfare.

44. Award: 2.00 points

You are the manager of a firm that produces output in two plants. The demand for your firm's product is $P = 20 - Q$, where $Q = Q_1 + Q_2$. The marginal costs associated with producing in the two plants are $MC_1 = 2$ and $MC_2 = 2Q_2$. How much output should be produced in plant 1 in order to maximize profits?

- 1
- 4
- → 8
- 11

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 08-08 Calculate the optimal output of a firm that operates two plants and the optimal level of advertising for a firm that enjoys market power.

45. Award: 2.00 points

Consider a monopoly where the inverse demand for its product is given by $P = 50 - 2Q$. Total costs for this monopolist are estimated to be $C(Q) = 100 + 2Q + Q^2$. At the profit-maximizing combination of output and price, deadweight loss is:

- → $32.
- $64.
- $128.
- cannot be determined with the given information.

References

Multiple Choice | Difficulty: 03 Hard | Learning Objective: 08-05 Explain how long-run adjustments impact perfectly competitive; monopoly; and monopolistically competitive firms; discuss the ramifications of each of these market structures on social welfare.

46. Award: 2.00 points

Consider firms operating in an industry where the own price elasticity of demand is infinite; that is, $E_{Q,P} = -\infty$. Use this information to determine the type of industry in which these firms operate and the optimal advertising-to-sales ratio.

→ ○ Perfectly competitive industry and 0

○ Monopolistically competitive industry and ∞

○ Perfectly competitive industry and ∞

○ Monopolistic industry and 0

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 08-08 Calculate the optimal output of a firm that operates two plants and the optimal level of advertising for a firm that enjoys market power.

47. Award: 2.00 points

The second-order condition for a firm maximizing its profit operating in a monopolistically competitive market is:

○ $-(d^2C(Q)/dQ^2) < 0$.

→ ○ $(d^2R(Q)/dQ^2) - (d^2C(Q)/dQ^2) < 0$.

○ $(d^2R(Q)/dQ^2) = (d^2C(Q)/dQ^2)$.

○ $(dMR/dQ) > (dMC/dQ)$.

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 08-03 Apply the marginal principle to determine the profit-maximizing price and output.

48. Award: 2.00 points

The first-order conditions for profit maximization in a perfectly competitive market are:

→ ○ $P - (dC(Q)/dQ) = 0$.

○ $(dR(Q)/dQ) - (d^2C(Q)/dQ^2) < 0$.

○ $P - (d^2C(Q)/dQ^2) = 0$.

○ $P > (dC(Q)/dQ)$.

References

Multiple Choice | Difficulty: 02 Medium | Learning Objective: 08-03 Apply the marginal principle to determine the profit-maximizing price and output.

49. Award: 2.00 points

In a competitive industry with identical firms, long-run equilibrium is characterized by:

- P > min ATC.
- P < AVC.
- → MR = MC = min ATC.
- MR < P.

References

Multiple Choice | Difficulty: 01 Easy | Learning Objective: 08-05 Explain how long-run adjustments impact perfectly competitive; monopoly; and monopolistically competitive firms; discuss the ramifications of each of these market structures on social welfare.

50. Award: 2.00 points

Clark Industries currently spends 5 percent of its sales on advertising. Suppose that the elasticity of advertising for Clark is 0.25. Determine the optimal profit margin over price (P − MC)/P.

- 15 percent.
- → 20 percent.
- 25 percent.
- None of the answers is correct.

References

Multiple Choice | Difficulty: 03 Hard | Learning Objective: 08-08 Calculate the optimal output of a firm that operates two plants and the optimal level of advertising for a firm that enjoys market power.