

Chapter 1:
Operations Management

True/False

1. Operations management is only concerned with the day-to-day operations of a firm's productive systems.

Ans: False, LO: 1, Bloom: K, Difficulty: Easy, AACSB: None

2. A warehouse operation is an example of a physical transformation process.

Ans: False, LO: 1, Bloom: K, Difficulty: Easy, AACSB: None

3. A supply chain is a series of activities from supplier to customer that adds value to a product or service.

Ans: True, LO: 1, Bloom: K, Difficulty: Moderate, AACSB: None

4. Human resources management provides product demand estimates that are used in production decisions.

Ans: False, LO: 1, Bloom: K, Difficulty: Moderate, AACSB: None

5. A retail operation is an example of an exchange transformation process.

Ans: True, LO: 1, Bloom: K, Difficulty: Easy, AACSB: None

6. Which of the following is a functional areas of operations management?

- a. information technology
- b. legal
- c. compliance
- d. human resources

Ans: False, LO: 1, Bloom: C, Difficulty: Easy, AACSB: None

7. Operations management designs, operates, and improves marketing systems.

Ans: False, LO: 1, Bloom: K, Difficulty: Easy, AACSB: None

8. An operations manager benefits from an integrated view of business organizations.

Ans: True, LO: 1, Bloom: K, Difficulty: Easy, AACSB: None

9. The systematic analysis of work methods is known as operations research.

Ans: False, LO: 2, Bloom: K, Difficulty: Easy, AACSB: None

10. Which of the following best fits the definition of lean production?

- a. a system that prizes efficiency and quantity
- b. a system that prizes efficiency and quality
- c. a system that prizes flexibility and quantity
- d. a system that prizes flexibility and quality

Ans: D, LO: 2, Bloom: K, Difficulty: Easy, AACSB: None

11. The adaptation of mass production to emphasize quality and flexibility, rather than efficiency, is known as lean production.

Ans: True, LO: 2, Bloom: K, Difficulty: Moderate, AACSB: None

12. Because of a global recession in the late 2000s ,companies started focusing on the most critical factors to sustain their business during the downturn.

Ans: True, LO: 2, Bloom: K, Difficulty: Moderate, AACSB: None

13. Sustainability is concerned with the following

- a. profits
- b. global supply chains
- c. sustain the health of people in the long term
- d. increasing market share

Ans: C, LO: 2, Bloom: K, Difficulty: Moderate, AACSB: None

14. An effective strategic positioning strategy considers all of the following except

- a. strengths and weaknesses of the organization
- b. needs of the marketplace
- c. the strategic management team
- d. positions of competitors

Ans: True, LO: 2, Bloom: K, Difficulty: Moderate, AACSB: None

15. Globalization requires that firms compete only on cost and not quality, speed or flexibility.

Ans: False, LO: 3, Bloom: K, Difficulty: Moderate, AACSB: None

16. Companies pursue globalization for all of the following reasons except

- a. gain access to global markets
- b. increase shipping costs
- c. be more responsive to changes in demand
- d. build reliable sources of supply

Ans: C, LO: 3, Bloom: C, Difficulty: Moderate, AACSB: None

17. The European Union requires that strict quality and environmental standards be met before companies can do business with member countries.

Ans: True, LO: 3, Bloom: K, Difficulty: Moderate, AACSB: None

18. A major challenge and opportunity for many firms is the globalization of the supply chain.

Ans: True, LO: 3, Bloom: K, Difficulty: Easy, AACSB: None

19. Globalization has affected manufacturing but not service operations.

Ans: False, LO: 3, Bloom: K, Difficulty: Easy, AACSB: None

20. Two-thirds of today's businesses operate globally.

Ans: True, LO: 3, Bloom: K, Difficulty: Moderate, AACSB: None

21. In 2010, the US surpassed China as the world's largest manufacturer.

Ans: False, LO: 2, Bloom: K, Difficulty: Moderate, AACSB: None

22. China has reshaped the way firms compete globally.

Ans: True, LO: 3, Bloom: K, Difficulty: Easy, AACSB: None

23. Increases in productivity enable a nation to raise its standard of living.

Ans: True, LO: 4, Bloom: K, Difficulty: Easy, AACSB: None

24. What is the most common measure of competitiveness?

- a. GDP
- b. wage rates
- c. productivity
- d. manufacturing output

Ans: True, LO: 4, Bloom: K, Difficulty: Easy, AACSB: None

25. Multifactor productivity is best defined as

- a. a single output and a single input
- b. multiple outputs and a single input

- c. a single output and multiple inputs
- d. multiple outputs and multiple inputs

Ans: C, LO: 4, Bloom: C, Difficulty: Moderate, AACSB: None

26. Deployment is a step in strategy formulation that evaluates the alignment between core competencies and order winners.

Ans: False, LO: 5, Bloom: K, Difficulty: Easy, AACSB: None

27. Positioning is a step in strategy formulation that defines how firms will compete in the marketplace.

Ans: True, LO: 5, Bloom: K, Difficulty: Moderate, AACSB: None

28. Which of the following best describes order qualifier?

- a. the lowest cost product
- b. the product with the most features
- c. the features that make an item considered for purchase
- d. the features that wins orders in the marketplace

Ans: C, LO: 5, Bloom: K, Difficulty: Easy, AACSB: None

29. An order qualifier is the characteristic of a product that wins orders in the marketplace.

Ans: False, LO: 5, Bloom: K, Difficulty: Easy, AACSB: None

30. Core competencies tend to be processes and not products or technologies.

Ans: True, LO: 5, Bloom: K, Difficulty: Easy, AACSB: None

31. Which of the following is the first step in strategy formulation?

- a. defining a primary task
- b. assessing core competencies
- c. determining order winners and order qualifiers
- d. positioning the firm

Ans: A, LO: 5, Bloom: K, Difficulty: Easy, AACSB: None

32. Identify the option below that is associated with strategy deployment

- a. unveiling strategies with fanfare

- b. creating plans that are more than 5 years in the future
- c. converting the firm's order winners and qualifiers into specific performance requirements
- d. developing plans that have a variety of meanings to different departments and functional areas

Ans: C, LO: 6, Bloom: C, Difficulty: Moderate, AACSB: None

33. Companies that compete on innovation establish a corporate culture that does the following except

- a. discourages risk taking
- b. challenges the status quo
- c. accepts failure as part of the learning process
- d. celebrates success

Ans: A, LO: 5, Bloom: K, Difficulty: Moderate, AACSB: None

34. Firms compete in the marketplace based on cost, speed, quality and flexibility.

Ans: True, LO: 5, Bloom: K, Difficulty: Easy, AACSB: None

Multiple Choice

35. Operations management is concerned with the _____ of a firm's productive systems.

- a. design
- b. operation
- c. improvement
- d. All of these answer choices are correct.

Ans: D, LO: 1, Bloom: K, Difficulty: Easy, AACSB: None

36. The transformation process associated with health care is best described as

- a. locational
- b. exchange
- c. physiological
- d. informational

Ans: C, LO: 1, Bloom: K, Difficulty: Easy, AACSB: None

37. Which of the following is not one of the four primary functional areas of a firm?

- a. human resources
- b. legal
- c. marketing

d. operations

Ans: B, LO: 1, Bloom: K, Difficulty: Easy, AACSB: None

38. All of the following are responsibilities of operations managers except

- a. acquiring financial resources
- b. managing inventories
- c. planning production
- d. scheduling production

Ans: A, LO: 1, Bloom: K, Difficulty: Easy, AACSB: None

39. Which of the following is not an event or concept associated with the quality revolution?

- a. TQM (total quality management)
- b. Internet
- c. Six Sigma
- d. JIT

Ans: B, LO: 2, Bloom: K, Difficulty: Moderate, AACSB: None

40. Linear programming, waiting line, simulation, and PERT/CPM are all elements of which era of operations and supply chain management?

- a) Quality Research
- b) Operations Research
- c) Internet Revolution
- d) Globalization

Ans: B, LO: 2, Bloom: K, Difficulty: Moderate, AACSB: None

41. Dividing a job into a series of small tasks, each performed by a different worker, is known as

- a. craft production
- b. scientific management
- c. division of labor
- d. interchangeable parts

Ans: C, LO: 2, Bloom: K, Difficulty: Moderate, AACSB: None

42. The most recent era in the evolution of operations and supply chain management is

- a. Internet Revolution
- b. Sustainability
- c. Globalization
- d. Quality Revolution

Ans: B, LO: 2, Bloom: K, Difficulty: Moderate, AACSB: None

43. Sustainability, in its broadest sense, include(s)

- a. using resources wisely.
- b. treating workers with respect.
- c. establishing a business model of shared values.
- d. All of these answer choices are correct.

Ans: D, LO: 2, Bloom: K, Difficulty: Moderate, AACSB: None

44. Mass production is well suited to all of the following **except**

- a. producing large volumes of goods quickly.
- b. adapting quickly to changes in market demand.
- c. producing standardized products for a large market.
- d. All of these answer choices are correct.

Ans: B, LO: 2, Bloom: K, Difficulty: Easy, AACSB: None

45. The major factors impacting globalization of the supply chain include all the following except

- a. falling trade barriers.
- b. the Internet.
- c. declining union membership.
- d. All these answer choices are correct.

Ans: C, LO: 3, Bloom: K, Difficulty: Hard, AACSB: None

46. Companies go global to

- a. take advantage of favorable costs.
- b. keep abreast of trends and access new technologies.
- c. build reliable sources of supply.
- d. All of these answer choices are correct.

Ans: D, LO: 3, Bloom: K, Difficulty: Moderate, AACSB: None

47. A manager of a global supply chain is concerned with all the following **except**

- a. timeliness.
- b. quality.
- c. social issues.
- d. All of these answer choices are correct.

Ans: D, LO: 3, Bloom: K, Difficulty: Moderate, AACSB: None

48. The ratio of a firm's monthly output to the number of labor hours used in the same month would be a measure of

- a. labor productivity.

- b. capital productivity.
- c. machine productivity.
- d. multifactor productivity.

Ans: A, LO: 4, Bloom: K, Difficulty: Moderate, AACSB: None

49. The production system that prizes flexibility and quality over efficiency and quantity is known as

- a. mass production.
- b. craft production.
- c. lean production.
- d. electronic commerce.

Ans: C, LO: 4, Bloom: K, Difficulty: Moderate, AACSB: None

50. Telco Inc., a manufacturing firm, is calculating its monthly productivity report. From the following data calculate the labor productivity.

Labor rate	\$20
Machine rate	\$15
Units produced	50,000
Labor hours	4,000
Machine hours	2,000
Cost of materials	\$20,000
Cost of energy	\$5,000

- a. 0.370
- b. 0.625
- c. 1.500
- d. 1.667

Ans: B, LO: 4, Bloom: K, Difficulty: Easy, AACSB: None

Solution: Labor productivity=50,000/80,000=0.625

51. Telco Inc., a manufacturing firm, is calculating its monthly productivity report. From the following data calculate the machine productivity.

Labor rate	\$20
Machine rate	\$15
Units produced	50,000
Labor hours	4,000
Machine hours	2,000
Cost of materials	\$20,000
Cost of energy	\$5,000

- a. 0.370
- b. 0.625
- c. 1.500
- d. 1.667

Ans: D, LO: 4, Bloom: K, Difficulty: Easy, AACSB: None

Solution: Machine productivity=50,000/30000=1.667

52. Telco Inc., a manufacturing firm, is calculating its monthly productivity report. From the following raw data calculate the multifactor productivity.

Labor rate	\$20
Machine rate	\$15
Units produced	50,000
Labor hours	4,000
Machine hours	2,000
Cost of materials	\$20,000
Cost of energy	\$5,000

- a. 0.370
- b. 0.625
- c. 1.500
- d. 1.667

Ans: A, LO: 4, Bloom: K, Difficulty: Easy, AACSB: None

Multi-factor productivity=50,000/135,000=0.370

53. Snacknow, a food service firm, is calculating its monthly productivity report. From the following raw data calculate the labor productivity.

Labor rate	\$10
Units produced	10,000
Labor hours	1,000
Cost of materials	\$2000
Cost of energy	\$500

- a. 0.220
- b. 0.476
- c. 0.800
- d. 1.000

Ans: D, LO: 4, Bloom: K, Difficulty: Easy, AACSB: None

Solution: Labor productivity=10,000/10,000=1.000

54. Snacknow, a food service firm, is calculating its monthly productivity report. From the following data calculate the energy productivity.

Labor rate	\$10
Units produced	10,000
Labor hours	1,000
Cost of materials	\$2000
Cost of energy	\$500

- a. 0.220
- b. 2
- c. 10
- d. 20

Ans: D, LO: 4, Bloom: K, Difficulty: Easy, AACSB: None

Energy productivity=10,000/500=20

55. Snacknow, a food service firm, is calculating its monthly productivity report. From the following data calculate the multifactor productivity.

Labor rate	\$20
Units produced	10,000
Labor hours	1,000
Cost of materials	\$2000
Cost of energy	\$500

- a. 0.220
- b. 0.476
- c. 0.800
- d. 1.000

Ans: C, LO: 4, Bloom: K, Difficulty: Easy, AACSB: None

Multi-factor productivity = $10,000 / 12,500 = 0.800$

56. _____ is how the mission of a firm is accomplished.

- a. Strategy
- b. Design
- c. An operational decision
- d. None of these answer choices is correct.

Ans: A, LO: 5, Bloom: K, Difficulty: Easy, AACSB: None

57. _____ represents what the firm is in the business of doing.

- a. Primary task
- b. Core competency
- c. Positioning
- d. Deploying

Ans: A, LO: 5, Bloom: K, Difficulty: Easy, AACSB: None

58. _____ is what the firm does better than anyone else.

- a. Primary task
- b. Core competency
- c. Positioning
- d. Deploying

Ans: B, LO: 5, Bloom: K, Difficulty: Easy, AACSB: None

59. _____ are the characteristics of a product that qualify it to be considered for purchase by a customer.

- a. Order winners
- b. Order qualifiers
- c. Core competency
- d. Positioning

Ans: B, LO: 5, Bloom: K, Difficulty: Easy, AACSB: None

60. _____ is the characteristic of a product that wins the order in the marketplace.

- a. Order winners
- b. Order qualifiers
- c. Core competency
- d. Positioning

Ans: A, LO: 5, Bloom: K, Difficulty: Easy, AACSB: None

61. _____ focus(es) the organization on common goals that can be translated into measurable objectives.

- a. Order winners
- b. Core competency
- c. Positioning
- d. Deploying the strategy

Ans: D, LO: 5, Bloom: K, Difficulty: Easy, AACSB: None

62. Companies that compete on _____ are able to produce a wide variety of products in response to customer needs.

- a. cost
- b. speed
- c. flexibility
- d. quality

Ans: C, LO: 5, Bloom: K, Difficulty: Easy, AACSB: None

63. Companies that compete on _____ pursue the elimination of all waste.

- a. cost
- b. speed
- c. flexibility
- d. quality

Ans: D, LO: 5, Bloom: K, Difficulty: Easy, AACSB: None

64. Companies that compete on _____ recognize the advantages of time-based competition.

- a. cost
- b. speed
- c. flexibility
- d. quality

Ans: B, LO: 4, Bloom: K, Difficulty: Easy, AACSB: None

65. Companies that compete on _____ focus on pleasing customers and satisfying their expectations.

- a. cost

- b. speed
- c. flexibility
- d. quality

Ans: D, LO: 5, Bloom: K, Difficulty: Easy, AACSB: None

66. The balanced scorecard examines a firm's performance in all the following critical areas **except**

- a. finances
- b. customers
- c. processes
- d. All of these answer choices are correct.

Ans: D, LO: 5, Bloom: K, Difficulty: Easy, AACSB: None

67. The _____ function helps strategy evolve by creating new ways of delivering a firm's competitive priorities.

- a. finance
- b. marketing
- c. operations
- d. None of the answer choices is correct.

Ans: C, LO: 5, Bloom: K, Difficulty: Easy, AACSB: None

68. Companies that compete on _____ establish a corporate culture that encourages risk.

- a. Innovation
- b. Quality
- c. Flexibility
- d. Cost

Ans: A, LO: 5, Bloom: K, Difficulty: Moderate, AACSB: None

69. A(n) _____ strategy involves a series of integrated decisions on processes, facilities, technology, quality, capacity, etc.

- a. finance
- b. marketing
- c. operations
- d. None of these answer choices is correct.

Ans: C, LO: 5, Bloom: K, Difficulty: Easy, AACSB: None

Short Answer

70. Briefly describe how operations can be viewed as a transformation process.

Operations is often defined as a transformation process. Inputs such as raw materials, labor, equipment, and capital are transformed into outputs (goods and services). Customer feedback is used to adjust the transformation process. An objective of the operations manager is to ensure that the transformation process operates efficiently and the outputs of the process have greater value than the sum of the inputs. In this way the transformation process creates value, making it possible to view the transformation process as a value chain extending from supplier to customer.

Ans: Essay, LO: 1, Bloom: K, Difficulty: Moderate, AACSB: None

71. Briefly describe the four primary functional areas of a firm. How is operations related to them?

The four primary functional areas of a firm are marketing, finance, operations, and human resources. For most firms, operations is the technical core or “hub” of the organization, interacting with the other functional areas and suppliers to produce goods and services for customers. For example, marketing provides sales forecasts to operations and operations provides marketing with product availability information, lead time estimates and delivery schedules. Operations provides finance with inventory and production data, capital budgeting and equipment requests, and technology plans. Finance provides the capital resources for financing inventory and securing more capital equipment. Operations relies on human resources to meet its personnel needs—hiring, training, and evaluating workers.

Ans: Essay, LO: 1, Bloom: K, Difficulty: Moderate, AACSB: None

72.

What is productivity and how is it measured?

Productivity is the ratio of output to input. Output can be expressed in units or dollars. Single factor productivity compares output to individual inputs, such as labor hours, investment in equipment, or material usage. Multifactor productivity relates output to a combination of inputs, such as labor and capital. Total factor productivity compares the quantity of goods and services produced with all the inputs used to produce them.

Ans: Essay, LO: 4, Bloom: K, Difficulty: Moderate, AACSB: None

73. What can lead to increases in productivity?

Productivity increases when firms become more efficient, expand, achieve breakthroughs that enable output increases to occur with reduced inputs, downsize while maintaining output with fewer inputs, and retrench with output and inputs decreasing, but inputs decreasing at a faster rate than output.

Ans: Essay, LO: 4, Bloom: K, Difficulty: Moderate, AACSB: None

Additional M/C questions:

74. Scientific management is _____.

- a. the management of scientists working in a company
- b. the management of scientific experiments so that they will align with the company's strategy
- c. the use of observation, measurement, and analysis to identify the best method to perform a job
- d. another name for the division of labor

Ans: C, LO: 2, Bloom: K, Difficulty: Easy, AACSB: None

75. Henry Ford famously applied _____.

- a. interchangeable parts
- b. linear programming
- c. theories of motivation
- d. mass production

Ans: D, LO: 2, Bloom: K, Difficulty: Easy, AACSB: None

76. Supply chain management is aimed at managing the flow of _____.

- a. information
- b. products
- c. services
- d. All of these answer choices are correct

Ans: D, LO: 3, Bloom: K, Difficulty: Easy, AACSB: None

77. Globalization has _____ the risk of disruptions in operations and supply chain activities; it has also provided _____ flexibility in responding to disruptions.

- a. decreased; less
- b. increased; less
- c. decreased; more
- d. increased; more

Ans: D, LO: 3, Bloom: K, Difficulty: Easy, AACSB: None

78. Today, approximately ____% of businesses operate globally through global markets, global operations, global financing

- a. 67
- b. 75
- c. 85
- d. 90

Ans: A, LO: 3, Bloom: K, Difficulty: Easy, AACSB: None

79. If the units produced by a factory increased by 10% and the labor hours decreased by 10%, then the labor productivity _____.
- a. decreased by 20%
 - b. increased by 20%
 - c. increased by 21%
 - d. increased by 22%

Ans: D, LO: 3, Bloom: K, Difficulty: Medium, AACSB: None

80. If the units produced by a factory increased by 10% and the labor productivity increased by 25%, then the labor hours _____.
- a. decreased by 15%
 - b. decreased by 13%
 - c. decreased by 12%
 - d. decreased by 11%

Ans: C, LO: 3, Bloom: K, Difficulty: Hard, AACSB: None

81. If the units produced by a factory decreased by 10% and the labor productivity increased by 25%, then the labor hours _____.
- a. decreased by 15%
 - b. decreased by 26%
 - c. decreased by 28%
 - d. decreased by 35%

Ans: C, LO: 3, Bloom: K, Difficulty: Hard, AACSB: None

82. If the units produced by a factory decreased by 10% and the labor productivity decreased by 25%, then the labor hours _____.
- a. decreased by 15%
 - b. increased by 15%
 - c. increased by 17%
 - d. increased by 20%

Ans: D, LO: 3, Bloom: K, Difficulty: Hard, AACSB: None

83. The labor productivity of a factory fell by 5% during each of three consecutive quarters. The labor hours didn't show any significant change during this period. A new COO is committed to recover the existing level before the loss of productivity, and her goal is to achieve this by the end of next quarter, even though the labor hours will be 5% less. The COO's goal is to increase the number of units produced by _____%.
- a. 15.0
 - b. 14.3
 - c. 10.0
 - d. 9.75

Ans: D, LO: 3, Bloom: K, Difficulty: Hard, AACSB: None