1) Operations management refers to the direction and control of inputs that transform processes into products and services.
Answer: TRUE
Reference: Operations and Supply Chain Management Across the Organization
Difficulty: Easy
Keywords: operations management, inputs, process, transformation

2) As a functional area of a business, Operations translates materials and services into outputs.
Answer: TRUE
Reference: Operations and Supply Chain Management Across the Organization
Difficulty: Easy
Keywords: operations management, inputs, process, transformation

3) The three main line functions of any business include Operations, Finance and Marketing.
Answer: TRUE
Reference: Operations and Supply Chain Management Across the Organization
Difficulty: Easy
Keywords: operations management, inputs, process, transformation

4) Support functions in an organization include Accounting, Human Resources and Engineering.
Answer: TRUE
Reference: Operations and Supply Chain Management Across the Organization
Difficulty: Easy
Keywords: operations management, inputs, process, transformation

5) A process involves transforming inputs into outputs.
Answer: TRUE
Reference: A Process View
Difficulty: Easy
Keywords: process, inputs, outputs

6) Inputs to a process can include human resources.
Answer: TRUE
7) Every process has a customer.
Answer: TRUE
Reference: A Process View
Difficulty: Easy
Keywords: process, customer
8) A nested process refers to a process within a process.
Answer: TRUE
Reference: A Process View
Difficulty: Easy
Keywords: nested process

9) At the level of the firm, service providers offer just services and manufacturers offer just products.
Answer: FALSE
Reference: A Process View
Difficulty: Moderate
Keywords: manufacturing, service, similarity, goods, services

10) At the process level, it is much easier to distinguish whether the process is providing a service or manufacturing a product.
Answer: TRUE
Reference: A Process View
Difficulty: Moderate
Keywords: manufacturing process, service process, goods, services

11) In a service process, output can be inventoried.
Answer: FALSE
Reference: A Process View
Difficulty: Easy
Keywords: manufacturing process, service process, inventory

12) Manufacturing processes tend to be capital intensive, while service processes tend to be more labor intensive.
Answer: TRUE
Reference: A Process View
Difficulty: Easy
Keywords: manufacturing process, service process, capital intensive, labor intensive

13) Quality is more easily measured in a service process than in a manufacturing process.
Answer: FALSE
Reference: A Process View
Difficulty: Moderate
Keywords: manufacturing process, service process, quality
14) Manufacturing processes usually have long response times compared to service processes.
Answer: TRUE
Reference: A Process View
Difficulty: Moderate
Keywords: manufacturing process, service process, response time
15) Contact with the customer is usually higher in a manufacturing process than in a service process.
Answer: FALSE
Reference: A Process View
Difficulty: Easy
Keywords: manufacturing process, service process, customer contact

16) A core process is a set of activities that delivers value to external customers.
Answer: TRUE
Reference: The Supply Chain View
Difficulty: Moderate
Keywords: core process, supply chain
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.

17) A supply chain is the cumulative work of a firm's processes.
Answer: TRUE
Reference: The Supply Chain View
Difficulty: Easy
Keywords: process, supply chain

18) The supplier relationship process selects the suppliers of services, materials and information, while the order fulfillment process facilitates the timely and efficient flow of these items into the firm.
Answer: FALSE
Reference: The Supply Chain View
Difficulty: Moderate
Keywords: supplier relationship, process, order fulfillment process

19) Environmental scanning refers to the unique resources and strengths that an organization's management considers when formulating a strategy.
Answer: FALSE
Reference: The Supply Chain View
Difficulty: Moderate
Keywords: environmental scanning, strategy

20) A firm's core competencies should determine its core processes.
Answer: TRUE
Reference: The Supply Chain View
Difficulty: Easy
Keywords: core competency, core process

21) Competitive priorities are the means by which operations implements the firm's corporate strategies.
Answer: FALSE
Reference: Competitive Priorities and Capabilities
Difficulty: Moderate
Keywords: competitive priority, corporate strategy
22) Flexibility is a possible competitive priority.
Answer: TRUE
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: flexibility, competitive priority
Learning Outcome: Discuss options for measuring supply chain performance.

23) Consistent quality is not important to today's consumers.
Answer: FALSE
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: consistent quality, competitive priorities
Learning Outcome: Discuss options for measuring supply chain performance.

24) Volume flexibility involves accelerating or decelerating the rate of production of services or products to handle large fluctuations in demand.
Answer: TRUE
Reference: Competitive Priorities and Capabilities
Difficulty: Hard
Keywords: volume flexibility
Learning Outcome: Discuss options for measuring supply chain performance.

25) A firm once made purchasing decisions based on which supplier had the lowest cost. But once cash flow was healthy, purchasing decisions were made based on which company could provide the goods and services the fastest. In this case, delivery speed is clearly the order qualifier.
Answer: FALSE
Reference: Competitive Priorities and Capabilities
Difficulty: Moderate
Keywords: competitive priority, order qualifier
Learning Outcome: Discuss options for measuring supply chain performance.

26) Strategic plans are developed farther into the future than tactical plans.
Answer: TRUE
Reference: Operations Strategy As a Pattern of Decisions
Difficulty: Easy
Keywords: strategic plans, tactical plans

27) Productivity is measured as input divided by output.
Answer: FALSE
Reference: Trends in Operations Management
Difficulty: Easy
Keywords: productivity, input, output
AACSB: Analytic skills
28) Labor productivity is an index of the output per person or hours worked.
Answer: TRUE
Reference: Trends in Operations Management
Difficulty: Moderate
Keywords: labor productivity, output
AACSB: Analytic skills

29) Most products today are composites of global materials and services from throughout the world.
Answer: TRUE
Reference: Trends in Operations Management
Difficulty: Moderate
Keywords: globalization, products

30) The increased global presence of many firms has lessened the burden to behave ethically.
Answer: FALSE
Reference: Trends in Operations Management
Difficulty: Easy
Keywords: ethics, global presence
Learning Outcome: Discuss the influences of the global competitive environment on operations management

31) Operations managers are involved at both the strategic and tactical levels of corporate strategy.
Answer: TRUE
Reference: Operations Management as a Set of Decisions
Difficulty: Easy
Keywords: strategic level, tactical level

32) Regardless of how departments like Accounting, Engineering, Finance, and Marketing function in an organization, they are all linked together through:
A) management.
B) processes.
C) customers.
D) stakeholders.
Answer: B
Reference: Operations and Supply Chain Management Across the Organization
Difficulty: Moderate
33) The foundations of modern manufacturing and technological breakthroughs were inspired by the creation of the mechanical computer by:
A) Charles Babbage
B) James Watt
C) Eli Whitney
D) Frederick Taylor
Answer: A
Reference: Historical Evolution of Operations and Supply Chain Management
Difficulty: Moderate
Keywords: historical, Babbage

34) Operations management is part of a production system that can be described in the following manner:

Organization: inputs → processes → outputs.

Which one of the following correctly describes a production system?
A) airline: pilots → planes → transportation
B) bank: tellers → computer equipment → deposits
C) furniture manufacturer: wood → sanding → chair
D) telephone company: satellites → cables → communication
Answer: C
Reference: A Process View
Difficulty: Moderate
Keywords: production system, input, process, output

**Table 1.1**
You are the Production Manager for the toy manufacturing process at the ABC Company.

35) Use the information provided in Table 1.1. An example of an internal customer is:
A) The lumber company
B) The Receiving Department at ABC
C) The Shipping Department at ABC
D) The toy store at the mall
Answer: C
Reference: A Process View
Difficulty: Moderate
Keywords: internal customer

36) Use the information provided in Table 1.1. An example of an internal supplier is:
A) The lumber company
B) The Receiving Department at ABC
C) The Shipping Department at ABC
D) The toy store at the mall
Answer: B
Reference: A Process View
Difficulty: Moderate
Keywords: internal supplier
37) Use the information provided in Table 1.1. An example of an external customer is:
A) The lumber company
B) The Receiving Department at ABC
C) The Shipping Department at ABC
D) The toy store at the mall
Answer: D
Reference: A Process View
Difficulty: Moderate
Keywords: external customer

38) Use the information provided in Table 1.1. An example of an external supplier is:
A) The lumber company
B) The Receiving Department at ABC
C) The Shipping Department at ABC
D) The toy store at the mall
Answer: A
Reference: A Process View
Difficulty: Moderate
Keywords: external supplier

39) Which of the following is an example of a nested process?
A) At the start of the new semester, a student first pays tuition and then goes to the bookstore.
B) A customer service representative verifies a caller's account information.
C) A candidate's intent to graduate is checked for financial holds by the Bursar and for degree requirements by Advising before the diploma mill prints their sheepskin.
D) A stockbroker calls a client and advises her to sell silver short.
Answer: C
Reference: A Process View
Difficulty: Easy
Keywords: nested process

40) Which of the following statements is more of a general characteristic of a manufacturing organization, as compared to a service organization?
A) Short-term demand tends to be highly variable.
B) Operations are more capital intensive.
C) Outputs are more intangible.
D) Quality is more difficult to measure.
Answer: B
Reference: A Process View
Difficulty: Moderate
Keywords: manufacturing organization, service organization, capital intensity
41) Which one of the following statements is more of a general characteristic of a service organization, as compared to a manufacturing organization?
   A) Output can be inventoried.
   B) The response time is longer.
   C) There is less customer contact.
   D) The facilities tend to be smaller.
Answer: D
Reference: A Process View
Difficulty: Moderate
Keywords: manufacturing organization, service organization, facilities

42) Manufacturing processes usually have:
   A) physical, durable output.
   B) high levels of customer contact.
   C) output that cannot be inventoried.
   D) low levels of capital intensity.
Answer: A
Reference: A Process View
Difficulty: Moderate
Keywords: manufacturing organization, service organization, physical output

43) Service processes usually have:
   A) physical, durable output.
   B) low levels of customer contact.
   C) output that can be inventoried.
   D) low levels of capital intensity.
Answer: D
Reference: A Process View
Difficulty: Moderate
Keywords: manufacturing organization, service organization, capital intensity

44) A set of activities that delivers value to external customers is a:
   A) supply chain.
   B) core process.
   C) support process.
   D) system.
Answer: B
Reference: The Supply Chain View
Difficulty: Moderate
Keywords: activity, core process
45) Budgeting, recruiting, and scheduling are examples of these types of processes.
A) development  
B) core process  
C) support process  
D) system  
Answer: C  
Reference: The Supply Chain View  
Difficulty: Moderate  
Keywords: activity, support process

46) The process that facilitates the placement of orders and identifies, attracts, and builds relationships with external customers is called the:
A) customer relationship process.  
B) new service development process.  
C) order fulfillment process.  
D) supplier relationship process.  
Answer: A  
Reference: The Supply Chain View  
Difficulty: Moderate  
Keywords: process, customer relationship

47) The process that designs and develops new products and services is called the:
A) customer relationship process.  
B) new service development process.  
C) order fulfillment process.  
D) supplier relationship process.  
Answer: B  
Reference: The Supply Chain View  
Difficulty: Easy  
Keywords: process, service development

48) The process that includes the activities required to produce and deliver the service or product to the customer is called the:
A) customer relationship process.  
B) new service development process.  
C) order fulfillment process.  
D) supplier relationship process.  
Answer: C  
Reference: The Supply Chain View  
Difficulty: Moderate
Keywords: process, order fulfillment
49) The framework for carrying out all of an organization's functions is:
A) the competitive priority.
B) the corporate strategy.
C) the market analysis.
D) the organizational design.
Answer: B
Reference: The Supply Chain View
Difficulty: Moderate
Keywords: corporate strategy

50) In response to social and political moves to discourage cigarette smoking, major cigarette manufacturers have had to diversify into other products. Identifying the pressures against smoking is an example of:
A) environmental scanning.
B) market segmentation.
C) flow strategy.
D) mission statement development.
Answer: A
Reference: The Supply Chain View
Difficulty: Moderate
Keywords: environmental scanning, strategy

51) A company realizes that recent layoffs at its primary customers reflect potential falling demands for its customers' products, and hence for its own products. The company has engaged in:
A) flow strategy.
B) market segmentation.
C) mission statement redefinition.
D) environmental scanning.
Answer: D
Reference: The Supply Chain View
Difficulty: Moderate
Keywords: environmental scanning

52) Core competencies are:
A) product or service attributes that represent the needs of a particular market segment.
B) another name for competitive priorities.
C) various flow strategies.
D) the unique resources and strengths that management considers when formulating
strategy.
Answer: D
Reference: The Supply Chain View
Difficulty: Moderate
Keywords: core competency, strategy
53) All of the following are core competencies except:
A) workforce.
B) competitive priorities.
C) facilities.
D) market and financial know-how.
Answer: B
Reference: The Supply Chain View
Difficulty: Moderate
Keywords: core competency

54) Which of the following is an example of a core competency?
A) facilities
B) top quality
C) low-cost operations
D) on-time delivery
Answer: A
Reference: The Supply Chain View
Difficulty: Moderate
Keywords: core competency

55) The Gap, Inc. has targeted teenagers and young adults needing casual clothes and, for its GapKids stores, the parents or guardians of infants through 12-year-olds. This is an example of:
A) market segmentation.
B) a collaborative effort between the company and its customers.
C) a needs assessment.
D) a mission statement.
Answer: A
Reference: The Supply Chain View
Difficulty: Moderate
Keywords: market segmentation

56) Competitive priorities define the dimensions on which companies should excel in producing their products or services. Which one of the following statements is TRUE?
A) A firm that competes on the dimension of volume flexibility is more likely to manufacture products that experience a seasonal demand variation.
B) It is impossible for a firm to improve cost and quality simultaneously.
C) A firm offering little customization cannot compete simultaneously on the dimension of consistent quality.
D) A firm that competes on the dimension of customization tends to have operating
systems that are inflexible.
Answer: A
Reference: Competitive Priorities and Capabilities
Difficulty: Moderate
Keywords: competitive priorities, volume flexibility
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
57) Admission to the prestigious school had become so competitive that a high GPA is no longer enough to separate one fresh-faced high school student from another. Today's outstanding candidate must also demonstrate their involvement in a myriad of extracurricular activities in order to be admitted. It seems that good grades are now:
A) the voice of the engineer.
B) order qualifiers.
C) order winners.
D) the voice of the customer.
Answer: B
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: order qualifier

58) The first three cars I bought all fell apart around 50,000 miles. It was called planned obsolescence and no one seemed to care until companies entered the market that promised 70,000, then 80,000, and finally 100,000 warranties. What sets a great car apart from a good one now is not the quality, which is assumed, but performance, safety and fuel economy. A car that can achieve all three is highly sought after. In the automotive market, performance, safety and fuel economy are sterling examples of:
A) order winners.
B) the voice of the engineer.
C) order qualifiers.
D) the voice of the customer.
Answer: A
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: order winner

59) You are interested in buying a laptop computer. Your list of considerations include the computer's speed in processing data, its weight, screen size, and price. You consider a number of different models, and narrow your list based on speed and monitor screen size, then finally select a model to buy based on its weight and price. In this decision, weight and price are examples of:
A) order qualifiers.
B) the voice of the supplier.
C) order winners.
D) the voice of the customer.
Answer: C
60) Competitive priorities:
A) may change over time.
B) are the cost, quality, time and flexibility dimensions that a process or supply chain actually possesses and is able to deliver.
C) are used to distinguish between a service that is considered and one that is actually purchased.
D) are developed by a review of internal operations capabilities.
Answer: A
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: competitive priorities

61) You are interested in buying a laptop computer. Your list of considerations include the computer's speed in processing data, its weight, screen size and price. You consider a number of different models, and narrow your list based on its speed and monitor screen size, then finally select a model to buy based on its weight and price. In this decision, speed and monitor screen size are examples of:
A) order winners.
B) the voice of the supplier.
C) the voice of the customer.
D) order qualifiers.
Answer: D
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: order qualifier

62) Quickly filling a customer's order is evidence of:
A) delivery speed.
B) lead time.
C) development speed.
D) variety.
Answer: A
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: delivery speed

63) Using an airline example for competitive priorities, the process capability of handling service needs of all market segments and promotional programs would be best described by:
A) top quality.
B) variety.
C) consistent quality.
D) delivery speed.
Answer: B
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: variety, competitive priorities
64) A company's ability to quickly introduce a new service or product would be best described as:
A) volume flexibility.
B) variety.
C) consistent quality.
D) development speed.
Answer: D
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: development speed, competitive priorities
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.

65) A business focusing on increasing the efficiency of its operations is more directly addressing:
A) volume flexibility.
B) variety.
C) consistent quality.
D) low-cost.
Answer: D
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: efficiency, low-cost, competitive priority

66) For students not wanting a traditional major in marketing or accounting, for example, the college decided to create a general business major, which allowed any combination of the easiest business courses to comprise the program. The competitive priority achieved in this example is:
A) customization.
B) delivery speed.
C) consistent quality.
D) low-cost.
Answer: A
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: customization, competitive priority

67) A company's ability to support varying rates of production is best described as:
A) volume flexibility.
B) variety.
C) consistent quality.
D) development speed.

Answer: A

Reference: Competitive Priorities and Capabilities

Difficulty: Easy

Keywords: volume flexibility, competitive priorities

Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
68) In an assembly operation at a furniture factory, six employees assembled an average of 450 custom cabinet drawers per 5-day week. What is the labor productivity of this operation?
A) 90 chairs per worker per day  
B) 20 chairs per worker per day  
C) 15 chairs per worker per day  
D) 75 chairs per worker per day  
Answer: C  
Reference: Trends in Operations Management  
Difficulty: Moderate  
Keywords: labor productivity  
AACSB: Analytic skills

69) A process produces 5000 units of output that yield $6 per unit. Resources contributed to this output are 200 hours of labor at $15 per hour, materials at $700 and overhead at $300. What is the labor productivity?
A) 20 units per hour  
B) 25 units per hour  
C) 30 units per hour  
D) 40 units per hour  
Answer: B  
Reference: Trends in Operations Management  
Difficulty: Easy  
Keywords: labor productivity  
AACSB: Analytic skills

70) The manager of a landscaping company is trying to determine the best crew size to use for laying sod for new construction homes. She has tried various crew sizes, with the results shown below. Based on productivity, which crew size averages the greatest productivity in square yards installed per week?

<table>
<thead>
<tr>
<th>Crew Size</th>
<th>2</th>
<th>4</th>
<th>3</th>
<th>3</th>
<th>4</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Square Yards Installed Per Week</td>
<td>716</td>
<td>1298</td>
<td>1017</td>
<td>1002</td>
<td>1278</td>
<td>702</td>
</tr>
</tbody>
</table>

A) 2-person crew  
B) 3-person crew  
C) 4-person crew  
D) Either a 3- or 4-person crew can be selected; their productivities are both higher than the 2-person crew.
Answer: A
Reference: Trends in Operations Management
Difficulty: Easy
Keywords: labor productivity
AACSB: Analytic skills
71) A manufacturing process requires 12 minutes of labor to make 10 units of production. Which of the following actions will increase productivity?

1. Increase labor per 10 units of production
2. Decrease labor per 10 units of production
3. Increase number of units per 10 minutes of labor
4. Decrease number of units per 12 minutes of labor

A) 1. and 3. only
B) 2. and 4. only
C) 1. and 4. only
D) 2. and 3. only

Answer: D

Reference: Trends in Operations Management
Difficulty: Easy
Keywords: labor productivity
AACSB: Analytic skills

72) The Burdell Company makes tee shirts on an assembly line that works 5 days per week and uses 5 workers. Over the past 4 weeks, the line has produced 16,000 shirts. The line's productivity for the 4-week period is:

A) 20 shirts per worker per day.
B) 50 shirts per worker per day.
C) 160 shirts per worker per day.
D) 400 shirts per worker per day.

Answer: C

Reference: Trends in Operations Management
Difficulty: Easy
Keywords: labor productivity
AACSB: Analytic skills

73) The details of weekly output and input for a fabrication process are as follows: output is 400 units, with a standard selling price of $100 per unit. For the week, total labor costs are: 10 workers at 40 hours for the week, paid $15 per hour. Total material costs for the 400 units are $5,000. Weekly overhead is charged at the rate of 1.5 times the labor costs. What is the multifactor productivity for the week?

A) 0.02
B) 0.75
C) 1.50
D) 2.00

Answer: D

Reference: Trends in Operations Management
Difficulty: Easy
Keywords: multifactor productivity
AACSB: Analytic skills
Table 1.2
The Abco Company manufactures electrical assemblies. The current process uses 10 workers and produces 200 units per hour. You are considering changing the process with new assembly methods that increase output to 300 units per hour, but will require 14 workers. Particulars are as follows:

<table>
<thead>
<tr>
<th></th>
<th>CURRENT PROCESS</th>
<th>NEW PROCESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUTPUT (UNITS / HOUR)</td>
<td>200</td>
<td>300</td>
</tr>
<tr>
<td>NUMBER OF WORKERS</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>MATERIAL COST / HOUR</td>
<td>$120</td>
<td>$150</td>
</tr>
</tbody>
</table>

Workers are paid at a rate of $10 per hour, and overhead is charged at 140% (or 1.4 times) labor costs. Finished switches sell for $20 / unit.

74) Use the information provided in Table 1.2. What is the multifactor productivity of the current process?
A) less than or equal to 8.0  
B) greater than 8.0 but less than or equal to 10.0  
C) greater than 10.0 but less than or equal to 12.0  
D) greater than 12.0  
Answer: C  
Reference: Trends in Operations Management  
Difficulty: Moderate  
Keywords: multifactor productivity  
AACSB: Analytic skills

75) Use the information provided in Table 1.2. What is the multifactor productivity of the new process?
A) less than or equal to 8.0  
B) greater than 8.0 but less than or equal to 10.0  
C) greater than 10.0 but less than or equal to 12.0  
D) greater than 12.0  
Answer: D  
Reference: Trends in Operations Management  
Difficulty: Moderate  
Keywords: multifactor productivity  
AACSB: Analytic skills

76) Use the information provided in Table 1.2. Based on your productivity
calculations, what decision should you make?
A) implement the new process
B) stay with the current process
C) need more information to make a decision
D) Either process is acceptable (since the multi-factor productivities are the same).
Answer: A
Reference: Trends in Operations Management
Difficulty: Moderate
Keywords: multifactor productivity
77) It takes the Blacksburg shipyard twenty six weeks with 500 workers to build a small tanker. Material costs are $32 million and overhead costs are $2 million. Workers cost $40 per hour including benefits and work 40 hours per week. The ship sells for $75 million. What is the multifactor productivity ratio?
A) less than 1.0
B) greater than 1.0 but less than or equal to 2.0
C) greater than 2.0 but less than or equal to 3.0
D) greater than 3.0
Answer: B
Reference: Trends in Operations Management
Difficulty: Moderate
Keywords: multifactor productivity
AACSB: Analytic skills

78) Which of the following would be considered an advantage of global competition?
A) ability to safeguard proprietary technology in working with offshore suppliers
B) a recent climate of low political risk and lessening nationalization
C) high levels of worker skills in foreign countries mean less required training
D) strong global competition and increased worldwide demand
Answer: D
Reference: Trends in Operations Management
Difficulty: Moderate
Keywords: global competition
Learning Outcome: Discuss the influences of the global competitive environment on operations management

79) Operations management refers to the systematic design, direction, and control of ________ that transform ________ into products and services.
Answer: processes, inputs
Reference: Operations and Supply Chain Management Across the Organization
Difficulty: Moderate
Keywords: process, input, transform, product, service

80) The three mainline functions of any business are ________, ________, and ________.
Answer: operations, finance, marketing
Reference: Operations and Supply Chain Management Across the Organization
Difficulty: Moderate
Keywords: operations, finance, marketing, functions of a firm
81) A(n) ________ is any activity or group of activities that takes one or more inputs, transforms and adds value to them, and provides one or more outputs for its customers.
Answer: process
Reference: A Process View
Difficulty: Moderate
Keywords: process, activity, input, value
82) External customers may be end users or intermediaries buying the firm's finished products, but ________ may be other businesses who provide the resources and materials for the firm's needs.
Answer: external suppliers
Reference: A Process View
Difficulty: Moderate
Keywords: external suppliers, external customers

83) The cumulative work of the processes of a firm is a(n) ________.
Answer: supply chain
Reference: The Supply Chain View
Difficulty: Moderate
Keywords: processes, supply chain

84) ________ provide vital resources and inputs to core processes.
Answer: Support processes
Reference: The Supply Chain View
Difficulty: Moderate
Keywords: support process, core process

85) The activities required to create the service and put the product in the hands of the customer comprise the ________.
Answer: order fulfillment process
Reference: The Supply Chain View
Difficulty: Moderate
Keywords: order fulfillment process

86) One form of strategic alliance is the ________, in which two firms agree to cooperate to produce a product or service together.
Answer: joint alliance
Reference: The Supply Chain View
Difficulty: Moderate
Keywords: joint alliance

87) A firm gains competitive advantage by outperforming competitors in terms of competitive priorities, which fall into four major groups: ________, ________, ________, and ________.
Answer: cost, quality, time, flexibility
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: competitive priorities, cost, quality, time, flexibility
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
88) ________ is the elapsed time between receiving a customer's order and filling it.
Answer: Lead time
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: time, delivery speed
Learning Outcome: Discuss options for measuring supply chain performance.

89) ________ is how industrial buyers often refer to delivery speed.
Answer: Lead time
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: lead time, delivery speed
Learning Outcome: Discuss options for measuring supply chain performance.

90) ________ measures the frequency with which delivery-time promises are met.
Answer: On-time delivery
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: on-time delivery
Learning Outcome: Discuss options for measuring supply chain performance.

91) ________ is the ability to accelerate or decelerate the rate of production quickly to handle large fluctuations in demand.
Answer: Volume flexibility
Reference: Competitive Priorities and Capabilities
Difficulty: Easy
Keywords: volume flexibility, demand fluctuations
Learning Outcome: Discuss options for measuring supply chain performance.

92) A strategy that focuses on the competitive priorities of delivery speed and development speed is ________.
Answer: time-based competition
Reference: Competitive Priorities and Capabilities
Difficulty: Moderate
Keywords: time-based competition, competitive priority
Learning Outcome: Discuss options for measuring supply chain performance.

93) Every sub-contractor knew that their quality had to be excellent to be considered for the project; it was their ability to deliver on time that would secure the lucrative contract. Quality was recognized as being an ________, but on-time delivery was the
Answer: order qualifier, order winner
Reference: Competitive Priorities and Capabilities
Difficulty: Moderate
Keywords: order qualifier, order winner
Learning Outcome: Discuss options for measuring supply chain performance.
94) Productivity is defined as ________ divided by ________.
Answer: output, input
Reference: Trends in Operations Management
Difficulty: Moderate
Keywords: output, input, productivity
AACSB: Analytic skills

95) What are the three key functions of a firm and what is each responsible for?
Answer: The three main functions of a firm are operations, finance, and marketing. The operations function transforms material and service inputs into product and service outputs. The finance function generates resources, capital and funds from investors and sales of the firm's goods and services in the marketplace. The marketing function is responsible for producing sales revenue of the outputs.
Reference: Operations and Supply Chain Management Across the Organization
Difficulty: Moderate
Keywords: manufacturing process, service process

96) List and briefly describe five differences between services and manufacturing. Provide examples to illustrate your arguments.
Answer:

<table>
<thead>
<tr>
<th>Manufactured Goods</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical, durable products</td>
<td>Intangible, perishable products</td>
</tr>
<tr>
<td>Output can be produced, stored, and transported</td>
<td>Can't be produced and stored</td>
</tr>
<tr>
<td>Low customer contact</td>
<td>Customers can be part of the input and part of the process</td>
</tr>
<tr>
<td>Have days to deliver</td>
<td>Must be offered within minutes</td>
</tr>
<tr>
<td>Regional, national, or international markets</td>
<td>Local markets</td>
</tr>
<tr>
<td>Large facilities</td>
<td>Small facilities</td>
</tr>
<tr>
<td>Capital intensive</td>
<td>Labor intensive</td>
</tr>
<tr>
<td>Quality easily measured</td>
<td>Quality not easily measured</td>
</tr>
</tbody>
</table>

Examples will vary.
Reference: A Process View
Difficulty: Moderate
Keywords: manufacturing process, service process

97) Identify a large employer in your hometown. Describe this organization's inputs,
processes, and outputs.
Answer: Answers will vary based on the employer selected.
Reference: A Process View
Difficulty: Moderate
Keywords: input, process, output
98) What are four core processes in a firm and how are they related?
Answer: The customer relationship process identifies, attracts, and builds relationships with external customers and facilitates the placement of orders. The order fulfillment process includes activities required to produce and deliver the service or product to the external customer. The new service/product development process designs and develops new services or products, which may be to customer specifications. The supplier relationship process selects the suppliers of services, materials, and information and facilitates the flow of these items into the firm. All of these processes exist to provide a service or product to the customer.
Reference: The Supply Chain View
Difficulty: Moderate
Keywords: core process, customer relationship, service/product development, order fulfillment, supplier relationship

99) Explain what an operations strategy is and the importance of competitive priorities. Give an example from an organization (public or private, manufacturing or service).
Answer: An operations strategy is the means by which operations implements the firm’s corporate strategy. Competitive priorities are the key capabilities that operations must develop to compete successfully in a market segment. Possible competitive priorities include low-cost operation, high-performance design, consistent quality, delivery speed, on-time delivery, development speed, customization, and volume flexibility. Examples will vary.
Reference: Competitive Priorities and Capabilities
Difficulty: Moderate
Keywords: operations strategy competitive priorities
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.

100) Name the two competitive priorities for quality and give an example of each.
Answer: The two competitive priorities are top quality, which is the determination of the level of operations performance required in making a product or performing a service, and consistent quality, which measures the frequency with which the product or service meets design specifications. Examples will vary.
Reference: Competitive Priorities and Capabilities
Difficulty: Moderate
Keywords: competitive priorities, top quality, consistent quality

101) Name the three competitive priorities for time and give an example of each.
Answer: The three competitive priorities for time are delivery speed, on-time delivery, and development speed. Delivery speed refers to the elapsed time between receiving a customer's order and filling it. On-time delivery measures the frequency with which delivery-time promises are met. Development speed measures how quickly a new product or service is introduced. Examples will vary.
Reference: Competitive Priorities and Capabilities
Difficulty: Moderate
Keywords: competitive priorities, delivery speed, on-time delivery, development speed
Learning Outcome: Discuss operations and operations management as a competitive advantage for the organization.
102) How has global competition affected productivity? Cite specific examples and reference the productivity equation to support your thesis.

Answer: Examples will vary; students should argue that the increase in global competition has increased productivity for those firms that have survived. Firms that fail (or have already failed) to effectively compete with new competition suffer from reduced sales, so the numerator in the productivity equation will be lower, perhaps without a commensurate decrease in the denominator, resulting in reduced productivity. Firms that are effectively competing against global competition probably have higher levels of productivity. Global operations might include cheaper or better raw materials and labor, resulting in a smaller denominator and higher productivity. Global competition might also inject new management techniques and leaner operations if some services are outsourced to specialist companies.

Reference: Trends in Operations Management

Difficulty: Moderate

Keywords: productivity, raw materials, labor, management techniques, lean operations, outsourcing

Learning Outcome: Discuss the influences of the global competitive environment on operations management

103) What are some disadvantages of globalization?

Answer: Operations in other countries can have disadvantages. A firm may have to relinquish proprietary technology if it turns over some of its component manufacturing to offshore suppliers or if suppliers need the firm's technology to achieve desired quality and cost goals. Political risks may also be involved. Each nation can exercise its sovereignty over the people and property within its borders. The extreme case is nationalization, in which a government may take over a firm's assets without paying compensation. Exxon and other large multinational oil firms are scaling back operations in Venezuela due to nationalization concerns. Further, a firm may actually alienate customers back home if jobs are lost to offshore operations. Employee skills may be lower in foreign countries, requiring additional training time. South Korean firms moved much of their sports shoe production to low-wage Indonesia and China, but they still manufacture hiking shoes and in-line roller skates in South Korea because of the greater skills required. In addition, when a firm's operations are scattered globally, customer response times can be longer.

Coordinating components from a wide array of suppliers can be challenging.

Reference: Trends in Operations Management

Difficulty: Moderate

Keywords: globalization

Learning Outcome: Discuss the influences of the global competitive environment on
104) What are some ethical issues that are prevalent in organizations that have a global operations presence?
Answer: Some countries are more sensitive than others about conflicts of interest, bribery, discrimination against minorities and women, minimum-wage levels, and unsafe workplaces. Managers must decide whether to design and operate processes that do more than just meet local standards. In addition, technological change brings debates about data protection and customer privacy. In an electronic world, businesses are geographically far from their customers, so a reputation of trust is paramount.
Reference: Trends in Operations Management
Difficulty: Moderate
Keywords: ethical issues, ethics, globalization
Learning Outcome: Discuss the influences of the global competitive environment on operations management

105) Barry's Tire Service completed 100 tire changes, six brake jobs, and 16 alignments in an eight-hour day with his standard crew of six mechanics. A brake specialist costs $16 per hour, a tire changer costs $8 per hour, and an alignment mechanic costs $14 per hour. The materials cost for a day was $2000, and overhead cost was $500.

a. What is the shop's labor productivity if the retail price for each respective service is $60, $150, and $40?
b. What is the multifactor productivity, if the crew consisted of two of each type mechanic?
Answer: a. \[ \frac{(100 \times 60 + 6 \times 150 + 16 \times 40)}{6 \times 8} = \$157/hr \]

b. \[ \frac{((100 \times 60) + (6 \times 150) + (16 \times 40))}{(2 \times 8 \times 16) + (2 \times 8 \times 8) + (2 \times 8 \times 14) + 2000 + 500} = 2.43 \]

Reference: Trends in Operations Management
Difficulty: Moderate
Keywords: labor productivity, multifactor productivity
AACSB: Analytic skills

106) Consider the information in Table 1.3.

Table 1.3
The Abco Company manufactures electrical assemblies. The current process uses 10
workers and produces 200 units per hour. You are considering changing the process with new assembly methods that increase output to 300 units per hour, but will require 14 workers. Particulars are as follows:

<table>
<thead>
<tr>
<th></th>
<th>CURRENT PROCESS</th>
<th>NEW PROCESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUTPUT (UNITS / HOUR)</td>
<td>200</td>
<td>300</td>
</tr>
<tr>
<td>NUMBER OF WORKERS</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>MATERIAL COST / HOUR</td>
<td>$120</td>
<td>$150</td>
</tr>
</tbody>
</table>

Workers are paid at a rate of $10 per hour, and overhead is charged at 140% (or 1.4 times) labor costs. Finished switches sell for $20/unit.

a. Calculate the multifactor productivity for the current process.
b. Calculate the multifactor productivity for the new process.
c. Determine if the new process should be implemented.

Answer:
a. \[
\frac{(200)(20)}{(10)(10) + 120 + (1.4)(10)(10)} = \frac{4,000}{360} = 11.11
\]
b. \[
\frac{(300)(20)}{(14)(10) + 150 + (1.4)(14)(10)} = \frac{6,000}{486} = 12.35
\]
c. The new process increases multifactor productivity and should be implemented.

Reference: Trends in Operations Management
Difficulty: Moderate
Keywords: labor productivity, multifactor productivity
AACSB: Analytic skills

107) The three person crew worked their way through the neighborhood, mowing lawns, edging, apply fertilizer and weed treatments where necessary and collecting all the clippings for use as mulch as part of their new green initiative. Their pricing scheme appears in Table A and the mix of orders and service costs appear in Table B:

a. What is their multifactor productivity for these orders in the prestigious Edmond Oaks neighborhood?
b. Which of the service combinations they are providing is their most productive from a multifactor perspective?
c. What is their labor productivity for the same mix of orders?
Table A: Price List:

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>PRICE</th>
<th>LABOR</th>
<th>MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mow lawn</td>
<td>$75</td>
<td>1 hr</td>
<td>$2</td>
</tr>
<tr>
<td>Edge</td>
<td>$20</td>
<td>.25</td>
<td>$1</td>
</tr>
<tr>
<td>Fertilizer treatment</td>
<td>$120</td>
<td>.25</td>
<td>$45</td>
</tr>
<tr>
<td>Weed prevention treatment</td>
<td>$80</td>
<td>.25</td>
<td>$25</td>
</tr>
<tr>
<td>Multiple services</td>
<td>5% discount times the number of services</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Workers are paid at a rate of $10 per hour, and overhead is charged at 120% (or 1.2 times) labor costs. For a customer that gets both mowing and edging, their $95 bill would be discounted for two services times 5% for a total of 10% off the $95 straight charge for a cost of $85.50. A customer receiving three services would get a 15% discount off their service bill. Labor hours shown in Table A are total hours for the three-person crew.

Table B: Orders Processed

<table>
<thead>
<tr>
<th>SERVICE</th>
<th># Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mow lawn &amp; edge</td>
<td>6</td>
</tr>
<tr>
<td>Mow lawn, Edge, and fertilize</td>
<td>3</td>
</tr>
<tr>
<td>Mow lawn, Edge, and weed prevention treatment</td>
<td>2</td>
</tr>
<tr>
<td>Mow lawn &amp; fertilize</td>
<td>2</td>
</tr>
</tbody>
</table>

Answer:
a. Multifactor Productivity Overall

Total Revenue = $86 \times 6 + $182.75 \times 3 + $148.75 \times 2 + $175.50 \times 2 = $1709.75
Labor Cost = $12.50 \times 6 + $15 \times 3 + $15 \times 2 + $12.50 \times 2 = $175
Material Cost = $3 \times 6 + $48 \times 3 + $28 \times 2 + $47 \times 2 = $312
Overhead Cost = 1.2 \times ($12.50 \times 6 + $15 \times 3 + $15 \times 2 + $12.50 \times 2) = $210

Multifactor Productivity = \frac{\$1709.75}{\$175 + \$312 + \$210}

Multifactor Productivity = 2.45
b. Multifactor Productivity by Service

\[
Mow \ & \ Edge = \frac{0.9 \times ($75 + $20)}{(1.25 \times $10) + ($2 + $1) + 1.2 \times (1.25 \times $10)} = 2.8
\]

\[
Mow \ & \ Edge \ & \ Fertilize = \frac{0.85 \times ($75 + $20 + $120)}{(1.5 \times $10) + ($2 + $1 + $45) + 1.2 \times (1.5 \times $10)} = 2.26
\]

\[
Mow \ & \ Edge \ & \ Weed = \frac{0.85 \times ($75 + $20 + $80)}{(1.5 \times $10) + ($2 + $1 + $25) + 1.2 \times (1.5 \times $10)} = 2.44
\]

\[
Mow \ & \ Fertilize = \frac{0.9 \times ($75 + $120)}{(1.25 \times $10) + ($2 + $45) + 1.2 \times (1.25 \times $10)} = 2.36
\]

The package with the highest multifactor productivity is the Mow & Edge.

c. Overall Labor Productivity.

Total Revenue = $85.59 \times 6 + $182.75 \times 3 + $148.75 \times 2 + $175.50 \times 2 = $1709.75

Labor Cost = $12.50 \times 6 + $15 \times 3 + $15 \times 2 + $12.50 \times 2 = $175

Labor Productivity = \frac{$1709.75}{175} = 9.77

Reference: Trends in Operations Management

Difficulty: Moderate

Keywords: labor productivity, multifactor productivity

AACSB: Analytic skills
108) The three-person crew worked their way through the neighborhood, testing doorknobs and windows and slipping past security systems like a team of ninjas. Of course, they weren't ninjas, but a crew of brazen burglars, hoping to grab cash and other valuables to fence at the next level of their supply chain. Fortune smiles on them on this day in the prestigious Edmond Oaks neighborhood. A lawn maintenance crew is creating a tremendous racket mowing and edging lawns, which completely drowns out the sounds of breaking glass. Details of the day's haul appear in Table C.

a. What is the multifactor productivity?
b. What is the labor productivity?

Table C: The Haul

<table>
<thead>
<tr>
<th>ITEM</th>
<th>SALES PRICE</th>
<th>LABOR</th>
<th>MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kruggerand</td>
<td>$1500</td>
<td>1 hr</td>
<td>$2</td>
</tr>
<tr>
<td>Flat screen TV</td>
<td>$250</td>
<td>.25</td>
<td>$1</td>
</tr>
<tr>
<td>$200 cash</td>
<td>$200</td>
<td>.05</td>
<td>$45</td>
</tr>
<tr>
<td>Lava lamp</td>
<td>$5</td>
<td>.15</td>
<td>$25</td>
</tr>
<tr>
<td>Rolex watch</td>
<td>$180</td>
<td>.10</td>
<td>$1</td>
</tr>
</tbody>
</table>

Workers are paid at a flat rate of 20% of the sales price of the merchandise. Materials cost represents the cost of gasoline and surgical gloves, and overhead is 20% of the sales price of the merchandise.

Answer:
a. Multifactor Productivity

Total Revenue = $1500 + $250 + $200 + $5 + $180 = $2135  
Labor Cost = 20% × ($1500 + $250 + $200 + $5 + $180) = $427  
Material Cost = $2 + $1 + $45 + $25 + $1 = $74  
Overhead Cost = 20% × ($1500 + $250 + $200 + $5 + $180) = $427

Multifactor Productivity = \( \frac{2135}{427 + 74 + 427} \)  
Multifactor Productivity = 2.30

b. Labor Productivity

Total Revenue = $1500 + $250 + $200 + $5 + $180 = $2135  
Labor Cost = 20% × ($1500 + $250 + $200 + $5 + $180) = $427

Labor Productivity = \( \frac{2135}{427} \)
Labor Productivity = 5
Reference: Trends in Operations Management
Difficulty: Moderate
Keywords: labor productivity, multifactor productivity
AACSB: Analytic skills