



MID-WEST UNIVERSITY
SCHOOL OF MANAGEMENT (MUSOM)
(An Autonomous Institution)
MUSOM EXAMINATIONS SECTION
FINAL EXAMINATION-2024 (2081)
BACHELOR OF BUSINESS ADMINISTRATION (BBA)
SEMESTER – V (New Course)

Subject: Operations and Supply Chain Management
Full Marks: 100

Course Code: MGT 454
Time: 3 Hrs.

Exam Roll No.:

Section A: Multiple Choice Questions (1×15 = 15 Marks)

Time: 15 Minutes

Tick (✓) the correct answers

1. Which is not an operations performance objective?
 - a. Quality
 - b. Speed
 - c. Flexibility
 - d. Profit
2. Ram is considering opening a coffee shop in the campus area. He estimates the fixed cost for his shop to be \$ 15,000 and the variable cost of each coffee sold at \$ 0.01. He expects the selling price to average \$ 0.05. The break-even point in dollars is _____.
 - a. \$18850
 - b. \$18650
 - c. \$18750
 - d. \$18700
3. The multiple product case of determining break-even in dollars _____.
 - a. weights the variable cost of each product
 - b. weights the selling price of each product
 - c. weights the fixed cost attributable to each product
 - d. weights the contribution of each product
4. Which of the following transformations generally has the highest equipment utilization?
 - a. Process-focused process
 - b. Repetitive process
 - c. Product-focused process
 - d. Specialized process
5. Which is not an assumption of the EOQ model?
 - a. Demand for an item is known, constant, and independent.
 - b. Lead time is known and consistent.
 - c. Quantity discounts are possible.
 - d. Only variable costs are set up and holding.
6. Which one of the following comes under the cost of good quality?
 - a. Warranty and guarantees
 - b. Rework
 - c. Lawsuits
 - d. Training of employees
7. Which one of the following is not an objective of maintenance management?
 - a. To reduce the breakdown of machineries
 - b. To keep the machines and other facilities in good condition.
 - c. To keep the plant in good working conditions
 - d. To maintain the quality of goods and services
8. A master production schedule specifies _____.
 - a. the financial required for production
 - b. What component is to be made, and when
 - c. What product is to be made, and when
 - d. The labour hours required for production
9. A graph that identifies and plots problems or defects in descending order of frequency is known as _____.
 - a. Histogram
 - b. Flowchart
 - c. Pareto Chart
 - d. Check sheet

10. According to the manufacturing-based definition of quality
- Quality is the degree to which a specific product conforms to standards.
 - Quality depends on how well the product fits patterns of consumer preferences.
 - Even though quality cannot be defined, you know what it is.
 - Quality is the degree of excellence at an acceptable price and the control of variability at an Acceptable cost.
11. Which statement is not correct about the chase strategy?
- Match output rates to demand forecast for each period.
 - Favoured by many service organizations.
 - Involves varying workforce levels or varying production rates.
 - Involves uniform production irrespective of demand.
12. Developing the ability to produce goods or services previously purchased or to buy a supplier is known as _____.
- backward integration
 - forward integration
 - horizontal integration
 - mergers
13. Which is not an issue in managing an integrated supply chain?
- Local optimization
 - Incentives
 - Large lots
 - Vendor managed inventory
14. _____ means the supplier will ship directly to the end consumer rather than to the seller, saving both time and reshipping costs.
- Retail slotting
 - Drop shipping
 - Cross-docking
 - Blanket orders
15. Which supply chain strategy emphasizes flexibility and the ability to respond quickly to market changes and customer demands, often through the use of technology and data analytics?
- Lean supply chain strategy
 - Agile supply chain strategy
 - Green supply chain strategy
 - Global supply chain strategy





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You are required to answer in your own words as far as applicable. The figures in the margin indicate full marks.

SECTION B: SHORT ANSWER QUESTIONS (8×5 = 40 MARKS)

Answer any eight questions:

1. Discuss the importance of operations management for an organization. [5]
2. Describe various approaches to capacity expansion along with suitable diagrams. [5]
3. Why inventory management is important for business organizations? Explain with a suitable example. [5]
4. Produce a comparison among various maintenance strategies. [5]
5. "Quality is free". Do you agree or disagree? Provide your arguments. [5]
6. Highlight the strategic importance of the supply chain in the context of globalization. [5]
7. Describe, in brief, the order fulfillment process. [5]
8. The design capacity for engine repair in Honda Company is 80 trucks/day. The effective capacity is 40 engines/day and the actual output is 36 engines/day. Calculate the utilization and efficiency of the operation. If the efficiency for the next month is expected to be 82%, what is the expected output? [5]
9. The catering manager of Sunrise Hotel is disturbed by the amount of silverware he is losing every week. Last Friday night, when the hotel crew tried to set up a banquet for 500 people, they did not have enough knives. The manager decides he needs to order some more silverware but wants to take advantage of any quantity discounts his vendor will offer. For a small order (2,000 or fewer pieces), his vendor quotes a price of \$1.80 per piece. If he orders 2,001–5,000 pieces, the price drops to \$1.60 per piece. 5,001–10,000 pieces bring the price to \$1.40 per piece, and 10,001 and above reduces the price to \$1.25. Order costs are \$200 per order, annual holding costs are 5%, and the annual demand is 45,000 pieces. For the best option:
 - a. What is the optimal order quantity?
 - b. What is the annual holding cost?
 - c. What is the annual ordering (setup) cost?
10. Write short notes on (Any two) [2.5+2.5]
 - a. Expansionist strategy
 - b. Chase Vs. Level strategy
 - c. Predictive maintenance

SECTION C: LONG ANSWER QUESTIONS (3×10 = 30 MARKS)

Answer any three questions:

11. What are the 10 strategic OM decisions that every operations manager has to make? Discuss each OM decision along with a suitable example. [10]
12. Provide a comparative assessment of different process strategies. [10]
13. A restaurant wants to know how effective its operations may be by performing a break-even analysis. The restaurant has collected the following information.

Item	Price	Cost	Annual forecasted sales unit
Sandwich	\$ 2.95	\$ 1.25	7,000
Soft drink	\$ 0.80	\$ 0.30	7,000
Baked potato	\$ 1.55	\$ 0.47	5,000
Tea	\$ 0.75	\$ 0.25	5,000
Salad bar	\$ 2.85	\$ 1.00	3,000

- a. Find BEP\$ [8]
- b. Find break-even for the number of salad bars that must be sold every day. [2]

14. The president of Hill Enterprises, Terri Hill, projects the firm's aggregate demand requirements over the next 8 months as follows:

Jan	1400	May	2200
Feb	1600	June	2200
Mar.	1800	July	1800
Apr.	1800	Aug.	1800

Her operations manager is considering a new plan, which begins in January with 200 units on hand. The inventory holding cost is \$20 per unit per month.

Plan A:

Vary the workforce level to execute a strategy that produces the quantity demanded in the prior month. The December demand and rate of production are both 1,600 units per month. The cost of hiring additional workers is \$ 5,000 per 100 units. The cost of laying off workers is \$ 7,500 per 100 units. Evaluate the plan

Plan B:

Produce at a constant rate of 1,400 units per month, which will meet minimum demands. Then, use subcontracting, with additional units at a premium price of \$ 75 per unit. Evaluate this plan by computing the costs for January through August.

Which plan is better?

15. What is total quality management? Evaluate the PDCA cycle as a tool for continuous improvement in TQM. [2+8]

SECTION D: CASE STUDY (15 MARKS)

16. Read the following case and answer the questions that follow.

Quality at the Ritz-Carlton Hotel Company Ritz-Carlton. The name alone evokes images of luxury and quality. As the first hotel company to win the Malcolm Baldrige National Quality Award, the Ritz treats quality as if it is the heartbeat of the company. This means a daily commitment to meeting customer expectations and making sure that each hotel is free of any deficiency. In the hotel industry, quality can be hard to quantify. Guests do not purchase a product when they stay at the Ritz: They buy an experience. Thus, creating the right combination of elements to make the experience stand out is the challenge and goal of every employee, from maintenance to management. Before applying for the Baldrige Award, company management undertook a rigorous self-examination of its operations in an attempt to measure and quantify quality. Nineteen processes were studied, including room service delivery, guest reservation and registration, message delivery, and breakfast service. This period of self-study included statistical measurement of process workflows and cycle times for areas ranging from room service delivery times and reservations to valet parking and housekeeping efficiency. The results were used to develop performance benchmarks against which future activity could be measured. With specific, quantifiable targets in place, Ritz-Carlton managers and employees now focus on continuous improvement. The goal is 100% customer satisfaction: If a guest's experience does not meet expectations, the Ritz-Carlton risks losing that guest to competition. One way the company has put more meaning behind its quality efforts is to organize its employees into "self-directed" work teams. Employee teams determine work schedules, what work needs to be done, and what to do about quality problems in their own areas. To see the relationship of their specific area to the overall goals, employees are also allowed to take additional training in hotel operations. Ritz-Carlton believes a more educated and informed employee is better positioned to make decisions in the organization's best interest.

Questions:

- In what ways could the Ritz-Carlton monitor its success in achieving quality? [2]
- Many companies say that their goal is to provide quality products or services. What actions might you expect from a company that intends quality to be more than a slogan or buzzword? [5]
- Why might it cost the Ritz-Carlton less to "do things right" the first time? [3]
- How could Pareto diagrams and cause-and-effect diagrams be used to identify quality problems at a hotel? [5]