



MBA DEGREE EXAMINATIONS: NOV/DEC 2023

(Regulation 2021)

First Semester

MASTER OF BUSINESS ADMINISTRATION

P21MBC1109: Operations Management

COURSE OUTCOMES

- CO1:** Explain the concepts and applications of operations management in business organizations for achieving competitive advantage.
- CO2:** Propose suitable tools and techniques of operations management for productivity improvement.
- CO3:** Display analytical thinking skills in the application of suitable tools governing quality for effective business decision making.

Time: Two Hours

Maximum Marks: 50

PART A (1Q x 10 Marks = 10 Marks) Compulsory Case Only

1 Case Study: CO-3 [K₅]

Background:

XYZ Electronics is a leading consumer electronics company known for its innovative products and cutting-edge technology. The company has been facing challenges in its order fulfillment process, leading to delays, customer complaints, and increased operational costs. The Operations Management team has been tasked with identifying and implementing solutions to streamline the order fulfillment process.

Case Scenario:

XYZ Electronics receives a high volume of online orders for its popular products. The current order fulfillment process involves multiple stages, including order processing, inventory management, picking and packing, and shipping. However, the company has been experiencing delays and errors in these stages, leading to dissatisfied customers, and increased operational costs.

Key Issues:

1. **Order Processing Delays:** The current order processing system is manual and prone to errors, resulting in delays in confirming and processing orders.
2. **Inventory Management Challenges:** Inaccurate inventory counts,

and inefficient tracking systems have led to stockouts, excess inventory, and difficulties in fulfilling orders on time.

3. Picking and Packing Inefficiencies: The picking and packing process is not optimized, leading to errors, misplaced items, and increased labor costs.

4. Shipping Delays: The shipping process faces bottlenecks, and delays occur in dispatching orders to customers, impacting the overall delivery time.

Questions for Discussion:

A. Identify the Root Causes: What could be the root causes of the order processing delays, inventory management challenges, picking and packing inefficiencies, and shipping delays at XYZ Electronics?

B. Technology Solutions: What technology solutions can XYZ Electronics implement to automate and improve the order processing system, inventory management, and tracking?

C. Process Optimization: How can XYZ Electronics optimize the picking and packing process to reduce errors and enhance efficiency? What methodologies or tools can be employed?

D. Inventory Management Strategies: What strategies can the company adopt to improve inventory accuracy and prevent stockouts or excess inventory? How can technology aid in real-time inventory tracking?

PART B (5Q x 2 Marks = 10 Marks)

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| 2 | A plant was designed to produce 7000 injections per day but is limited to 6000 injections. What is the utilization of the plant? | CO-1 | [K ₃] |
| 3 | What do you understand by Materials Management and what are its objectives? | CO-1 | [K ₁] |
| 4 | Define Supply Chain Management and its objectives. | CO-1 | [K ₁] |
| 5 | Explain any two Quality Control tools. | CO-1 | [K ₂] |
| 6 | Compare between manufacturing (goods) and service organization (services). | CO-1 | [K ₂] |

Part – C (3Qx10 Marks =30 marks)

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| 7 | a) Discuss the concept of Enterprise Resource Planning by taking a suitable example. | CO-2 | [K ₆] |
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(OR)

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| 7 | b) Explain the different aspects of cost of quality. | CO-2 | [K ₂] |
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- 8 a) With the help of suitable examples explain the different factors affecting facility location decisions. CO-2 [K₆]
(OR)
- 8 b) Evaluate the concept of MRP with the help of suitable example. CO-2 [K₅]
- 9 a) In a control chart application, the grand average over all past samples of size 7 has been noted as 30 and the mean of ranges is computed as 5. Set up a control chart for this application and determine whether a fresh sample with the following observations indicate that the process is in control. Use $A_2=0.419$, $D_3=0.076$ and $D_4=1.924$.
38, 35, 27, 30, 33, 28 and 32.
(OR)
- 9 b) A life insurance company is considering opening an office in two locations, Pune, and Mumbai. The factor rating for the two cities is given below: CO-3 [K₆]

Factor	Weight	Pune	Mumbai
Customer Convenience	0.25	70	80
Bank Accessibility	0.20	40	90
Computer Support	0.20	85	75
Rental Costs	0.15	90	55
Labor Costs	0.10	80	50
Taxes	0.10	90	50

Using factor rating method, which location is suitable for the insurance company.
