

MBCP 2007

M.B.A. DEGREE EXAMINATION, MAY 2026.

Second Semester

Common Paper

OPERATIONS MANAGEMENT

(2023 Regulation)

Time : Three hours

Maximum : 75 marks

SECTION A — (5 × 4 = 20 marks)

Answer any FIVE questions.

1. "Flexible layouts are the future, but they come with hidden inefficiencies". Briefly examine this paradox in modern manufacturing setup.
2. Examine how the Q-system enable faster response to inventory shortages.
3. Briefly compare job production, batch production and mass production in terms of flexibility and efficiency for different industries.

4. Experiment the contribution of value engineering to cost reduction and product improvement.
5. How can hybrid aggregate planning strategies provide a competitive edge in seasonal industries?
6. How work measurement complements method study to ensure operational efficiency?
7. Evaluate the role of inspection in quality control and suggest how it should be integrated with other quality tools.
8. Discuss how maintenance planning and control can reduce total operational costs.

SECTION B — (5 × 8 = 40 marks)

Answer any FIVE questions.

9. Discuss the extent to which basic deterministic and probabilistic inventory models can be adopted to meet the challenges of e-commerce.
10. Evaluate the strength and weaknesses of the Q-system in a higher demand variability environment.

11. Evaluate the factors affecting systems productivity. How can organisations measure and improve productivity while maintaining quality and customer satisfaction.
12. Analyse the strategic conditions involved in the make or buy decision within operations management. What are the potential risks and benefits and how do factors like cost capacity and core competencies influence this decision?
13. "Aggregate planning is often perceived as a purely operational task, yet it is deeply strategic in nature". Critically evaluate this statement by discussing how aggregate planning decisions influence broader business objectives?
14. Examine the strengths and limitations of aggregate planning methods. How can firms strike a balance between data-driven models and real world constraints?

15. Enumerate the purpose of method study, its role in standardisation and how the organisations can keep innovation alive while following standardised procedures.
16. "There is no such thing as a perfect system - only optimal trade-offs". Discuss the inevitable trade-off between cost, quality, speed, flexibility and reliability in operations management. How can decision makers strike a balance among these competing objectives?

SECTION C — (1 × 15 = 15 marks)

Answer the following

17. Case Study (Compulsory).

SwiftGroceries is a fast growing online grocery delivery service that operates a central warehouse to fulfill customer orders. As the company expanded its customer base, it began facing operational challenges such as delayed deliveries, order inaccuracies and increased customer complaints. The warehouse team was under pressure and inefficiencies in inventory management and order processing were becoming more evident.

The Operations Manager, Ravi Desai initiated a review of the entire order fulfillment process. He found that the warehouse layout was poorly organised, leading to long picking times and frequent errors. In response, Ravi redesigned the warehouse using a more efficient layout based on the ABC classification method, where high-demand items were placed closer to packing stations. Additionally, barcode scanning was introduced to improve inventory accuracy and reduce manual errors.

To further streamline operations, Ravi implemented a new inventory management system that provided real-time data and automated reordering of fast-moving items. He also introduced performance metrics for warehouse staff, including order accuracy rate and average fulfillment time. These changes improved overall efficiency, reduced delivery time by 20% and significantly lowered customer complaints within two months.

The improvements not only enhanced customer satisfaction but also boosted employee morale, as the workflow became more organised and manageable. SwiftGroceries continued to grow and used the new system as a model for future warehouse expansions. This case highlights how effective operations management can drive both productivity and customer satisfaction in a competitive industry.

Questions:

- (a) What operational changes had the greatest impact on improving efficiency at SwiftGroceries warehouse?
 - (b) How can technology be used to solve common challenges in warehouse and inventory management?
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