

Total No. of Questions: 6

Total No. of Printed Pages:3

Enrollment No.....



Faculty of Engineering
End Sem Examination Dec-2023
ME3EI01 Operations Management

Programme: B.Tech.

Branch/Specialisation: ME

Duration: 3 Hrs.

Maximum Marks: 60

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

- Q.1 i. What is the main objective of operations management? 1
(a) Maximizing profits
(b) Minimizing costs
(c) Ensuring customer satisfaction
(d) All of these
- ii. Which of these is/are function/s of operation manager? 1
(a) Demand forecasting (b) Procurement
(c) Quality control (d) All of these
- iii. The following is the preliminary stage of production planning. 1
(a) Capacity planning
(b) Material requirement planning
(c) Scheduling
(d) Product development and design
- iv. Which of the following is an example of a process improvement technique used in operations management? 1
(a) Cost-cutting (b) Benchmarking
(c) Increasing lead times (d) Reducing employee training
- v. In operations management, the term "Economies of Scale" refers to: 1
(a) Reducing the scale of production to cut costs
(b) Increasing production to lower the average cost per unit
(c) Maintaining production at a constant level to ensure stability
(d) Adjusting production based on market demand

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- vi. Which type of facility layout arranges workstations in a linear fashion, with a product moving from one station to another in a straight line? **1**
 (a) Process layout (b) Cellular layout
 (c) Product layout (d) Fixed-position layout
- vii. Just-in-time (JIT) is a production strategy that primarily focuses on: **1**
 (a) Maintaining high inventory levels
 (b) Minimizing lead times and waste
 (c) Maximizing production volume
 (d) Reducing machine downtime
- viii. What is the main objective of an Enterprise Resource Planning (ERP) system in an organization? **1**
 (a) Managing supply chain logistics
 (b) Integrating and streamlining various business processes and functions
 (c) Handling employee recruitment and HR operations
 (d) Generating sales forecasts
- ix. Which Japanese term is often associated with Lean manufacturing and means "continuous improvement"? **1**
 (a) Kaizen (b) Muda (c) Heijunka (d) Kanban
- x. Which type of Decision Support System helps organizations make decisions about long-term strategies and goals? **1**
 (a) Tactical DSS (b) Strategic DSS
 (c) Operational DSS (d) Analytical DSS
- Q.2 i. Write short note on historical evolution of operations management. **2**
 ii. Define operations management. List the objectives of operations management. **3**
 iii. Explain similarities and difference between products and services **5**
 OR iv. Explain in detail the functions and responsibilities of operations manager. **5**
- Q.3 i. Define capacity planning. How does effective capacity planning benefit an organization? **4**
 ii. Differentiate between DFM and DFE by giving suitable examples. **6**
 OR iii. Explain in detail facility location strategies. **6**

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- Q.4 i. Define GT, FMS, CPM and PERT. **4**
 ii. What are the key components of an FMS? How does FMS differ from traditional, fixed manufacturing systems? **6**
 OR iii. What are the common objectives of an efficient facility layout? **6**
 What factors should be considered when designing an optimal facility layout?
- Q.5 i. What is MPS? Write the advantages of MPS. **3**
 ii. What is the purpose of vendor rating or supplier performance evaluation in supply chain management? What criteria are typically used to assess and rate vendors or suppliers? **7**
 OR iii. What is MRP? Discuss inputs, outputs, and objectives of MRP. **7**
- Q.6 Attempt any two:
 i. What is lean system? Describe principles and benefits of a lean system for industries. **5**
 ii. What is the primary function of a Decision Support System (DSS) in operations management? How does it assist in decision-making within the field? **5**
 iii. What are the key components or technologies involved in a Computer-Integrated Manufacturing system? List benefits of implementing CIM. **5**

Marking Scheme
ME3EI01 (T)-Operations Management

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 B) Minimizing costs
 C) Ensuring customer satisfaction
 D) All of the above
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 a) Demand forecasting
 b) Procurement
 c) Quality control
 d) All of the above
- iii) The following is the preliminary stage of production planning. **1**
 a) capacity planning
 b) material requirement planning
 c) scheduling
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- Q.2 i. Write short note on historical evolution of operations management. **2**
- ii. Define operations management. List the objectives of operations Management. **1+2**
- iii. Explain similarities and difference between products and services **1 for each**
- OR iv. Explain in detail the functions and responsibilities of Operations manager. **2+3**

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- Q.3 i. Define Capacity planning. How does effective capacity planning benefit an organization? **2+2**
- ii. Differentiate between DFM and DFE by giving suitable examples. **4+2**
- OR iii. Explain in detail facility location strategies. **6**
- Q.4 i. Define GT, FMS, CPM and PERT. **1 each**
- ii. What are the key components of an FMS? How does FMS differ from traditional, fixed manufacturing systems? **2+4**
- OR iii. What are the common objectives of an efficient facility layout? What factors should be considered when designing an optimal facility layout? **2+4**
- What is MPS? Write the advantage of MPS.
- Q.5 i. What is project management? Write differences between CPM & PERT. **1+2**
- ii. What is the purpose of vendor rating or supplier performance evaluation in supply chain management? What criteria are typically used to assess and rate vendors or suppliers? **3+4**
- OR iii. What is MRP? Discuss inputs, outputs, and objectives of MRP. **1+2+2+2**
- Q.6 **Attempt any two:**
- i. What is Lean system? Describe principles and benefits of a lean system for industries. **1+2+2**
- ii. What is the primary function of a Decision Support System (DSS) in operations management, and how does it assist in decision-making within the field? **2+3**
- iii. What are the key components or technologies involved in a Computer-Integrated Manufacturing system? List benefits of implementing CIM. **3+2**
