

School of Business**Bachelor of Business Administration
Semester End Examination - Jun 2024****Duration : 180 Minutes
Max Marks : 100****Sem II - D1UA204T - Production and Operations Management***General Instructions**Answer to the specific question asked**Draw neat, labelled diagrams wherever necessary**Approved data hand books are allowed subject to verification by the Invigilator*

- 1) Interpret the difference between cellular manufacturing layout and Fixed position layout with examples. K2(4)
- 2) Compare and Contrast between Factor rating method and Centre of gravity method with example. K2(4)
- 3) Compare the difference between make-to-order and make-to-stock in process analysis with examples. K5(5)
- 4) Compare and contrast between prevention costs and appraisal costs? K2(6)
- 5) Make use of Cost of Quality to identify the difference between service-oriented business versus a manufacturing business. K3(6)
- 6) Assume that you're tasked with designing the kitchen layout for a new McDonald's restaurant. Discuss the factors you would consider and the layout you would propose, ensuring efficiency in food preparation, cleanliness, and staff movement. K4(8)
- 7) You are a production manager at a manufacturing company that produces electric vehicle. Your company is experiencing a sudden surge in demand for this flagship products due to a successful marketing campaign. However, the production cycle for this product involves multiple stages, including component procurement, assembly, testing, and packaging. Due to the unexpected increase in demand, you need to optimize the production cycle to meet the increased orders while maintaining quality and efficiency. You are required to develop a production cycle by incorporating the role of various other department for its cycle (Provide a neat sketch also) K3(9)
- 8) You are a quality manager at a manufacturing company that produces electronic gadgets. Recently, the company has been experiencing a significant increase in customer complaints regarding product defects and failures. As a result, the K3(9)

management has decided to implement Total Quality Management (TQM) principles to improve product quality and customer satisfaction. Identify, how Total Quality Management principles can be applied to address the increase in customer complaints and improve product quality in the manufacturing company.

- 9) Determine an A-B-C classification for these items: K5(10)

Item	Unit Cost(₹)	Annual Volume (00)
1	100	25
2	80	30
3	15	60
4	50	10
5	11	70
6	60	85
7	10	60

- 10) The county sheriff's department handed out the following tickets on a summer weekend. Analysis the data and prepare check sheet and a Pareto diagram for the types of infractions. K4(12)

Ticket No.	Infractions
1	Excessive speed
2	Expired inspection
3	Improper turn
4	Excessive speed
5	Parking violation
6	Parking violation
7	Excessive speed
8	Parking violation
9	Improper turn
10	Parking violation
11	Expired inspection
12	Parking violation
13	Improper turn
14	Parking violation
15	Excessive speed
16	Parking violation
17	Parking violation
18	Parking violation
19	Excessive speed
20	Parking violation

- 11) The table (See the Word file for table) shows the Motor assembly check sheet information of XYZ company. Construct the following diagrams and conclude the findings 1. Histogram 2. Pareto Diagram 3. Cause effect diagram K4(12)

- 12) Solid Base, a cement manufacturing organization in Patna, embarked on its journey in the mid-90s. Initially focusing solely on dry cement production, with capacities ranging from 150t/d to 330t/d, the organization responded to escalating construction demands by expanding its capacity to 5000t/d. Additionally, it diversified its offerings to include material crushing, clinker burning, and aluminum pipe manufacturing. Despite its expanding client base, Solid Base faced operational inefficiencies leading to delays and defects in its products, causing customer dissatisfaction. To address these challenges, Solid Base opted to implement a Just-In-Time (JIT) system, aiming for continuous product flow, reduced inventory levels, minimized setup times, and swift product K5(15)

delivery. However, the initial JIT implementation encountered hurdles, including an inadequate information system, lack of employee cooperation, and obsolete inventory.

Upon recognizing these impediments, Solid Base reassessed its JIT objectives and reinstated the system. This renewed implementation yielded notable improvements:

Production of Cement: Increased by an impressive 240%, indicating enhanced manufacturing efficiency and utilization of production capacity.

Wastage: Decreased by 255%, showcasing the effectiveness of JIT in minimizing inefficiencies and optimizing resource utilization.

Demand Rate: Improved by 50%, signifying better synchronization of production with market demand, thereby enhancing customer satisfaction.

Supply Rate: Enhanced by 150%, reflecting increased responsiveness to customer needs and market dynamics.

Furthermore, the re-implemented JIT system facilitated a deeper understanding of production flow, enabling Solid Base to meet current demand more effectively. By reducing waste and aligning production with customer expectations, the organization bolstered its overall performance and competitiveness.

In conclusion, the successful JIT implementation not only addressed Solid Base's operational challenges but also positioned it for sustainable growth and improved customer satisfaction. The organization's commitment to continuous improvement and adaptability underscores its resilience in meeting evolving market demands.

Q1. Explain the reasons for the failure of JIT in Solid Base? (Marks 7)

Q2. According to you, what should be the objectives of JIT? (Marks 8)