

Enrollment No./Seat No.:

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MBA - SEMESTER - III EXAMINATION - SUMMER 2025**

**Subject Code: 4539273**

**Date: 06-06-2025**

**Subject Name: Production Planning and Control**

**Time: 02:30 PM TO 05:30 PM**

**Total Marks: 70**

**Instructions**

- 1. Attempt all questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**
- 4. USE of SIMPLE calculators AND non-programmable scientific calculators are permitted.**

	<b>Marks</b>
<b>Q.1</b> ALL 7 Questions must be Compulsory.	<b>14</b>
<b>(a)</b> Production Planning and Control (PPC)	
<b>(b)</b> Master Production Schedule (MPS)	
<b>(c)</b> Batch production	
<b>(d)</b> Demand Forecasting	
<b>(e)</b> Facility Layout	
<b>(f)</b> Aggregate Planning	
<b>(g)</b> Preventive Maintenance	
<b>Q.2 (a)</b> Explain the phases of production and describe the functions of production planning and control.	<b>07</b>
<b>(b)</b> Explain the concept of batch production and how it affects inventory levels and production planning. Discuss the relationship between batch size, production rate, and demand in determining the number of batches and average inventory.	<b>07</b>
<b>OR</b>	
<b>(b)</b> Explain the relationship of PPC with other departments in a manufacturing organization. How does coordination improve production efficiency?	<b>07</b>
<b>Q.3 (a)</b> Explain the quantitative and qualitative methods of demand forecasting with examples.	<b>07</b>
<b>(b)</b> Discuss different types of work orders used in production planning and their significance.	<b>07</b>
<b>OR</b>	
<b>(a)</b> Discuss the types of work orders used in different manufacturing methods.	<b>07</b>
<b>(b)</b> Explain the role of inspection orders and store issue orders in maintaining production efficiency.	<b>07</b>
<b>Q.4 (a)</b> Describe the types of facility layouts with suitable examples	<b>07</b>

- (b) Explain the objectives and importance of layout decisions in production planning and control. 07

**OR**

- (a) Discuss the significance of assembly line balancing and its impact on production efficiency. 07
- (b) Explain the concept of redesigning a layout and the factors to consider during layout planning. 07

**Q.5** XYZ Manufacturing Pvt. Ltd. produces electrical equipment using batch production. The company faces frequent breakdowns in machines and has poor forecasting accuracy, leading to delays in delivery. The management wants to implement effective forecasting methods and a proper maintenance management system.

- (a) What forecasting methods can XYZ use to improve demand estimation? Explain their suitability. 07
- (b) Suggest a proper maintenance plan and explain different types of maintenance that can help XYZ reduce breakdowns. 07

**OR**

- (a) Discuss how proper scheduling and dispatching can help XYZ meet delivery timelines. 07
- (b) Discuss the concept of aggregate planning, its strategies, and how it can help XYZ manage demand fluctuations. 07

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