

**GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE- SEMESTER-VI (NEW) EXAMINATION – WINTER 2024**

**Subject Code:3161907**

**Date:28-11-2024**

**Subject Name:Basics of Industrial Engineering**

**Time:02:30 PM TO 05:00 PM**

**Total Marks:70**

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		Marks
<b>Q.1</b>	(a) Enlist the six applications of Sales forecasting techniques.	<b>03</b>
	(b) What type of layout is used in Shipbuilding? Justify your answer.	<b>04</b>
	(c) What is Productivity? Discuss the factors affecting the productivity of the manufacturing organization.	<b>07</b>
<b>Q.2</b>	(a) Define the following terms. 1. Cycle time                      2. Balance Delay                      3. Line efficiency	<b>03</b>
	(b) Explain “String diagram” & its uses.	<b>04</b>
	(c) Discuss the following methods of sales forecasting: (i) Exponential smoothing (ii) Method of weighted moving average.	<b>07</b>
<b>OR</b>		
	(c) Explain the terms Loading, scheduling, dispatching, and expediting.	<b>07</b>
<b>Q.3</b>	(a) Comparisons: Job type production and Batch type production system.	<b>03</b>
	(b) Differentiate between product layout V/s process layout.	<b>04</b>
	(c) What is an OC curve? Write the step by step procedure for construction of an OC curve.	<b>07</b>
<b>OR</b>		
<b>Q.3</b>	(a) Give a Reasons for generation and accumulation of Obsolete.	<b>03</b>
	(b) Discuss-Assembly Line Balancing.	<b>04</b>
	(c) What is the Role of production planning and control in industry ?Also explain function of PPC.	<b>07</b>
<b>Q.4</b>	(a) State the objectives of good plant layout.	<b>03</b>
	(b) What is an industrial dispute? State aims of Industrial Dispute Act.	<b>04</b>
	(c) State the characteristic of an good entrepreneur.	<b>07</b>
<b>OR</b>		
<b>Q.4</b>	(a) What is Routing? Explain in brief.	<b>03</b>
	(b) What is therbligs? Explain any two therbligs with their abbreviation and symbol.	<b>04</b>
	(c) Explain the principles of motion economy and work place design.	<b>07</b>
<b>Q.5</b>	(a) What is the need of industrial legislation?	<b>03</b>
	(b) How X and R charts are prepared? Explain.	<b>04</b>

- (c) Discuss the Operation Process Chart by considering any appropriate example. **07**

**OR**

- Q.5** (a) Explain Taylor's differential piece rate system. **03**  
(b) What is incentive ? state different type of incentives. **04**  
(c) Define ergonomics and explain how it helps to improve system performance. **07**

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