

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-VI EXAMINATION – WINTER 2025

Subject Code:3161907

Date:19-11-2025

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
Q.1	(a) Explain the importance of plant location in brief.	03
	(b) Explain the flow process chart (material type) with a suitable example.	04
	(c) Discuss the factors to be considered for the location of the nuclear power plant.	07
Q.2	(a) What do you mean by line balancing? What is the procedure for line balancing?	03
	(b) Explain the terms Loading, scheduling, dispatching, and expediting.	04
	(c) Name the various methods of sales forecasting. Describe any two of them.	07
	OR	
	(c) Define productivity. Give various ways to improve productivity and explain them to anyone with a suitable example.	07
Q.3	(a) Discuss the string diagram in detail.	03
	(b) What is job evaluation? Discuss any one method of job evaluation.	04
	(c) Explain the two-handed process chart with a neat sketch.	07
	OR	
Q.3	(a) Differentiate Minimum Wage, Fair Wage, and Living Wage.	03
	(b) Explain the travel chart in brief.	04
	(c) What is work measurement? List various methods of work measurement and explain how standard time is calculated.	07
Q.4	(a) What is a method study? List the objectives of the method study.	03
	(b) State the importance of micromotion study.	04
	(c) Explain the principles of motion economy and workplace design.	07
	OR	
Q.4	(a) List the equipment used for time study and explain the fly-back timing method.	03
	(b) Prepare a list of Therbligs used in the industry. (Any Eight)	04

- (c) What is the purpose of control charts? Explain any one attribute type chart in detail. **07**
- Q.5** (a) Explain the Payment of Bonus Act 1965 in brief. **03**
(b) Explain the double sampling plan. When do you apply double sampling in place of single sampling? **04**
(c) Write a short note on 'Identification and Control of Waste.' **07**
- OR**
- Q.5** (a) Explain the Six Sigma concept, principle, and methodology. **03**
(b) Distinguish consumer's risk and producer's risk. **04**
(c) What financial initiatives does the government have in place to support the growth of entrepreneurship? **07**
