

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2021****Subject Code:3152607****Date:22/12/2021****Subject Name:Rubber Product & Process 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) How industrial housekeeping contributes to making workplaces better and safer?	03
	(b) What are the Four sources of pollution? Explain in detail.	04
	(c) Discuss the health hazard from Curing Agent.	07
Q.2	(a) Define the Terms: - (1) Risk (2) Hazard (3) Accident.	03
	(b) Explain any one method for controlling fire hazards.	04
	(c) Describe various components of safety program.	07
OR		
	(c) What was the worst chemical disaster in human history? Explain in detail.	07
Q.3	(a) List out the types of pollution in rubber industry.	03
	(b) Explain the difference between pollution and pollutants.	04
	(c) Write the damages caused by the pollution on the natural functioning of biosphere.	07
OR		
Q.3	(a) What are the main sources of air pollution in Rubber industry?	03
	(b) Discuss fundamental criteria for Rubber Engineers.	04
	(c) Explain the ways for Conserving energy in rubber Industry.	07
Q.4	(a) Give any three factors for selecting plant location.	03
	(b) Write a note on Urban side plant location.	04
	(c) Draw the plant layout diagram for Rubber-diaphragm manufacturing Unit.	07
OR		
Q.4	(a) Define the terms: - (1) Motion Study (2) Time Study (3) Work Measurement.	03
	(b) Write the advantages of Government Industrial Estates.	04
	(c) Which type of maintenance is generally employed in Small scale industry? Explain it in detail.	07

- Q.5** (a) Explain the concept of Total Quality Management. **03**
 (b) Describe in brief management philosophies: (1) Right In First Time (2) Just in Time. **04**
 (c) The annual data for X Company given below: **07**

Sr.No.	Particulars	Amount Rs.
1	Sales 1,00,000 units at Rs. 200/- each	
2	Raw material cost	10,00,000
3	Utility Cost	1,00,000
4	Labour Cost(Daily Wages)	5,00,000
5	Salaries	10,00,000
6	Administrative expenses	1,00,000
7	Rent, Insurance	1,00,000

Calculate variable cost, fixed cost, contribution and breakeven point as percent installed capacity.

OR

- Q.5** (a) List the obstacles of an entrepreneur desiring to set up a small industry. **03**
 (b) Describe the factors affecting the cost of project. **04**
 (c) What are the different types of layout? How should an organisation decide on, which layout to choose? **07**
