

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER– VI (New) EXAMINATION – WINTER 2019****Subject Code: 2162509****Date: 09/12/2019****Subject Name: Plant Maintenance and Safety Engg.****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.

		MARKS
Q.1	(a) State the objectives of a good plant layout.	03
	(b) State advantages of rural and Urban area for site selection.	04
	(c) List the factors considered for site selection for any industry. Apply and discuss the same for Car Manufacturer.	07
Q.2	(a) What do you mean by flow pattern?	03
	(b) State the difference between Product Layout and Plant Layout.	04
	(c) Explain the ALDEP Algorithm and Flow chart.	07
	<b>OR</b>	
	(c) Explain the CRAFT Algorithm with suitable illustration.	07
Q.3	(a) List out the important factors for consideration of flow pattern design.	03
	(b) Describe material handling in Product Layout.	04
	(c) Explain scope, function and application of Material Handling in Stores and Warehouses.	07
	<b>OR</b>	
Q.3	(a) Differentiate between preventive and scheduled maintenance.	03
	(b) Describe importance of maintenance in hospitals.	04
	(c) Give the organization setup of maintenance department in a large television production plant. How does it differ from small plant manufacturing same television?	07
Q.4	(a) Discuss the provisions of 'Working hours' for male and female as per Factories Act, 1948.	03
	(b) State the causes of industrial accidents.	04
	(c) Explain the payment of wages act - 1936.	07
	<b>OR</b>	
Q.4	(a) In which conditions, 'Strike' is not possible by employees of organization as per Industrial dispute Act, 1947.	03
	(b) Suggest few practical measures to minimize industrial accidents.	04
	(c) Explain the factory Act – 1948.	07
Q.5	(a) List the need and advantages of material flow patterns.	03
	(b) Write a procedure for TPM implementation in any organization.	04
	(c) Describe Fixed Automation System with suitable examples.	07
	<b>OR</b>	
Q.5	(a) Explain the importance and necessity of labour laws.	03
	(b) Describe the concept of TPM.	04
	(c) Explain the importance of industrial robot for material handling.	07

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