

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER– VII (New) EXAMINATION – WINTER 2019****Subject Code: 2170503****Date: 28/11/2019****Subject Name: Plant Design & Project Engineering****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
<b>Q.1</b>	(a) Explain community factors in plant layout.	<b>03</b>
	(b) Discuss equipment noise sources, levels, potential control solutions for the same (any four equipments)	<b>04</b>
	(c) Write short note on Design information from literature.	<b>07</b>
<b>Q.2</b>	(a) Write short note on patents.	<b>03</b>
	(b) Discuss role of a chemical engineer.	<b>04</b>
	(c) List all points in feasibility survey. Explain 'Markets' & 'Properties of products' wrt the same.	<b>07</b>
	<b>OR</b>	
	(c) List all points in comparison of processes. Explain 'Technical Factors' & 'Time Factor' wrt the same.	<b>07</b>
<b>Q.3</b>	(a) Discuss storage aspects as a general design consideration	<b>03</b>
	(b) Discuss in brief selection criteria for material handling equipment.	<b>04</b>
	(c) Sketch an ideal plant layout. (Provide legend if required)	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Write short note on plant overhead costs.	<b>03</b>
	(b) List preliminary specifications for equipment in general.	<b>04</b>
	(c) List and discuss principles of plant layout.	<b>07</b>
<b>Q.4</b>	(a) Explain Nelson Farrar Refinery construction cost index.	<b>03</b>
	(b) Discuss any two types of depreciation in detail.	<b>04</b>
	(c) List methods for assessing profitability of a project. Discuss any two in detail.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) List types of depreciation.	<b>03</b>
	(b) List methods for estimating capital investment	<b>04</b>
	(c) Write short note on Cost indexes	<b>07</b>
<b>Q.5</b>	(a) Explain six-tenths factor rule	<b>03</b>
	(b) Discuss replacement studies with example.	<b>04</b>
	(c) Discuss PERT in detail	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) Sketch tree diagram only for cash flow in an industrial unit.	<b>03</b>
	(b) Discuss alternative investment with example.	<b>04</b>
	(c) Compare CPM and PERT techniques.	<b>07</b>

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