

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE- SEMESTER-VII (NEW) EXAMINATION – WINTER 2020****Subject Code:2173611****Date:30/01/2021****Subject Name:Project & Plant Engineering****Time:10:30 AM TO 12:30 PM****Total Marks: 56****Instructions:**

1. Attempt any **FOUR** questions out of **EIGHT** questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

	MARKS
<b>Q.1</b> (a) Explain the role of chemical engineer in plant design.	<b>03</b>
(b) Write a note on any two utilities used in chemical industries.	<b>04</b>
(c) Explain various stages of project implementation.	<b>07</b>
<b>Q.2</b> (a) Define 1) Salvage value 2) Scrap value 3) Cost index	<b>03</b>
(b) Write a note on importance of safety in chemical process industry.	<b>04</b>
(c) Discuss in detail about feasibility survey.	<b>07</b>
<b>Q.3</b> (a) Explain cash flow for industrial operations.	<b>03</b>
(b) Write a short note on pilot plant.	<b>04</b>
(c) Explain plant location.	<b>07</b>
<b>Q.4</b> (a) Differentiate between standard vs special equipment's.	<b>03</b>
(b) Explain fault-tree analysis.	<b>04</b>
(c) Explain factors to be considered in efficient plant layout.	<b>07</b>
<b>Q.5</b> (a) Explain the various methods of waste water treatment.	<b>03</b>
(b) Write a short note on boiler feed water.	<b>04</b>
(c) Explain Declining balance and sum-of-the-years digits method used for estimating depreciation.	<b>07</b>
<b>Q.6</b> (a) Write a short note on steam as a utility.	<b>03</b>
(b) Explain cost index in detail.	<b>04</b>
(c) The original value of a piece of equipment is \$22,000, completely installed and ready for use. Its salvage value is estimated to be \$2000 at the end of a service life estimated to be 10 years. Determine the asset (or book) value of the equipment at the end of 5 years using: (a) Straight-line method. (b) Textbook declining-balance method.	<b>07</b>
<b>Q.7</b> (a) Explain PERT & CPM.	<b>03</b>
(b) Define depreciation. List methods for determining depreciation.	<b>04</b>
(c) Explain break-even analysis in detail.	<b>07</b>
<b>Q.8</b> (a) Explain selection criteria for process equipment.	<b>03</b>
(b) Write a note on different types of projects.	<b>04</b>
(c) Explain various types of valve used in chemical industries.	<b>07</b>

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