Seat No.:	Enrolment No.
Julia 140	Linding it is

GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-VII • EXAMINATION - SUMMER • 2015

Subject code:	170503	Date: 12/05/2015
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Subject Name: Plant design & Project Engineering

Time: 02.30pm-05.00pm **Total Marks: 70**

Instructions:

1. Attempt all questions.

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- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks.
- 0.1 Discuss with tree diagram cash flow for an industrial organization **07** (a) **(b)** Discuss different types of flow diagrams used in chemical industry. **07 Q.2** (a) Explain continuous process V/s batch process **07** (b) Discuss flow control valves with neat figure and its applications 07 OR Write in brief about specification sheet for a distillation column. **07 (b)** 0.3 07 (a) Discuss briefly about factors to be considered in plant layout Write in brief about process utilities and its importance in chemical **(b)** 07 industry OR Write short note on pilot plants and also discuss its importance in industry. (a) 07 Q.3 Discuss about Economic and safety aspects to be considered in a chemical **(b)**
- plant project.
- **Q.4** Discuss factors affecting total product cost.
 - A manufacturing house has a capacity of 3,00,000 units annually. The fixed cost of production line is Rs. 2,00,000/- per year with variable cost of Rs. 4/- unit and revenues of Rs. 7/- per unit. Evaluate breakeven in terms of percentage of capacity utilized by the company.

OR

- (a) Discuss in brief about cost indices. **Q.4** 07
 - (b) State methods of estimating capital investment and discuss any one in 07 detail.
- (a) List various methods used for estimating depreciation and explain any one **Q.5 07** in detail
 - **(b)** The original value of equipment is Rs. 10 lacs. At the end of useful life of **07** 10 years its salvage value is Rs. 1,00,000/-. Determine the asset value of the reactor at the end of 5th year using sum of years digit method and declining balance method and compare and comment both the results.

OR

- Write a short note on PERT and CPM techniques (a) 07 Q.5
 - Write about alternative investments in industry

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