Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII • EXAMINATION – SUMMER 2013

Subject Code: 170503 Date: 28-05-2013			
	e: 02	Name: Plant Design and Project Engineering 2.30 pm - 05.00 pm Total Marks: 70	
	1. 2. 3.	Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	Discuss design information from literature.	07
	(b)	Considering the factors in planning layouts, draw a typical master plot plan of an industry. Justify the same.	07
Q.2	(a)	State the preliminary specifications for equipments. Prepare the specification sheet for a heat exchanger.	07
	(b)	Discuss selection of size reduction equipment. OR	07
	(b)	Discuss selection of material handling equipment.	07
Q.3	(a)	What is a pilot plant? Explain semi-commercial and commercial evolutionary stages in a pilot plant.	07
	(b)	Explain unit area concept and scale models. Discuss principles of Plant layout. OR	07
Q.3	(a)	Discuss checklist to be considered in pilot plant investigation.	07
	(b)	List types of flow diagrams. Discuss all in detail.	07
Q.4	(a) (b)	Write short note on Profitability analysis. What is payout period? Explain how will you compute payout period in years, with	07 07
		and without interest charge. OR	
Q.4	(a)	What is capital investment? List all methods for fixed capital cost estimates. Discuss	07
	(b)	any two in detail. Explain the term 'replacement' and discuss methods of profitability evaluation for the same.	07
Q.5	(a)	Discuss cost indices in chemical engineering cost estimation. Explain how will you use the index method	07
	(b)	Explain the six-tenths factor method for approximating the cost of equipment of different size or capacity when one entity is known. OR	07
Q.5	(a)	Define depreciation. List methods of determining depreciation. Discuss any two in detail.	07
	(b)	Write short note on CPM and PERT.	07
