Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III • EXAMINATION - SUMMER 2013

Subject Code: 130505 Subject Name: Chemical Process Industries-1			Date: 31-05-2013	
Time: 02.30 pm - 05.00 pm Instructions:			Total Marks: 70	
THIS CLU	1. A 2. N	ttempt all questions. Iake suitable assumptions wherever necessary. igures to the right indicate full marks.		
Q.1	(a) (b)	Classify chemical reactors and discuss their design criteria. Discuss municipal wastewater treatment with a neat flow diagram.	07 07	
Q.2	(a) (b)	Explain ion exchange in detail. Explain with a flow chart elemental sulfur mining by Frasch process. OR	07 07	
	(b)	Discuss all major engineering problems in sulfuric acid production.	07	
Q.3	(a) (b)	Explain major engineering problems in Urea production. State raw materials, chemical reactions and major engineering problems in wet process for phosphoric acid production. OR	07 07	
Q.3	(a) (b)	Explain major engineering problems in ammonia synthesis. Explain Urea manufacture from ammonium carbamate with a neat flow chart.	07 07	
Q.4	(a) (b)	Explain paper making process with a schematic diagram. Write short note on setting and hardening of cement. OR	07 07	
Q.4	(a)	State electrolysis reactions in diaphragm cell and mercury cell and explain electrolytic process for chlorine-caustic soda production.	07	
	(b)	Explain preparation of wood pulp by sulfate process	07	
Q.5	(a)	Discuss use of chemicals and their action in preparing black and white photographic emulsions.	07	
	(b)	Write short note on rare gases of atmosphere.	07	
Q.5	(a) (b)	Write short note on commercial glass. Explain manufacture of amorphous carbon electrodes with a neat flowchart.	07 07	
