Seat No.:	Enrolment No.

Subject Code: 2130505

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III • EXAMINATION - WINTER • 2014

Date: 20-12-2014

Ti	•	Name: Chemical Process Industries - I 2.30 pm - 05.00 pm Total Marks: 70	
1115		Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a)	What do you understand by the term 'desalination'? With a neat sketch, describe any one desalination process in detail.	07
	(b)	Describe the manufacture of sulfuric acid by DCDA process with process flow diagram.	07
Q.2	(a)	Stating the uses of urea, discuss all major engineering problems in urea production by ammonium carbamate decomposition process.	07
	(b)	Describe the manufacture of soda ash by Solvay process, with a neat process flow diagram.	07
	(b)	With a neat sketch of membrane cell, explain the process of manufacturing caustic soda and chlorine. State the advantages and the disadvantages of membrane cell process.	07
Q.3	(a)	Stating the major engineering problems, explain the manufacture of ammonia with a neat flow diagram.	07
	(b)	Discuss the scope of fertilizer industries in India. OR	07
Q.3	(a)	Stating the raw materials and chemical reactions, discuss all major engineering problems in the manufacture of phosphoric acid by wet process.	07
	(b)	State the sources and uses of hydrogen. Explain its manufacture from any one source.	07
Q.4	(a)	Describe the production of oxygen and nitrogen by Linde process. Also state the properties and uses of oxygen and nitrogen.	07
	(b)	State various forms of carbon and discuss about any one in detail. OR	07
Q.4	(a) (b)	Explain the manufacturing process of Portland cement with a neat flow sheet. Stating the classification of commercial glasses, explain the manufacture of flat glass.	07 07
Q.5	(a)	Mention the types of propellants. Discuss the basic criteria for developing high performance chemical propellant system.	07
	(b)	State the various types of explosives and discuss about any one in detail. OR	07
Q.5	(a) (b)	With a neat diagram explain paper making process. Briefly discuss Kraft (sulfate) process of pulping and compare with sulfite process.	07 07
