Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-III EXAMINATION – SUMMER 2016

Subject Code:130505 Date:31/05/2016

Time:10:30 AM to 01:00 PM Total Marks: 70

Instructions:

Q.5

(a)

(b)

1.	Attempt	all d	nuestions.

- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks.

	4.	Draw neat diagram where necessary.	
Q.1	(a)	Draw a neat diagram of contact process for the manufacture of sulphuric acid. Describe in brief the working operations involved in the process. Also discuss merits and demerits of the contact process.	07
	(b)	With complete process flow diagram discuss manufacturing of Urea. Also discuss major engineering problems involved in it.	07
Q.2	(a)	Describe the membrane cell process for caustic soda production. Discuss advantages and disadvantages of membrane cell over mercury and diaphragm cell?	07
	(b)	Describe Solvay's process for the manufacturing of sodium carbonate. Can this process manufacture potassium carbonate? OR	07
	(b)	Discuss manufacturing of phosphoric acid by wet process and give comparison of wet process and electric furnace process.	07
Q.3	(a)	Ion exchange process for production of demineralised water.	05
	(b) (c)	Properties of the good refractory material. Different applications of glass.	05 04
	(C)	OR	V -
Q.3		Write short note on following:	
	(a)	Merits and demerits of different catalyst used in contact process.	05
	(b) (c)	Deaeration of water. Differentiate between batch and continuous process.	05 04
0.4		Write a short note on Activated carbon.	07
Q.4	(a) (b)	Discuss the process for manufacturing of artificial graphite electrodes. Also state uses of graphite and carbon.	07
0.4	()	OR	0=
Q.4	(a) (b)	Compare sulphate and sulphite process for pulp and paper manufacturing. What is Portland cement? State different types of Portland cement. What are the relative advantages and disadvantages of high alumina cement as compared with Portland cement.	07 07
Q.5	(a)	Classify different methods of production of Nitric acid. Also discuss methods for concentration of nitric acid.	07
	(b)	Describe Linde's process of oxygen and nitrogen production. Discuss in	07

OR

brief the uses and properties of nitrogen and oxygen gases.

Write short note on the following

Explosives used in industries.

Various calcium and magnesium compounds.

07

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