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## GUJARAT TECHNOLOGICAL UNIVERSITY BE - SEMESTER-III EXAMINATION – WINTER 2015

Subject Code:130505 Date:21/12/2015

**Subject Name: Chemical Process Industries - I** 

Time: 2:30pm to 5:00pm Total Marks: 70

## **Instructions:**

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

(a)	Write a short note on: Propellants.	07
<b>(b)</b>	Discuss in brief about Settling & Hardening of cement.	07
(a)	Explain waste water treatment by activated sludge process. Discuss treated effluent disposal management.	07
<b>(b)</b>	Starting with neat flow diagram and reactions, discuss the manufacture of Ammonia.	07
	OR	
<b>(b)</b>	Explain with neat sketch manufacturing of pulp by using Kraft process.	07
(a)	Describe manufacturing methodology of pure CO <sub>2</sub> . Enlist different uses of dry	07
	$CO_2$ .	
<b>(b)</b>	Write a short note on: Ceramic industries.	07
, ,	OR	
(a)	Give the difference between Unit operation and Unit process	07
	<del>_</del>	07
		07
		07
( )	OR	
(a)	Describe mining of Sulfur by Frasch process with neat sketch.	07
		07
	<u> </u>	07
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(a)		07
(b)	Explain demineralization and desalting of water.	07
	(a) (b)	<ul> <li>(b) Discuss in brief about Settling &amp; Hardening of cement.</li> <li>(a) Explain waste water treatment by activated sludge process. Discuss treated effluent disposal management.</li> <li>(b) Starting with neat flow diagram and reactions, discuss the manufacture of Ammonia.  OR  (b) Explain with neat sketch manufacturing of pulp by using Kraft process.</li> <li>(a) Describe manufacturing methodology of pure CO<sub>2</sub>. Enlist different uses of dry CO<sub>2</sub>.</li> <li>(b) Write a short note on: Ceramic industries.  OR  (a) Give the difference between Unit operation and Unit process</li> <li>(b) Explain manufacturing of Caustic and Chlorine with flow diagram.</li> <li>(a) Explain ion-exchange process with neat diagram for water softening.</li> <li>(b) Write short notes on compound fertilizers.  OR  (a) Describe mining of Sulfur by Frasch process with neat sketch.</li> <li>(b) Discuss Linde's process for manufacture of O<sub>2</sub> and N<sub>2</sub>.</li> <li>(a) List out the types of paper products. Explain in detail manufacturing of paper.</li> <li>(b) Discuss in brief: Different applications of glass.  OR</li> <li>(a) Write a short note on IMI process for production of Phosphoric acid.</li> </ul>

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