Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–III • EXAMINATION – SUMMER • 2014

Subject Code: 130505 **Date: 30-05-2014**

Subject Name: Chemical Process Industries-1

Time: 02.30 pm - 05.00 pm **Total Marks: 70**

Instructions:

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

Q.1	**(a)**	Write a short note on IMI process for production of Phosphoric acid?	**07**
	(b)	Write in brief about Various Conditioning Methods for treatment of water?	**07**
Q.2	**(a)**	Explain in detail about converter section in DCDA process for manufacturing of Sulfuric acid?	**07**
	(b)	Discuss manufacturing of ammonia with neat flow diagram?	**07**
		OR	
	(b)	Discuss frasch process for mining of elemental Sulfur?	**07**
Q.3	**(a)**	List the various processes for separation of water from brine? Discuss Reverse osmosis and electro dialysis in brief?	**07**
	(b)	Write a Short note: Explosive.	**07**
		OR	
Q.3	**(a)**	Explain the role of cryogenics in manufacturing of industrial gases like Oxygen and Nitrogen?	**07**
	(b)	What is fertilizer? Explain the role of Nitrogen, Phosphorous and potassium in growth of plant? Draw block diagram for NPK fertilizer manufacturing?	**07**
Q.4	**(a)**	Compare Mercury cell, Diaphragm cell and membrane cell processes for chlorine- caustic soda production?	**07**
	(b)	Explain about various refractory used in industries?	**07**
		OR	
Q.4	**(a)**	Discuss Solvay process for Soda ash production?	**07**
	(b)	Explain Portland cement and its type in detail?	**07**
Q.5	**(a)**	Discuss the difference between sulphate process and sulphite process for the Production of pulp?	**07**
	(b)	Explain manufacturing of urea with neat flow diagram?	**07**
		OR	
Q.5	**(a)**	Describe with neat Sketch Manufacturing of Paper?	**07**
	(b)	What is glass? Classify glass?	**07**

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