

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 frash 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**
