

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-III (OLD) - EXAMINATION – SUMMER 2018****Subject Code:130505****Date: 21/05/2018****Subject Name: Chemical Process Industries-1****Time:10: 30 AM to 01:00 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) Describe mining of Sulfur by Frasch process with neat sketch. **07**  
(b) Discuss in brief about Settling & Hardening of cement. **07**
- Q.2** (a) Write a short note on IMI process for production of Phosphoric acid **07**  
(b) Starting with neat flow diagram and reactions, discuss the manufacture of Ammonia. **07**
- OR**
- (b) Discuss in brief: Different applications of glass. **07**
- Q.3** (a) Explain waste water treatment by activated sludge process. Discuss treated effluent disposal management. **07**  
(b) Write a short note on: Ceramic industries. **07**
- OR**
- Q.3** (a) What is Unit operation and Unit process? Explain in detail **07**  
(b) Explain manufacturing of Caustic and Chlorine with flow diagram. **07**
- Q.4** (a) Explain ion-exchange process with neat diagram for water softening. **07**  
(b) Write short notes on NPK fertilizers. **07**
- OR**
- Q.4** (a) List out the types of paper products. Explain in detail manufacturing of paper. **07**  
(b) Discuss Linde's process for manufacture of O<sub>2</sub> and N<sub>2</sub>. **07**
- Q.5** (a) Explain in detail demineralization and desalting of water with sketch. **07**  
(b) Discuss in brief on Propellants. **07**
- OR**
- Q.5** (a) Describe manufacturing of pure CO<sub>2</sub> with neat flow diagram. Enlist different uses of dry CO<sub>2</sub>. **07**  
(b) Explain manufacturing of pulp by using Kraft process with neat sketch. **07**

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