

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III (NEW) EXAMINATION – WINTER 2021****Subject Code:2130505****Date:19-02-2022****Subject Name:Chemical Process Industries-I****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.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) What do you mean by continuous & batch process? Describe in brief. **03**
(b) Discuss classification of Explosives. **04**
(c) Describe in detail about Propellants and also describe its types. **07**

- Q.2** (a) Write a short note on Reverse osmosis (R. O.) and state its applications. **03**
(b) Enlist the difference between Sulphite and Sulphate process for pulp manufacturing. **04**
(c) Discuss Linde's process for manufacture of O₂ and N₂. Discuss in brief about uses and properties of nitrogen and oxygen gases. **07**

OR

- (c) Describe Solvay process for the manufacturing of Soda ash with neat sketch. **07**

- Q.3** (a) What is hydrated lime and quick lime? Discuss in brief. **03**
(b) Enlist various types of glass and explain any two in brief with its applications. **04**
(c) Explain with neat sketch manufacturing of pulp by using Kraft process. **07**

OR

- Q.3** (a) Explain the term settling & hardening of Cement. **03**
(b) Write the full form of PETN, RDX, TNT. **04**
(c) Write a short note on IMI process for production of Phosphoric acid. **07**

- Q.4** (a) What do you mean by detonating & deflagrating agent? **03**
(b) Explain in brief about black and white photography. **04**
(c) Describe mining of Sulfur by Frasch process with neat sketch. **07**

OR

- Q.4** (a) Define the term: Homogenizing, Tempering and Annealing of glass. **03**
(b) Discuss in brief: NPK Fertilizers. **04**
(c) Explain manufacturing of Caustic and Chlorine with flow diagram. **07**

- Q.5** (a) Describe: Conditioning of water. **03**
(b) Write a note on any two Calcium compounds. **04**
(c) Describe manufacturing methodology of pure CO₂. Enlist different uses of dry CO₂. **07**

OR

- Q.5** (a) Discuss in brief: Magnesium Carbonate & Magnesium Sulfate. **03**
(b) Write a note on graphite & carbon. **04**
(c) Explain ion-exchange process with neat diagram for water softening. **07**
