

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER– III (New) EXAMINATION – WINTER 2019****Subject Code: 2130505****Date: 28/11/2019****Subject Name: Chemical Process Industries-1****Time: 02:30 PM TO 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) Give the full form of PETN, RDX and TNT. **03****(b)** Define: Ceramic and Discuss about refractory in brief. **04****(c)** Discuss in detail about Photocopying process. **07****Q.2 (a)** Give difference between detonating & deflagrating agent. **03****(b)** Discuss in brief: Calcium Carbonate & Calcium Sulfide **04****(c)** Discuss in detail about Propellants and also describe its types. **07****OR****(c)** Starting with neat flow diagram, discuss the manufacturing of Nitroglycerin in detail. **07****Q.3 (a)** Discuss Settling & Hardening of Cement in brief. **03****(b)** Give classification of Explosives **04****(c)** Describe Solvay process for the manufacturing of Soda ash with neat sketch. **07****OR****Q.3 (a)** Discuss in brief: Continuous & Batch Process **03****(b)** Write in brief about Color Photography. **04****(c)** Explain municipal raw water treatment plant with a neat and clean flow diagram. **07****Q.4 (a)** Enlist advantages and disadvantages of Solvay Process. **03****(b)** Describe in brief about graphite & carbon. **04****(c)** Explain manufacturing of pulp by using Kraft process. Discuss recovery of chemicals from black liquor. **07****OR****Q.4 (a)** List out the uses of dry CO₂. **03****(b)** Write a short note on Reverse osmosis (R. O.) and state its applications. **04****(c)** Discuss Linde's process for manufacture of O₂ and N₂. Discuss in brief the uses and properties of nitrogen and oxygen gases. **07****Q.5 (a)** Write the uses of Pozzolans cement and Masonry Cement. **03****(b)** Enlist the types of glass and explain any two in brief **04****(c)** Write a short note on Montecatini process for Nitric acid production with neat diagram. **07****OR****Q.5 (a)** Discuss in brief: NPK fertilizer. **03****(b)** Write the difference between Sulphite and Sulphate process for pulp manufacturing. **04****(c)** Enlist various processes used for manufacturing of Caustic Soda. Explain in detail the mercury cell process for the production of Caustic Soda. **07**
