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Total Number of Pages : 01

B.Tech
PCE3I102

3rd Semester Back Examination 2019-20

CHEMICAL TECHNOLOGY

BRANCH : CHEM

Max Marks : 100

Time : 3 Hours

Q.CODE : HB599

Answer Question No.1 (Part-1) which is compulsory, any EIGHT from Part-II and any TWO from Part-III.

The figures in the right hand margin indicate marks.

Part-I

Q1 Only Short Answer Type Questions (Answer All-10) (2 x 10)

- What are the factors which are responsible for high costs in Indian Chemical Industries?
- What is the principle of working of Solvay process?
- List the various chemical reactions taking place in lead chamber process for the manufacture of sulfuric acid.
- List two manufacturers of polyvinyl chloride in our country.
- What are the products from crude petroleum after distillation?
- What are the various constituents present in dry detergents and their purposes?
- Differentiate between hydrophobic and hydrophylic.
- What do you mean by hydrogenation of oil?
- Write down the different processes for the production of ethyl alcohol.
- What are the different chemicals recovered from Kraft pulp process?

Part-II

Q2 Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve) (6 x 8)

- What are the disadvantages of Solvay process and how to overcome them?
- Differentiate between Soaps and detergents.
- Discuss important applications of chlorine and hydrogen in industry
- What is starch? What are its sources? Enumerate its applications.
- What are the major uses of hydrochloric acid? Explain them in detail.
- Differentiate between refining and cracking.
- Explain the manufacture of paper with a neat flow sheet.
- Discuss the engineering problems involved in manufacture of HCl.
- How dyes impart colors?
- Explain the process of extraction from sugar cane for crystalline sugar production with a flow sheet.
- Discuss the advantages and disadvantages of vanadium pentoxide catalyst used in contact process.
- Discuss the major engineering problems of Kraft pulp process.

Part-III

Only Long Answer Type Questions (Answer Any Two out of Four)

- Q3** Explain with process flow diagram manufacture of phosphoric acid by wet (HCL leaching) process. **(16)**
- Q4** Explain the Sulfate Pulp process with a neat flow sheet. **(16)**
- Q5** What is inversion of sugar? Explain manufacturing of sugar with process flow diagram. **(16)**
- Q6** Discuss the manufacturing process of caustic soda with a neat flow sheet. **(16)**