Chemical Process Technology-01

1.1 Course Number: CH394

1.2 Contact Hours: 2-0-0 Credits: 06

1.3 Semester-offered: 2nd Year- even

1.4 Prerequisite: Reaction Engineering, Mass and Energy Balance, Fluid Flow Operations & Solid Fluid Mechanics & Mechanical Operations

1.5 Syllabus Committee Member: Dr. K. G. Biswas & Dr. V.S. Sistla

2. **Objective:**

- To understand the maneuvers of various chemical industries and their method of production of various products.
- To learn the various operations in any chemical industry is manufacture of a new product starting from an ore or other chemical raw materials.

3. **Course Content:**

Unit-wise distribution of content and number of lectures

Unit	Topics	Sub-topic	Lectures
1	Introduction	Introduction to chemical process industries	1
2	Inorganic Chemical Industries	Acid Industries: sulfuric acid, phosphoric acid, Acetic acid, Formic acid and Benzoic acid; Chlor-alkali industry: Caustic Soda, Sodium Carbonate, Chlorine, Bleaching Powder)	9
3	Fertilizer Industries	Ammonia, Urea, SSP and TSP	4
4	Natural Products Industries	Pulp and Paper, Sugar, Oil, and Fats	4
5	Refining Industries	Petroleum refining and petrochemicals	2
6	Polymerization Industries	Polyethylene, polypropylene, PVC and polyester synthetic fibers, Viscose Rayon, Nylon 6 and 66.	6
7	Food Industries	Operations in food Industries, Classification of equipment, Additives in food, Applications	2
		Total	**28**

4. **Readings**

4.1 Textbook:

1. Outlines of Chemical Technology, Charles E. Dryden
2. Shreve's Chemical Process Industries, G.T. Shreve Austin

4.2 Reference books:

1. Riegel’s Handbook of Industrial Chemistry, Edited by James A. Kent

5. **Outcome of the Course:**

Most of the Chemical Engineering graduates will be working in various chemical Industries so it is essential for them to have a comprehensive knowledge of different chemical industries existing and their mode of operation.