

Course Type	Course Code	Name of the Course	L	T	P	Credits
DC	CHC208	Chemical Process Technology	3	0	0	9

Course Objective

The course aims to study process technologies, availability of raw materials, production trends, preparation of flowsheets, engineering and environmental problems of various chemical industries along with an emphasis on recent technological development.

Learning Outcomes

Improvement of knowledge towards the different chemical processes and their recent technological development.

Unit No.	Topic to be covered	Lecture Hours	Learning outcome
1	Introduction: Introduction to chemical industries, unit operation and unit process concepts, general principles	05	Basic idea on the chemical industries and process
2	Inorganic chemical industries: Inorganic acids - sulfuric, nitric, phosphoric acids, chlor-alkali industry, and cement industries	10	Details process used for mentioned chemicals
3	Fertilizers: Ammonia, urea, phosphates -SSP, TSP	06	Details process used for mentioned fertilizers
4	Natural products industries: Pulp and paper, sugar, oil, and fats, soaps and detergents, glycerin	07	Details process used for mentioned natural products
5	Petroleum refining and petrochemicals: Refining processes, polymerization- polypropylene, polyvinyl chloride, nylon and polyester synthetic fibers	06	Details process used for mentioned petrochemicals
6	Fermentation industries: Alcohols	04	Details process used for alcohols
7	Chemicals from Sea: Salt, magnesium compounds, potassium, bromine, sea floor minerals	04	Details process used to recover chemicals from Sea

Textbooks:

1. Gopala Rao M. and Marshall S. (1997). Dryden's Outlines of Chemical Technology. East-West Press.
2. Austin, G. T. (2017). Shreve's Chemical Process Industries Handbook," 5th Ed., McGraw Hill.
3. Pandey, G. N. (2000). Textbook of Chemical Technology Vol-1, and Vol-2, Sangam Books Ltd.

Reference books:

1. J. A. Moulijn, M. Makkee, A. E. Van Diepen (2013), Chemical Process Technology, 2nd Ed., Wiley.