

Subject Name	Total Credits	Grade Achieved	Reference Book	Author's Name	Learning objective
Engineering Chemistry	3	S	Engineering Chemistry for diploma	Ranjan Kumar Mohapatra	The student will understand the interdisciplinary nature of chemistry and acquire a foundation of chemistry of sufficient breadth and depth.
Fundamentals of Chemical Engineering	4	S	Fundamentals of Chemical Engineering	K.A Gavhane	Define and scope engineering problems and formulate suitable problem-solving strategies and apply basic thermodynamic relationships to real problems.
Chemical Process Principles	4	B	Introduction to Chemical Processes	Regina M Murphy	To identify and describe the various process industries and the roles and responsibilities for process technician. To solve engineering problems during production.
Fluid Mechanics	5	A	Fluid Mechanics	Kamlesh Purohit, S.P Harsha	To understand basic concept of fluid flow and its application to chemical process industries including pipe flow, fluid machinery and agitation & mixing.
General Chemistry	4	S	General Chemistry	S Ekambaram	Helps to gain an understanding of chemical reactions and strategies to balance them and the relative quantities of reactants and products.
Polymer Technology	4	S	NPTEL	Jayavani S, Vijayakumar	To develop the skills required for working in production, processing, testing, marketing and sales department of plastics, rubbers and fibres manufacturing industries.
Heat Transfer and Evaporation	5	A	Heat Transfer Operations	K.A Gavhane	To understand the fundamentals of heat transfer mechanisms in fluids and solids and their applications in various heat transfer equipment in process industries.

Inorganic Chemical Technology	4	A	Technology of Inorganic Chemicals	D.B Dhone	To build a good foundation in chemical knowledge that allows one to make qualitative and quantitative inquiries.
Petroleum and Energy Engineering	4	A	Petroleum and Petrochemical Technology	Yogesh A Karpe	To study the manufacturing of different petroleum end products from crude oil and various refinery operations.
Industrial Management and Safety	4	A	Industrial Safety and Maintenance	S.C Dighe	To understand the management processes and evolve management levels for effective decision making.
Organic Technology	4	A	DRYDEN'S Outlines of Chemical Technology	M Gopala Rao, Marshall Sittig	To know basic knowledge of different organic compounds and their chemical behavior.
Instrumentation and Process Control	5	A	Industrial Instrumentation and Control	S K Singh, Donald Eckman and NPTEL	To learn the operating principles, construction and working of temperature, pressure and level measuring devices.
Bio-Chemical Engineering	4	S	NPTEL	Prof. Saiket and Prof. Rintu Banerjee	Apply the principles of cell and molecular biology, biochemistry, and engineering to develop, design, scale-up, optimize, and operate processes that use living cells, organisms, or biological molecules for the production and purification of products.
Chemical CAD Lab	3	B			The student will be able to perform mathematical analysis and optimization techniques that can help them find best solution for a given problem.
Fluid Mechanics Lab	3	A			The goals of the experiments include determination of forces generated when fluid flow takes place over a solid object, applications of the control volume approach, flow measurements, major and minor losses in the flow.

Polymer Lab	3	S			Identify and analyse well-defined engineering problems using codified standard methods.
Environmental Engineering Lab	2	S			Recognize the need for a sustainable environment and design smart infrastructure considering the global challenges.
Heat Transfer Lab	2	S			To make the students to understand heat transfer characteristics, materials and equipment.
Technical Analysis Lab	3	A			Designed to illustrate the application of chemistry to the environment in monitoring, analysing and in quality control.
Particle Technology Lab	3	S			Designed to analyze and apply the knowledge of size analysis and size reduction methods by conducting experiments involving and to impart knowledge of solid-solid and solid-fluid separation equipment's with their working and constructional features.
Mass Transfer Lab	3	S			Introduce the students with the most important separation equipment in the process industry, and provide a hands-on training of the proper operation of these units.