

Department of Chemical Engineering
Third Year Engineering

SEM-V

Subject Code	Subject	Course Outcomes	
309341	Mass Transfer-I	CO1	Able to find diffusivity for solid & fluids and molar flux due to diffusion.
		CO2	Able to describe interphase mass transfer and identify resistance for mass transfer.
		CO3	Able to estimate recovery of component from gas mixture and designing of Packed column.
		CO4	Able to evaluate psychrometric properties of air & its applications
		CO5	Able to Explain different equipment for gas liquid contacting
		CO6	Able to Analyze drying mechanism for dyer design
309342	Chemical Technology -II	CO1	Able to understand the basic principles of chemical process industry.
		CO2	Able to demonstrate various manufacturing processes used in chemical process industries.
		CO3	Able to understand major engineering problems encountered in chemical process industries.
		CO4	Determine process aspects like yield, by-products formed, generation of waste.
		CO5	Draw and explain process flow diagrams for a given process.
		CO6	Understand use of various equipment/instruments used in process industry
309343	Chemical Engineering Mathematics	CO1	Able to evaluate an error analysis for various numerical methods
		CO2	Able to evaluate appropriate numerical methods to solve linear algebraic equation and transcendental equations
		CO3	Able to apply regression analysis and interpolation and to evaluate the statistical data analysis and numerical integration
		CO4	Able to evaluate different numerical methods to solve ordinary differential equation, finite difference methods and appropriate numerical methods to calculate a definite
		CO5	Able to apply the basic concept of finite differences for solving a ODE

		CO6	Able to apply the basic concept of optimization and formulation with the application of optimization based on various methods.
309344	Chemical Engineering Thermodynamics	CO1	Able to describe the laws of thermodynamics and thermodynamic relations
		CO2	Able to demonstrate the applications of thermodynamics in chemical processes
		CO3	Able to associate solution thermodynamics and phase equilibrium and to generate VLE data
		CO4	Able to compute the consistency of experimental VLE data; to calculate bubble and dew points
		CO5	Able to evaluate equilibrium conversion for homogeneous and heterogeneous reactions
		CO6	Able to justify Relation of equilibrium constant to composition
309345 A	Elective-I Chemical Industry Management	CO1	Able to understand the principles of management science for various forms and types of business organizations
		CO2	Able to apply the various function of personnel management for various organizations
		CO3	Able to apply the various function of purchase and stores management for various organizations
		CO4	Able to apply the various function of marketing management for various organizations
		CO5	Able to understand the various regulations practiced for Import and Export involved in process industries
		CO6	Able to understand the various management laws, intellectual properties and work study methods involved in process industries
309345 B	Elective-I Food Technology	CO1	To apply food processing preservation and storage techniques.
		CO2	To apply various technologies of milk and milk products in dairy industries
		CO3	To implement various processing, preservation & storage technics used in fruit and vegetable technology
		CO4	To analyze application of various unit operation used in food engineering.
		CO5	To analyze the self-life of packaged food material
		CO6	To apply various food regulation, grade and standards for various food industries

SEM-VI

Subject Code	Subject	Course Outcomes	
309348	Chemical Reaction Engineering I	CO1	Able apply study kinetics of homogeneous reactions and write rate equation.
		CO2	Able to analyse and interpret the batch reactor data by differential and integral method of analysis.
		CO3	Able to design the reactors such as batch reactor, mixed flow reactor and plug flow reactor for homogeneous reactions.
		CO4	Able to evaluate qualitative and quantitative discussion for series and parallel reactions
		CO5	Able to analyse the temperature and pressure effects for homogeneous reactions from Arrhenius law, thermodynamics, collision theory and transition state theory
		CO6	Able to analyse deviation from ideal reactors in terms of RTD and different models.
309349	Mass Transfer II	CO1	To analyze the feasibility of separation by distillation and to evaluate different distillation parameters
		CO2	To analyze fractional distillation data and to evaluate design parameter utilizing different distillation methods.
		CO3	To analyze various Liquid-Liquid Extraction processes and to evaluate design parameter of Liquid-Liquid Extraction Processes.
		CO4	To analyze various Solid-Liquid Extraction processes and to evaluate design parameter of Solid-Liquid Extraction Processes.
		CO5	To analyze the adsorption process and to evaluate the adsorption parameters.
		CO6	To evaluate the separation parameters of crystallization & to apply various novel mass transfer techniques.
309350	Transport Phenomena	CO1	Able to apply shell balance for conservation of momentum, apply Newton's law of viscosity in balance and obtain velocity distribution in laminar flow.
		CO2	Able to implement shell balance for conservation of energy, apply Fourier's law of heat conduction in balance and obtain temperature distribution in solids and in laminar flow.
		CO3	Able to use shell balance for conservation of mass, apply Fick's law of diffusion in balance and obtain concentration distribution in solids and in laminar flow.
		CO4	Able to modify and evaluate the appropriate equation of change to obtain desired profiles for velocity, temperature and concentration.
		CO5	Able to examine and solve the appropriate macroscopic balance of conservation of momentum, energy and mass.

		CO6	Able to analyze and apply analogies among momentum, heat and mass transfer.
309352 B	Elective-II Process Instrumenta tion and Control	CO1	Able to recognize the knowledge of field instrumentations
		CO2	Able to understand the purpose and operation of various temperature sensing/measurement devices used in the process industry
		CO3	Define terms associated with pressure and pressure instruments
		CO4	Identify the most common types of flow-sensing measuring devices used in the process industry
		CO5	Able to understand the different instrumental methods of chemical analysis
		CO6	Able to learn the fundamentals of process dynamics