

4th SEMESTER :

PEEO (CHE181404)

Course Outcomes:

1. Explain the economic terms and economic relationships and prepare a feasibility report.
2. Apply interest relationships and find best alternatives and also establish depreciation relationships and finally calculate depreciation of plant/equipment.
3. Calculate the complete plant cost and conduct profitability studies.
4. Evaluate the break-even point and finally create a DRP (Detailed project report)
5. Understand the fundamentals of optimization techniques.

CHEMICAL ENGINEERING THERMODYNAMICS (CHE181403)

Course Outcomes:

1. Understand the basics of Chemical Engineering Thermodynamics and calculate the parameters for design calculations.
2. Explain the laws of thermodynamics and their applications in engineering design.
3. Determine the thermodynamic properties of ideal and real mixtures.
4. Familiarize the interaction of heat and work with surrounding and control system.
5. Compute phase equilibrium data for ideal and non-ideal systems, and evaluate the equilibrium conversion for homogeneous and heterogeneous system.

CHE181402 (MECHANICAL OPERATION)

Course Outcomes:

1. Explain the important physical mechanisms occurring in operations involving particles, particle separation, mixing of particles, and particle dynamics.
2. Distinguish between various types of crushers and select the appropriate ones for a particular purpose and assess the energy required.
3. Select appropriate separation method for different solid-solid/ solid-liquid/ gas-solid systems
4. Differentiate between different types of mixers and agitated vessels and solid conveyer
5. Solve numerical problems related to different separation methods

CHE18140E11 (PROCESS UTILITIES)

Course Outcomes:

1. Explain and select the importance of process utilities in chemical industries.
2. Discuss water as a utility in process industry and explain conservation and recycle of water, cooling water and spray pond.
3. Examine the importance of steam in various utilities, discuss and characterize boiler, steam engine, fire and safety in chemical industry.
4. Define and characterize refrigeration and compressed air system.
5. Select various internal combustion engines and explain their working principles.

FLUID FLOW OPERATION (CHE181401)

Course Outcomes:

1. Identify the various fluid properties and flow regimes of fluids and express some basic terms related to fluid flow phenomena.
2. Formulate and establish the basic equations of fluid flow, integral equation of flow, momentum equation under steady state condition, Bernoulli's equation etc.
3. Describe and relate the flow of incompressible fluid in conduits and understand the effects of roughness, restriction, head loss, friction of flow etc.
4. Select and evaluate the performance of various fluid transport and metering devices like pumps, compressors, orificemeter, venturimeter, rotameter, pitot tube etc.
5. Develop basic equations of fluid flow through packed bed and fluidization phenomenon of gas solid/liquid solid systems and understanding of compressible fluids.