

5TH SEMESTER

CHE18150PE21 (ENVIRONMENTAL POLLUTION CONTROL ENGINEERING)

Course Outcomes:

1. Understand the man and environmental interlinking as well as about environmental acts and rules.
2. Explain various types of environmental pollution, their causes and treatments
3. Identify different types of micropollutants, and their specific treatment techniques to meet standard set by the environmental norms.
4. Apply the engineering principles and design practices for controlling air, water and noise pollution.
5. Understand the solid waste management system and its role to combat environmental pollution.

(CHE181502) MASS TRANSFER OPERATION – I

Course Outcomes:

1. Understand the basic principles of Mass transfer, its laws and theories.
2. Analyze and solve mass transfer problems involving molecular diffusion
3. Analyze and solve mass transfer problems in drying and crystallization
4. Determine operating parameters in packed/plate towers

(MASS TRANSFER OPERATION-I LAB)

Course Outcomes:

1. Produce crystals of $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ and compare the result with that theoretically obtained
2. Determine vapour efficiency of steam by calculating the partial pressure and vapour pressure
3. Construct the vapour liquid equilibrium data for ternary liquids
4. Validate Rayleigh's Equation

HEAT TRANSFER OPERATION (CHE18503)

Course Outcomes:

1. Build up the necessary background for the understanding of the principle of the heat conduction and evaluate heat flux and temperature distribution for different situations (steady and unsteady state) and for different shape of solids.
2. Estimate the heat transfer coefficient related to convection (free and forced) and condensation selecting suitable correlations.
3. Apply the laws of radiations to solve problems in relevant engineering fields.
4. Perform thermal analysis and sizing of heat exchanger and evaporator.
5. Understand the fundamentals of boiling and evaluate the maximum heat flux.

PPT (CHE18150E11)

Course Outcomes:

1. Discuss various geological considerations in production operations and interpret reservoir characteristics
2. Understand various components of rotary drilling rig, rotary drilling procedure and well completion procedure
3. Distinguish between different types of offshore drilling rigs

4. Illustrate production operations and interpret problems related to decline in production and troubleshooting
5. Differentiate between different stimulation techniques for revival of sick wells and to enhance production
- 6.

CHEMICAL REACTION ENGINEERING I (CHE181501)

Course Outcomes:

1. Develop the reaction rate equation and compute kinetics of the given reaction system.
2. Analyse and apply kinetic data using integral or differential method for development of kinetics and thermodynamics.
3. Design the batch and steady state flow reactors i.e. plug flow reactor (PFR) and mixed flow reactors (MFR).
4. Select best multiple reactor systems for a particular reaction
5. Evaluate quantitatively the performance of single reactors, Recycle reactor and multiple reactor systems.

CHEMICAL REACTION ENGINEERING I (LAB)

Course Outcomes:

1. Understand the operation of a CSTR, a PFR, cascade CSTR and the combined reactors (PFR and CSTR in series) for a given reaction.
2. Able to calculate the conversion for a given reaction in any reactor and evaluate the rate constant from the performance equation through graphical plots .
3. Able to assess the best reactor or reactor combination by comparing the conversion.