6TH SEMESTER:

PETROLEUM REFINING AND PETROCHEMICALS (CHE181604)

Course Outcomes:

1. Characterize crude and its products.
2. Explain operation of distillation column and its design aspects
3. Classify different treatment techniques for petroleum products.
4. Recognize the petrochemical intermediates and its products
5. Analyze environment and safety aspects in refinery.

PROCESS CONTROL AND INSTRUMENTATION (CHE181603)

Course Outcomes:

1. Familiarize with various aspects of control system, continuous monitoring of a process and about the mathematical tools like linear ODE, Laplace transformation and transfer function.
2. Analyze and distinguish static and dynamic behavior of processing systems.
3. Explain the feedback control system, P, I, D, PID control system and stability limits of control system with analyzing techniques of Bode diagram, Nyquist plot, Ziegler-Nichols tunning technique.
4. Judge the design aspect of control system to fulfill the requirements for a given process.
5. Evaluate the response of complex processes to dynamic inputs.

MASS TRANSFER OPERATION-II (CHE181602)

Course Outcomes:

1. Understand extraction process and equipments
2. Analyse, solid – liquid and liquid - liquid extraction by Graphical and analytical calculations
3. Understand different distillation processes and equipments.
4. Design of distillation column using Mc Cabe Theile method and Ponchon Savarit method.
5. Understand the basic concepts of multicomponent distillation

CHEMICAL REACTION ENGINEERING II (CHE181601)

Course Outcomes:

1. Understand the different types of multiple reactions, evaluate product distribution for a particular duty ; select a right kind of reactor system that maximizes the desired product.
2. Recognize the required temperature progression to obtain the desired product for single as well as multiple reaction systems and consequently finding the best reactor type as well as best adiabatic operations.
3. Suggest the rate mechanism for a solid catalytic reaction consistent with the experimental gas-solid reaction rate data and thus derive the rate law for the reaction and consequently design a catalytic reactor.
4. Evaluate residence time distribution (RTD) function E(t) and cumulative distribution function F(t) from tracer test data and also to identify these functions for PFR and CSTR and consequently using them to diagnose problems in existing reactors.
5. Predict Conversion and Exit Concentration from a real reactor using RTD data by choosing the appropriate model and evaluate the parameter(s) in the model.