



## Production Planning and Scheduling in Petroleum Refineries Training

### Description

#### Objectives

- Gain an appreciation of modern planning and scheduling tools that will be useful for planning of crude and product deliveries in their facilities
- Assist in improved operations, optimization, upgrading and modification of existing facilities
- Will result in improved profitability and help in continuous modernization of facilities
- Develop the skills necessary to apply risk assessment techniques

#### Programme Outline

##### Application of Planning and Scheduling

- Overview of planning and scheduling in oil refineries
- Refinery Configuration:
  - Hydro skimming Refinery
  - Refineries with Secondary Conversion Process
  - Integrated Refineries
  - Existing & New Refineries
  - Choice of Crude
  - Crude oil scheduling
  - Choice of Processes
  - Capacity utilization of Crudes
  - Severity of Process Operations
  - Cut-points Optimization
  - Facing Upset Situations
  - Tankage Requirement

##### Improving Product Movements and Releasing Tankages

- Basic Information Required
- Crude Assay

- Intermediate Feed Characteristics
- Yields and Properties
- Different Process Units
- Utilities

### **Product Blending Rules**

- Product Specifications
- New Trends in fuel production
- Environmental Issues
- Crude Cost
- Product Netback

### **Formulation of Problem**

- Refinery Flow-sheets
- Simplified Material Balance
- General Formulation
- Demand Equations
- Product Inventory Control
- Product Quality Control
- Fixed Composition Blend
- Capacity Control/ Constraints
- Availability of Feedstock/ Control

### **Application to a Refinery Worksheet**

- Petroleum Product Movement and Product Exchange
- Marginal Depot Supply and movements
- Commonly Used Methods & Recent Developments
- Mathematical Approach to Solution
- Linear Programming
- Graphic Method
- Vendors Software