Fundamentals of Refinery Alkylation Technology

Syllabus - Day One

1. Introduction to Processing Industry  
   A. Overview of the Chemical Processing Industry  
   B. Safety for the Chemical Processing Industry  
   Break

2. Refinery Overview
   A. Refinery Overview  
   B. The role of Alkylation in a modern Refinery
   Lunch

3. Introduction to Alkylation Chemistry

4. Assessment Exercise
Day Two

1. Alkylation Process Theory 8:00 AM – 9:30 AM

2. Technology Review
   A. Horizontal Contactor
   Break 9:30 AM – 9:50 AM

3. Technology Review 9:50 AM – 11:45 AM
   B. Stirred Contactor
   Lunch 11:45 AM – 12:30 PM

4. Alkylation Operations 12:30 PM – 14:00 PM
   A. Refrigeration
   B. Treating Sections

5. Assessment Exercise
Day Three

1. Acid Catalyst Options
   - Sulphric
   - Hydrofluoric

2. Alkylation Key Design Parameters
   - Design of Process
   - Revamp Guidelines

Break

3. Unit Optimization
   - Distillation Fundamentals

Lunch

4. Assessment Exercise
Day Four

1. Unit Economics 08:00 AM – 09:30 AM
   A. Operational Control Parameters
   B. Acid Optimization

Break 09:30 AM – 09:50 AM

2. Commissioning 09:50 AM – 11:30 AM
   A. Safe Start Up
   B. Safe Shut Down
   C. Trouble Shooting

Lunch 11:30 AM – 12:30 PM

3. Auxiliary Equipment 12:30 PM – 14:00 PM

4. Assessment Exercise

5. Conclusions