1. Course Details:

Course Code : EPET-011
Course Title : Heat Transfer, Heat Exchanges and Furnaces
Course Duration : 5 Days

2. Course Overview:

- The course is formulated with objectives of presenting the terminology associated with heat transfer equipment & its significance, design methods and design thumb rules, familiarization with TEMA code and automated control of heat transfer equipment. The course also includes overview of special/non-conventional equipment's for heat transfer.

3. Learning Outcomes:

- Participants will learn about the terminology (cooler, exchanger, condenser etc…), its significance and typical applications
- Basic principles of heat transfer and their application to design of heat exchangers, specific considerations applicable to condensers, evaporators etc.
- The participants would also gain understanding of design thumb rules, overview of TEMA code, applications of process control to heat transfer equipment and typical applications of special/non-conventional heat transfer equipment

4. Course Contents:

Part 1 – Introduction

- Benchmark Quiz
- Classification based on application, terminology and applications (typical)
- Classification based on construction

Part 2 – Overview of thermal design:

- Fundamentals of Heat transfer
- Concept of LMTD, Overall HT co-efficient, fouling factor
- TEMA Classification and TEMA types
- Overview - Design of double pipe exchanger – sizing & pressure drop
- Overview - Design of shell and tube exchanger – sizing, pressure drop, considerations for fluid allocation (shell side/tube side), no. of passes. Baffle spacing
- Use of both Kern Method and Bell (Delaware) Method would be highlighted
- Overview – Design of PHE, Air Coolers

Part 3 – Mechanical design:

- Overview and highlights of TEMA Code and Mechanical design
- Mechanical design of components – tube sheet, baffles, bonnet/shell cover

Part 4 – Operations and control:

- Operation of PHE and other types of Heat Exchangers
- Process control of heat exchangers and evaporators
- Maintenance of Heat - exchangers

5. Our Methodology:

- Make coaching and monitoring innovative and using modern
- Media training also using on the go training by using interactive means and focusing on
- The exercises, practical applications and real situations study.
- Live delivery method, instructor-led training.
- Experienced consultant, trainers, and professional.
- Qualified trainer with high-level experience

6. Attendance Reports:

- Send daily attendance reports to trainingdep
- Send full attendance report to training dep. by the end of thecourse
- Attend 100 % from the course days also providedaily
- Issue attendance certificate for participant who attend minimum 80% from the course duration

7. Pre/Post Reports:

- Pre- assessment before starting training
- Post assessment after finish training
- Full report for the deferent between Pre-& Post assessment

8. Who Should Attend?

- Technicians
- Engineers (Chemical/Mechanical) interested in overview of different types of heat transfer equipment's including PHE
- Persons engaged in operations of Chemical / Petrochemical plant