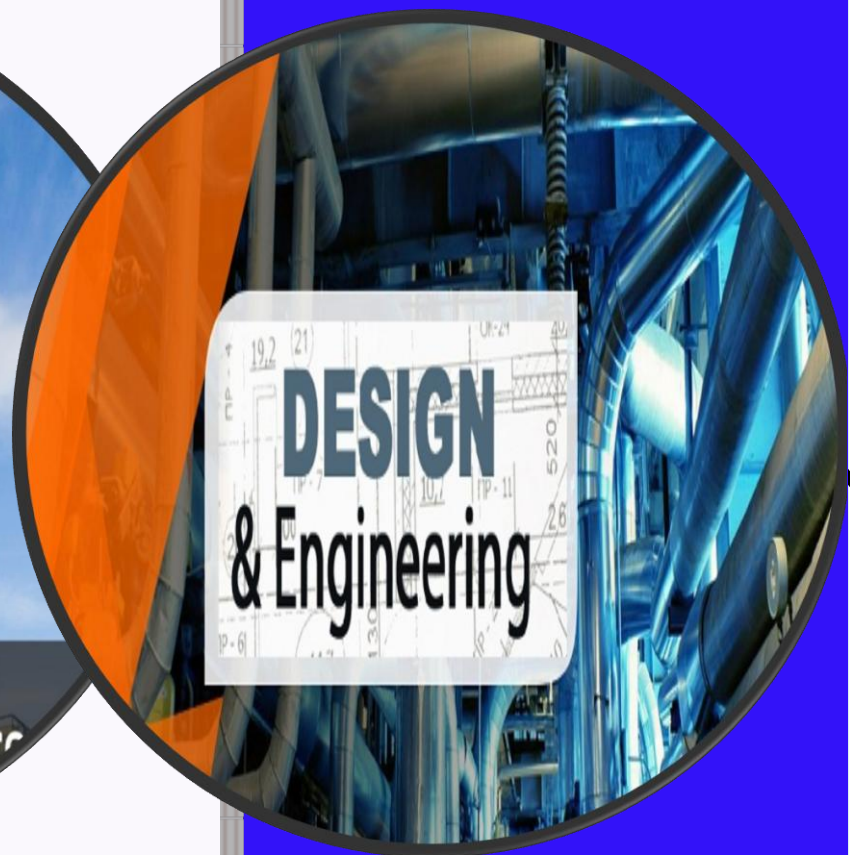




# AMCDEI

## PROCESS DESIGN TRAINING COURSE



### FEES AND DURATION :-

FEES : 25000 INR

DURATION: TWO MONTHS

MODE: WEEKEND ONLY

### ADVANCE GROUP OF INSTITUTIONS

(Registered under MSME & An ISO 9001:2008 CERTIFIED)

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Metro Station Laxminagar, Delhi 110092 ,  
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Web:-[www.advancemechanicaldesign.com](http://www.advancemechanicaldesign.com)

# ADVANCE GROUP OF INSTITUTIONS

(Registered under MSME Delhi, An ISO 9001:2008 Certified)

## ABOUT US

Advance Mechanical and civil Design and Engineering Institute (AMCDEI) , **Registered under MSME , An ISO 9001:2008** Certified Institute of Electrical Design & Engineering training programs for Dedicated to Electrical Engineers . AMCDEI is latest venture for providing the quality education in the best possible facilities is a key aim of Skill developments for various verticals in Electrical Engineering design.

## OUR MISSION

Our Technical Institute offers a full range of training in electrical ,Electronics &Communication,mechanical And Chemical Engineering design courses full fill requirement of current industries .These courses which encompass all aspects of core fields from fundamentals to in- depth of design knowledge are based on several value adding pillars. Our trainers share their know-how and design experience through demonstrations on dedicated equipment on industries. Courses include training dedicated documents and the possibility of follow-up with regular /internship /e-learning modules. Over one to 45 days depending on the topic, trainees get in-depth, hands-on instruction and the opportunity to practice their acquired know-how.

**We cover all the range of engineering Designing Training and industrial skills disciplines:**

<b>Process Design Training Course</b>	<b>Instrumentation Design Training</b>
<b>Electrical System Design</b>	<b>Instrumentation Design Training</b>
<b>Solar Power Plant Design</b>	<b>Structure Design Training</b>
<b>Substation Design</b>	<b>Hybrid Electrical Vehicle Design Training</b>
<b>Technical Transformer Design</b>	<b>Piping Design training</b>
<b>Solar Structure Design Course</b>	<b>Railway/Metro Traction Design Course</b>

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## OBJECTIVES OF TRAINING

- To make the Engineers expertise in Various engineering design field by experience faculty
- Engineers Job oriented programs.
- Develop the key skill in Electrical designing for employments
- To familiarize with industries norms ( BIS Code, NEC Code, IEC Code, IEEE Code , NFPA Code etc)
- To share experiences of various best practices
- To clarify their doubts in the execution process

## KEY FEATURES OF TRAINING

- ✓ First Certified institute for Technical Design Engineers.
- ✓ Employment opportunities - EPC Companies, thermal power plant,
- ✓ Government sector (Contract Basis), Manufacturing, construction (Electrical Work).
- ✓ **Placement Partner with 10+companies in India.**
- ✓ Expert Faculty from Industries experience more than 7 year and Electrical Consultants.
- ✓ Hands on training facility on live projects(Power Sector and Infra sector)
- ✓ **Available Latest electrical software for Designing( Dialux, ETAP, CG Lux. Auto CAD, Substation D)**
- ✓ study materials provide by AEDEI
- ✓ Library of IS CODE , NEC Code, IEEE Code, IEC Code
- ✓ **Individual Candidates provided projects for designing.**
- ✓ Visiting solar power plant during practical session
- ✓ Visiting on switch yard/substation for practical session.
- ✓ **Certified by Design Engineer –Process Design Engineer.**
- ✓ More than Eleven courses for Electrical Engineers.

## PROCESS DESIGN TRAINING SYLLABUS

### OUTLINE OF PROCESS DESIGN COURSE

- Equipment sizing
- Design Specification
- PFD Making & P & ID Diagram
- Energy Balance
- Material Balance & Handling
- Storage Tanks, Reactor Selection
- Pump, Valve, Blower & Compressor Selection & Sizing
- Process Control & Optimization.
- Process Development & Analysis.
- Process Simulation
- Instrumentation
- Fluid Flow Operation
- Fluid Flow Operation
- Heat & mass Transfer & Recovery.
- Plant & Process layout.
- Equipment Selection & Specification

### Details Course of Process Design Course

#### MODULE- 1: PROCESS ENGINEERING

- Introduction
- Elements in Project Execution
- Different Phases of a Project
- Roles and Responsibilities of Process Engineer
- Elements of Engineering
- Capabilities of Process Engineer
- Process Engineering Deliverables

## **MODULE 2 : FLUID PHASE BEHAVIOUR**

- Composition of Well Fluid
- Well Fluid determination
- Reservoir Components
- Well Fluid Phase Behavior & Terminologies
- Nature of Wells
- Equations of State

## **MODULE 3 : PFD, H&MB AND P&ID**

- Objectives and Definitions
- Descriptions
- Procedures for Preparation
- Application

## **MODULE 4 : LINE SIZING AND HYDRAULICS**

- Definition
- Factors and Considerations
- Design Basis
- Sizing of Gas, Liquid and Two Phase lines
- Pressure Drop Calculations

## **MODULE 5 : EQUIPMENT DESIGN AND SIZING & PUMP HYDRAULICS**

- Definition
- Types and Principles of Separation
- Separator Configurations
- Separator Design Inputs
- Separation Theory
- Design Considerations
- Nozzle Sizing
- Slenderness Ratio
- Typical Performance Requirements

- Typical Separator Internals
- Pump—Definition & Classification
- Selection of Pumps
- Pump hydraulics – Terms and Definitions
- Pump Cavitations and NPSH Calculations

## **MODULE 6 : PRESSURE RELIEF VALVE SIZING**

- Purpose
- Terms and Definitions
- Types of relief valves
- Levels of Overpressure Protection
- Overpressure Scenarios
- Sizing Methodology

## **MODULE 7 : PROCESS TYPICAL OIL & GAS FACILITIES**

- Wells and their classifications
- Well Completion
- Offshore Structure & Production systems
- Production techniques
- Well Head / Christmas tree
- Well Head Platform
- Process Platform
- Typical utility & auxiliary systems

## **SOFTWARE**

- **ASPEN HYSYS**