TRAINING TITLE
POWER SYSTEMS DESIGN - BASIC

Training Duration
5 day

Training Venue and Dates

Ref. No. EE183	**Power Systems Design - Basic**	**5**	**04-08 Aug. 2025**	**$5,500**	**DUBAI, UAE**

In any of the 4 or 5-star hotels. The exact venue will be informed later.

Training Fees
- **$5,500 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Lunch**

Training Certificate
Define Management Consultants Certificate of course completion will be issued to all attendees.

TRAINING DESCRIPTION
The Power Systems Design - Basic course provides a fundamental understanding of power system design principles, focusing on the key components, structure, and operation of electrical power systems. It introduces concepts such as generation, transmission, and distribution of electrical power, electrical safety, and system optimization. The course is ideal for beginners and professionals looking to gain foundational knowledge in the design and operation of electrical power systems.

TRAINING OBJECTIVES
By the end of the course, participants will be able to understand
- Understand the essential components and functions of power systems.
- Apply basic design principles to electrical power systems.
- Gain insights into the operation and safety of power systems.
- Understand power generation, transmission, and distribution fundamentals.

WHO SHOULD ATTEND?
- Engineers and technical staff who are new to power system design.
- Electrical engineers looking to strengthen their foundational knowledge in power systems.

P.O BOX 45304
ABU DHABI, U.A.E
T +971 2 6264455
F +971 2 6275344
www.definetraining.com

- Students or professionals entering the field of electrical engineering or energy.
- Anyone interested in the basics of electrical power systems and their applications.

TRAINING METHODOLOGY

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions and motivating everybody to find the right answers. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.
Very useful Course Materials will be given.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Group Work& Practical Exercises
- 20% Videos& General Discussions

COURSE PROGRAM:

Day 1: Introduction to Power Systems

- Overview of Electrical Power Systems
- Basic Components: Generation, Transmission, and Distribution
- Types of Power Generation: Fossil, Renewable, Nuclear
- The Role of Power Systems in Modern Infrastructure
- Key Terminology and Concepts in Power Systems

Day 2: Power Generation and Conversion

- Fundamentals of Power Generation
- Power Plants: Types and Functions
- Energy Conversion Principles (Mechanical to Electrical)
- Introduction to Generators and Turbines
- Basics of Load Generation and Demand Forecasting

Day 3: Transmission and Distribution Systems

- Transmission Lines and Their Function
- High-Voltage Transmission: Why It's Used and How It Works

P.O BOX 45304
ABU DHABI, U.A.E
T +971 2 6264455
F +971 2 6275344
www.definetraining.com

- Components of a Power Transmission Network
- Introduction to Substations and Distribution Systems
- Power Distribution Networks: Design and Operation

Day 4: Power System Protection and Safety

- Power System Protection: Why It's Necessary
- Types of Protection Equipment (Fuses, Circuit Breakers, Relays)
- Safety Protocols in Power Systems
- Understanding Faults and Fault Analysis
- Power System Security and Reliability

Day 5: Power System Optimization and Design Principles

- Basic Power System Design Principles
- Load Flow Analysis and Optimization Techniques
- Introduction to SCADA Systems for Monitoring
- Key Considerations in Power System Design (Capacity, Efficiency, Cost)
- Overview of Emerging Trends in Power Systems (Smart Grids, Renewable Integration)

NOTE:
Pre-& Post Tests will be conducted.
Case Studies, Group Exercises, Group Discussions, Last Day reviews, and assessments will be carried out.

……

P.O BOX 45304
ABU DHABI, U.A.E
T +971 2 6264455
F +971 2 6275344
www.definetraining.com