

TRAINING TITLE

POWER SYSTEMS DESIGN

Training Duration

5 day

Training Venue and Dates

Ref. No. EE154	Power Systems Design	5	26-30 May 2025	\$5,500	DUBAI, UAE
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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

This course covers the fundamental principles and practical applications of power systems design. Participants will gain an understanding of the components, design methods, and performance requirements needed to design reliable and efficient electrical power systems for industrial, commercial, and residential applications.

TRAINING OBJECTIVES

By end of the course participants will be able to understand

- Understand the key components and structure of power systems.
- Learn about power generation, transmission, and distribution.
- Design efficient electrical systems while adhering to safety and industry standards.
- Apply load flow analysis, fault analysis, and protection techniques.
- Explore the integration of renewable energy sources into power systems.

WHO SHOULD ATTEND?

- Electrical engineers and designers
- Power system operators and planners
- Electrical contractors and consultants
- Project managers in the electrical industry

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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 power generation, transmission, and distribution systems
- Key components: generators, transformers, circuit breakers, and transmission lines
- Electrical codes and standards (e.g., NEC, IEEE)

Day 2: Power Generation and Distribution Design

- Design considerations for power generation systems (traditional and renewable)
- Transmission line design and load management
- Substation design and its role in power distribution

Day 3: Load Flow Analysis and System Performance

- Introduction to load flow analysis and its importance
- Software tools for load flow modeling
- Performance parameters and optimizing system efficiency

Day 4: Fault Analysis and Protection Systems

- Types of faults and their effects on the power system
- Protective devices: relays, circuit breakers, and fuses
- Fault current calculation and short-circuit analysis

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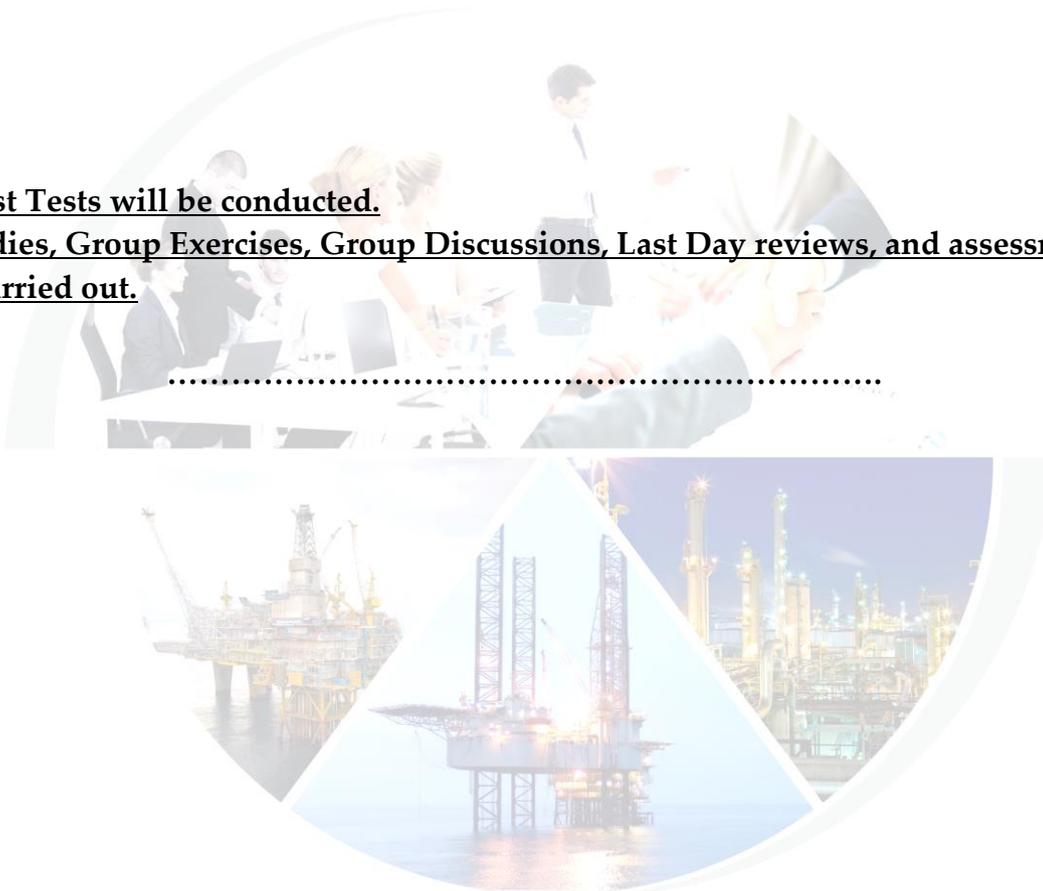
Day 5: Renewable Energy Integration and Future Trends

- Integrating solar, wind, and other renewable sources into power systems
- Grid stability and energy storage considerations
- Future trends in power system design: smart grids and digital transformation

NOTE:

Pre-& Post Tests will be conducted.

Case Studies, Group Exercises, Group Discussions, Last Day reviews, and assessments will be carried out.



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