



MODULE 0

FUNDAMENTALS OF POWER SYSTEM MODELING

Training Objectives:

The fundamental course of power system modeling is designed to expose participants to the development of models of major power system components such as synchronous generators, transformers, transmission lines, excitation systems, and speed governors. In addition to this, modeling of converter-based renewable energy sources, loads, and prime movers shall be introduced. An insight into the mathematical modeling of power system components is necessary to comprehend when goes behind when a power system is modeled in any power system modeling and analysis software.

Who Will Benefit?

- Employees of Central and State utilities
- Professionals working in the modeling, analysis, and system studies domain of the power & energy industry
- Graduate/Post-graduate students in Electrical/Electrical and Electronics Engineering willing to join the power system industry

Course Content:

- Why is power system modeling required?
- Introduction to power system modeling
- Modeling of synchronous generator
- Modeling of power transformer, transmission lines, and loads
- Modeling of prime movers and excitation system
- Introduction to modeling of converter based renewable energy sources (Solar PV, Wind, and storage)
- Hands-on exercises using EMTDC/PSCAD and PSS®E simulation tools

Pre-Requisite:

Basics of Power Systems and renewable energy systems

Software:

EMTDC/PSCAD and Siemens Power System Simulator for Engineering (PSS®E)

Delivery Mode:

In-Person-Physical classroom setting

Certification:

Yes

Course Duration:

12 Hrs

Course Fee:

INR 20,000 (For professionals)
INR 10,000 (for students)



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