Course description

Introduction to Voltage control, Reactive Power Compensation, Harmonics & FACTS devices analysis

Course goal
The goal of the course is to familiarize the concepts to voltage control, reactive power compensation and FACTS devices and harmonics to power engineers.

Learning objectives
Upon completion of this course, participants will be able to:

- Understand the basics of reactive power and voltage control
- Understand concepts of various FACTS devices
- Understand Harmonics and filter design

Participant profile
Personnel from Power Utilities, Power Generation, transmission companies & industries and Consultants responsible for system design, planning and engineering of power system

Prerequisites
Degree or diploma in engineering, basic knowledge of Power Systems

Topics

- Fundamentals of Reactive Power Compensation
- Basics of Voltage Control
- Methods for Reactive Power Compensation
- Fundamentals of Harmonics
- Harmonic Analysis
- Flexible AC Transmission Systems (FACTS)
- FACTS devices & its operating principles
- Comparison of FACTS devices
- Series & Shunt compensated devices
- Fundamentals of Harmonics- sources of harmonics, harmonic distortion factors, series & parallel resonance
- Harmonic Analysis & filter design
- Case studies

Course type and methods
This is an instructor led seminar. Lectures, demonstrations, design, application and calculation exercises. The language of the course is English.

Duration
The duration is 2-3 days.