

**Course Overview:**

Participants acquire the knowledge and skills to perform and operate diagnostic tests (conventional or advanced as FRSL measures, FRA, FDS) on power and distribution transformers. Subsequently this knowledge is embodied in practical work.

**Course Objective:**

- Perform diagnostic measurements on transformers
- Interpret and evaluate the measurement results
- Correlate results from different measurement methods

**Course Outline:**

- Introduction to the diagnosis of transformers
- Electrical basic tests on a transformer
- Transformer Ratio
- Winding Resistance
- On-load Tap Changer Test
- Short-circuit impedance measurement
- Introduction to the measurement of  $\tan \delta$  (dielectric loss factor) and the frequency response of the dielectric (FDS)
- Measurement of the dielectric response and moisture of power transformers
- Measurement of dissipation factor on insulation of windings
- Implementation and interpretation of results
- Introduction to the sweep frequency response analysis of the scanning coils (SFRA)
- Measurement principles of the SFRA
- Implementation and interpretation of results

**Who Should Attend:**

Technicians and engineers from utilities or companies responsible for maintenance and diagnostics of power transformers.

**Training Language:**

EN / AR

**Training Methodology:**

- Presentation & Slides
- Audio Visual Aids
- Interactive Discussion
- Participatory Exercise
- Action Learning
- Class Activities
- Case Studies
- Workshops
- Simulation