

## High Voltage & Extra High Voltage Switchgear

Date		(\$)Fees
09 March -13 March 2025	Dubai	3200

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### Course Overview:

High voltage switchgear was invented at the end of the 19th century for operating motors and other electric machines. The technology has been improved over time and can be used with voltages up to 1,100 kV.

Typically, the switchgear in substations is located on both the high voltage and the low voltage side of large power transformers. The switchgear on the low voltage side of the transformers may be located in a building, with medium-voltage circuit breakers for distribution circuits, along with metering, control, and protection equipment. For industrial applications, a transformer and switchgear line-up may be combined in one housing called a unitized substation or USS.

### Upon completion of this course, students will be able to:

- Identifying principles of engineering service electrical substation equipment
- Explaining switchgear items and functions
- Describe different forms of circuit breakers connections in electrical networks
- Describe forming different types of circuit breakers
- Identifying automatic operation consideration of circuit breakers and prevent faults in circuits
- Explaining modes of uses stages in circuits and the effect of the short circuits
- Explaining modes of arc extinction by circuit breakers
- Explaining modes of standard tests in circuit breaker
- Explaining mobile measuring and test equipment of circuit breakers (dabble)
- Complying with measuring equipment of constant resistance of connectors
- How to prepare the reports of the technical state of circuit breaker
- How to test the sf6 isolating gas

### who should attend?

This course is intended for engineers and technicians from substation, distribution station, power utilities, transmission and maintenance in electricity companies. Participants need no specific requirements other than basic understanding of electrical equipment in his work area to gain maximum.

### Course Outlines:

- Introduction
- Engineering Service For Substation's Electrical Equipment
- Definitions, Construction And Jobs Of Switch Gear Items
- Operation And Consideration Of Switch Gear
- Different Forms Of Substations And Construction Of Circuit Breakers
- Automatic Operation Consideration Of Circuit Breaker

- Relay's Types And Transient Currents
- Modes Of Arc Extinction In A.C Circuit Breaker
- Rated Characteristics. Of H.V. – A.C Circuit Breaker
- Circuit Breaker Various Tests
- Dabble Circuit Breaker Tests Equipment Tr3000
- D-C Resistance Measurements By Crd100-X Set
- SF6 Moistures Content At C.B. By Dilo Set
- Practical Implementation Of The Various Tests
- How Determine The C.B. Technical State

### **Training Methodology:**

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



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