

ELECTRICAL COURSES

INTRODUCTION TO PROTECTIVE RELAYS (E10A)

OBJECTIVE:

This seminar provides the participants with a practical understanding of the testing and maintenance of protective relays - such as overcurrent relay, directional overcurrent relay, differential relay, and distance relay. These relays are typically found in industrial or utility systems.

WHO SHOULD ATTEND?

This course is suggested for experienced technicians and supervisors working on electrical maintenance (protection).

COURSE CONTENT:

- CT and PT Polarity and Connections
- Relays Fundamentals
 - Classification of Relays
 - Principles of Operation
 - Overcurrent and Overvoltage Relays
 - Voltage Controlled Overcurrent Relay
 - Directional Overcurrent Relay
 - Differential Relay
- Transformer Protection
- Protection of Transmission Line by Distance Relay
- Test Procedures and Inspection of Differential, Distance Relays

PRACTICAL TASKS:

- Overcurrent relay & Undervoltage relay
- Pick-up/Time current tests
- Instantaneous

Duration: 5 Days

Date:	Venue:	Cost:
Apr 11–15	Dammam	SR7,000
Aug 8 – 12	Dammam	SR7,000
Nov 28 – Dec 2	Dammam	SR7,000

INTRODUCTION TO PROCESS RELAYS (E37AE)

OBJECTIVE:

The course addresses the philosophy of advanced protective relays. The different advanced relays are introduced along with static protection.

WHO SHOULD ATTEND?

All electrical engineers, supervisors, and experienced technicians are invited to attend this short course. Operation, control, and planning engineers are strongly recommended to attend this course.

COURSE CONTENT:

- Introduction and General Philosophies.
- Technical Tools of the Relay Engineer: Phasors, Polarity, and Symmetrical Components.
- Protection Against Transients and Surges.
- Static Relays.
- Microprocessor Relaying.
- System Earthing, Safety Grounding and Protective Relaying.
- Generator Protection.
- Motor Protection.
- Transformer, Station Bus Bar, and Reactor Protection.
- Optimum Load Shedding and Frequency Relaying.
- The Main Advantages of Static Relays.
- The differences Between Electromechanical Relay and Static Relay.
- Monitoring, Protection, Control, and Measurement Functions.

Duration: 5 Days

Date:	Venue:	Cost:
Feb 28 –Mar 4	Dammam	SR7,000
Jun 6 – 10	Jubail	SR 8,000
Dec 26 – 30	Dammam	SR7,000