

SOLVE

Safe Operation of Low Voltage Electricity is the need of the day. SOLVE, the digital platform provides knowledge on the most modern methods to ensure safety, reliability and confirmation to the Code of Practices, Standards and Regulations of various nations.

Customised Training Programs (ONLINE)

Customised training programs are for engineers working in the field of design of LV electrical installation, in the field of safety audits and in maintenance departments. These trainings are designed to suit every industry and are based on the most modern IEC/ISO/IS standards. SOLVE also ensures that these engineers are supported continuously so that their technical queries are solved for a period of one year.

Designing of electrical installation in buildings

Duration: 30 hours,

Charges: Rs. 60,000/- per person (minimum 3 persons per program, limited to 10 persons per program)

Suitable for electrical engineers in the field of designing with at least 3 years of working experience in designing of electrical installation.

Subjects Covered:

National and international standards, Rules for electrical safety in LV system and the concept of design, selection, erection and testing, fundamental principles and protective devices, system earthing and earthing arrangement, basics and practical applications in earthing, protection from electric shock, protection from thermal effect, protection from over current, protection from voltage disturbances, selection and erection of electrical equipment - common rules, wiring systems, isolation, switching and control, functional earthing, safety services, Inspection and testing of electrical system.

Earthing and reliability in electrical installation

Duration: 18 hours,

Charges: Rs. 40,000/- per person (minimum 3 persons per program, limited to 10 persons per program)

Suitable for electrical engineers in the field of designing with at least 3 years of working experience in designing of electrical installation.

Subjects Covered:

System earthing & safety in each network, equipment earthing, protective equipotential bonding, protective conductors, sizing of protective conductors, interpretation of IS3043, reading and understanding CEA safety regulations (Measures relating to safety and electric supply 2010), UPS earthing, earthing of electronic equipment, functional earthing, ICT bonding networks, designing of earthing for HV installations (up to 33 kV).

Inspection and testing in electrical installation

Duration: 10 hours,

Charges: Rs. 30,000/- per person (minimum 3 persons per program, limited to 10 persons per program)

Suitable for electrical engineers in the field of safety audits and maintenance in industries.

Subjects Covered:

Basics of protection, basics of safety earthing, basics of inspection, subjects & methods of inspection, reasons for inspection, subjects of testing, methods of testing with videos, periodic testing

Customised Short Training Programs (ONLINE)

Suitable for engineers working in the field of safety audits (as an informative session) and for engineers in maintenance departments of Industries. There are 16 subjects. For safety engineers in Industries and Commercial establishments, we recommend a two days testing & site training by SOLVE engineering team.

Duration: 2 hours.

Charges: Rs. 20,000/- per program, subject to a maximum of 25 persons per program)

1. Basic design criteria of an LV electrical installation (IS 732): Protection against electric shock, protection from thermal effect (fire due to short circuit), protection from over current & short circuit, protection from over voltages, selection and erection of equipment, safety services.
2. Protection from Electric shock: Basic and fault protective measures in LV system
3. Protection from Thermal effects: Protective measures for reducing fire due to short circuit
4. Protection from Over voltages: Protective measures and methods to reduce TOV's in an LV installation due to fault at HV side of an installation, fault at LV side of installation, selection and erection of devices.
5. Basics of EM/EMC: Basics and protective measures for electronics against various electro magnetic interferences on daily usage.
6. Earthing Part 1 (IS3043 & IS732): System earthing & safety in each network, equipment earthing, protective equipotential bonding & protective conductors.
7. Earthing Part 2 (IS3043 & IS732): Sizing of conductors for earthing, Interpretation of IS3043, reading and understanding CEA safety regulations (Measures relating to safety and electric supply 2010)
8. Earthing Part 3 (IEEE 142 & IEEE 1100): UPS earthing, earthing of electronic equipment
9. Earthing Part 4: (IS732, ISO 30129): Functional earthing, ICT bonding networks, design and testing of earthing for applications such as DC supply networks (and systems) for supplying power to ICT equipment within a building, star-shaped private automatic branch exchanges (PABX) or their equipment, local area (communication) networks (LANs), fire and intruder alarms communication systems, Instrumentation system, building automation systems, e.g. direct digital control systems, systems for computer-aided manufacturing (CAM) and other computer-aided services, broadcast and communication technology .
10. Inspection and testing of an electrical installation (IS 732): Basics of inspection, subjects & methods of inspection, reasons for inspection, subjects of testing, methods of testing with videos, periodic testing
11. Electrical safety in healthcare facilities and protection from shock (IS 732 & IS 17512): Need for special requirements in hospitals, electrical system in general locations and special locations, safety in general locations, safety in special locations (patient safety and ignition of fire from electricity), need for inspection and verifications
12. Solar PV installation (IS732, IS 16997 / IEC 60364-7-712): Protection for safety in special location, lightning protection, earthing, inspection and testing
13. Lightning Protection Part 1 (IS/IEC 62305): Analysis, risk assessment, designing of air termination, designing of down conductors, designing of earth termination
14. Lightning Protection Part 2 (IS/IEC 62305): Separation distance calculations, selection of components of LPS, testing and quality requirements, inspection and verification
15. Surge Protective Device (SPD's) Part 1 (IEC 61643-11/12): SPD's - What are they, voltage impulse withstand of equipment, lightning protection zone (LPZ), requirements at each LPZ, equipotential bonding, requirement and selection of power line SPD's based on LPZ
16. Surge Protective Device (SPD's) Part 2 (IEC 61643-11/12 & IEC 61643-21/22): Power line SPD's selection based on IS732 (IEC 60364-5-53), selection of back up fuse, selection based on priority to continuity of supply or continuity of protection , SPD's for signaling and telecommunication application basic requirements, performance requirement and testing methods, selection and erection of telecom and signal SPD's.