TECHNICAL
EDUCATION
ACADEMY

School of Engineering

COURSE PROGRAMME

000378

Inspection & Testing of Electrical Equipment (Portable Appliance Testing)

Whether at work or at home, electronic and (alternatively in the private and professional sector) electrical appliances now dominate our lives.



Learn from the Best in the Business!

Course overview

Foundation level

Why take this course

Whether at work or at home, electronic and (alternatively in the private and professional sector) electrical appliances now dominate our lives.

Quality and safety standards set strict requirements for small appliances such as kitchen utensils, personal hygiene devices and large appliances used every day in households around the world.

In electrical safety testing, portable appliance testing is a process by which electrical appliances are routinely checked for safety. The formal term for the process is "in-service inspection & testing of electrical equipment".

Testing involves a visual inspection of the equipment and any flexible cables for good condition, and also where required, verification of earthing (grounding) continuity, and a test of the soundness of insulation between the current carrying parts, and any exposed metal that may be touched. The formal limits for pass/fail of these electrical tests vary somewhat depending on the category of equipment being tested.

Who it is for and how it helps

This electrical safety and PAT testing training course is ideal for those who work with electrical equipment, such as those in the following professions: electricians, health & safety managers, electrical engineers.

What you will learn

- Identify and prevent electrical hazards in the home and workplace
- Demonstrate in-depth knowledge of the effects of electric current on the body
- Understand the importance of protective clothing and the different types of PPE
- Discuss the difference between direct currents and alternating currents
- Explain the basic concepts of electricity, such as voltage and resistance
- List factors that affect capacitance and understand energy density of electric fields
- Work safely with electrical equipment such as power tools and other hand tools
- Perform a risk assessment and understand the code of practice for the testing of electrical equipment
- Reduce and control risk by implementing an effective safety management system
- Identify the different classes of equipment and types of safety tests

Curriculum

Modules 01–06

01 Safety Precautions

- General safety rules and the principles of electrical maintenance
- How to identify and prevent electrical hazards
- Essential PPE

02 Direct Current

- Direct current circuits and how they are produced
- Different types of cells and batteries and how they work

03 Alternating Current

- The basics of alternating currents and the definition of AC
- Amplitude, period and frequency
- Properties of sine waves

04 Voltage and Resistance

- What resistors are used for
- Understanding of voltage sources
- Wiring colour codes

05 Capacitance and Capacitors

- How a capacitor stores charge and the energy density of electric fields
- Factors affecting capacitance
- Voltage rating of a capacitor

06 Working Safely with Electrical Equipment

- Types of electrical tools and equipment
- Safety regulations and standards
- Step-by-step guidance on how to use power tools safely

Curriculum

Modules 07–11

07 Electrical Incidents

- Electrical Incidents

08 Risk Assessment

- Risk assessment process
- Factors to consider during a risk assessment
- Who should perform risk assessment

09 Reducing and Controlling Risks

- Different types of equipment and how to inspect them in compliance with safety regulations
- Fire safety risk and emergency procedures
- Fire safety principles

10 Combined Inspection and Testing

- Different classes of equipment
- Practical guidance on the earth leakage test and the touch current test

11 Introduction to Portable Appliance Testing

- Introduction to Portable Appliance Testing

Participation and contacts

Joining the programme

Contact the Academy and quote course code 000378 to confirm dates, delivery format, prices and enrolment terms.

Training for your team

Tell us your business goals, the roles and number of participants, and your preferred dates and location. This will help us discuss the right training option.

Preparing for the programme

The published programme does not specify any prerequisites. Contact us before enrolling to confirm how to prepare.

Discuss your training needs

mail@tecedu.org
www.tecedu.academy

Learn from the Best in the Business!