

**Training Title**

**UPS & BATTERY SYSTEMS & CHARGERS**

**Training Duration**

5 days

**Training Venue and Dates**

REF EE056	UPS & Battery Systems & Chargers	5	09 – 13 June, 2019	\$4,250	Dubai, UAE
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In any of the 5 star hotels. Exact venue will be informed once finalized.

**Training Fees**

- 4,250 US\$ per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Buffet Lunch

**Training Certificate**

Define Management Consultancy & Training Certificate of course completion will be issued to all attendees.

**TRAINING DESCRIPTION**

Delegates will gain an overall appreciation of the applicable standards and working practices to:

- Describe the operation of UPS
- Know what is the storage battery systems
- Review of Electrical circuits analysis
- Electricity supply
- Circuit protection
- Switches and control systems
- Know the types of UPS
- Industrial supply and distribution
- Electrical maintenance
- Design a simple UPS
- Knowing the application of UPS

**TRAINING OBJECTIVES**

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- Gain an understanding of different types of batteries and their application;
- Learn battery charging methods and safe handling of batteries,
- Understand the purpose and function of uninterrupted power supply (UPS);
- Have an appreciation for block diagrams of UPS;
- Understand various parts, design and function of systems;
- Have an appreciation of the sizing and selection of batteries, hazards involved when working with batteries and the various operation modes; Learn maintenance and testing procedures.

**WHO SHOULD ATTEND**

DMCT/OL/9/18(Rev3Dt:23/9/18)

Managers, Engineers and Technicians, responsible for the design UPS, installation, testing, safety, and operation of electrical utilities and power stations, who need to refresh their knowledge and skills.

**TRAINING METHODOLOGY:**

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions, and motivate everybody find the right answers. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.

Very useful Course Materials will be given.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Group Work & Practical Exercises
- 20% Videos & General Discussions

**TRAINING OVERVIEW**

Review of electrical circuit analysis

- Introduction to electric circuits and their analysis
- Generation
- Single and three phase analysis
- Complex power calculation
- Balanced three-phase circuits
- Distribution
- Distribution and utilization on premises
- Static electrical plant.

UPS Systems

- Introduction to UPS
- Types of UPS
- Functions of UPS
- Design of UPS
- Alarm circuits using UPS

Safety of Electrical Equipments and installation in hazardous areas

- Safety and isolation
- Flameproof installations
- Battery charging
- Ring circuit continuity
- Appliance testing
- Testing in hazardous areas
- Machine testing
- Lighting
- Short circuit currents
- Fundamental of protections

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**Batteries and Battery Chargers**

- Design of Power Supply
- Type of Batteries
- Integrated of power electronics with solar energy
- Control equipment and interlocks
- Control systems – electronic and solid state systems

***Power Supplies & UPS Operation and Application***

- Introduction to Power Electronics
- Solar Energy and its Applications
- Power Supply Units
- Control Circuits
- Industrial electrical equipments

**NOTE:**

**Pre & Post Tests will be conducted**

**Case Studies, Group Exercises, Group Discussions, Last Day Review & Assessments will be carried out.**



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