BASIS ELECTRICITY (REF:OTSBE001)

Course Introduction

This training program provides the basic knowledge of electricity fundamentals with applied mathematical worked examples to cover the basic theories of DC and AC power supply, Electrical elements we are using in power systems, Linear and nonlinear loads, Power factor improvements, Transformer and Induction theory, Basics of Motors and Generators, Using Motor, Electric Traction & Electrical Control Trainer simulator.

Course Objectives:

By the end of this course, trainee will be able to know the following:

- Static Electricity, Electric Charges and Electromagnet
- Conductors, Insulators
- Voltage and Current
- Resistance
- Voltage and current in a practical circuit
- Ohm's Law
- Power in electric circuits
- Series and Parallel Circuits
- Resistors in AC circuits
- What are impedance and reactance?
- Capacitors and charging
- Inductors and the Faraday law
- Impedance of components
- RC Series combinations
- RL Series combinations
- RLC Series combinations
- Resonance
- Complex Impedance
- RC filters, integrators and differentiators
- LC oscillations
- Power, RMS values and three-phase circuits
- Power factor calculations
- Improve power factor
- Transformers and Induction theory
- Basics of Motors and Generators

Who Should Attend?

This course is intended for Electrical Technicians, Supervisors, Junior Electrical Engineers, operators and production staff.

Course Outline:

Day 1

- Static Electricity, Electric Charges and Electromagnet
- Conductors, Insulators
- Voltage and Current
- Resistance
- Voltage and current in a practical circuit
- Ohm's Law
- Power in electric circuits
- Series and Parallel Circuits
- Resistors in AC circuits
- What are impedance and reactance?

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Day 2

- Capacitors and charging
- Inductors and the Faraday law
- Impedance of components
- RC Series combinations
- RL Series combinations
- RLC Series combinations
- Resonance
- Complex Impedance
- RC filters, integrators and differentiators

Day 3

- LC oscillations
- Power, RMS values and three-phase circuits
- Power factor calculations
- Improve power factor

Day 4

- Transformers and Induction theory

Day 5

- Basics of Motors and Generators
- Using Motor, Electric Traction & Electrical Control Trainer simulator.

Technical Training Solutions

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