Analogue Electronics

Roxby Training Solutions Ltd, Unit 4 John Clarke Centre, Dockside Road,
Middlesbrough TS6 6UZ
Telephone: 01642 438700
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j.dean@roxby.com or r.mellor@roxby.com

COURSE CONTENT

Aim

To provide a working knowledge of analogue electronics, noise and its suppression and circuits used in process instrumentation.

Pre-requisites

Suited to personnel who require training towards multi-discipline engineering and carry out routine fault finding and rectification tasks on digital circuitry.

Course Duration

The course is of five days in duration.

Optimum Number

Maximum of 8 delegates per course.

Training Aids

OHP, Information hand-outs.

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COURSE OBJECTIVES

- Apply the knowledge of general electrical principles to analogue electronics.

- Understand the operation and circuit application of semiconductors.

- Understand the operation and circuit applications of amplifiers, with or without feedback.

- Understand the operation and circuit applications of rectifiers, amplifiers and other electronic devices.

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COURSE SYLLABUS

Basic Electricity	Charge. Current. Potential Difference. Power. Resistors. Resistor Codes. Kirchoffs Laws. Thevenins Theorem
Cells and Batteries	Characteristics. Symbols. Lithium Cells. Lithium Battery Safety. Internal Resistance.
Meters	Ammeters. Voltmeters. Ohmmeters. Digital Multimeters. Oscilloscopes.
A.C and D.C Electrical Theory	Alternating Waveforms. Capacitors. Capacitors Combination. Capacitors Codes. Capacitor in D.C and A.C Circuits. Inductors. Inductor Combinations. Inductors in D.C and A.C Circuits. The Transformer. Transformer Loses.
Semiconductor	The n-type and p-type Semiconductors.

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Concepts	The p-n Junction. Reverse and Forward Bias. The Semiconductor Diode. The Zener Diode. Diode Limiting Circuits.
Principles of Rectification	Types of Rectifier. Rectifier Testing. Rectification. Smoothing.
Principles of Amplification	Amplifier Frequency Response. The Decibel. The Transistor. Transistor Configurations. The Common Emitter Amplifier. The Common Collector Amplifier. Regulators. Common Base Amplifier. Amplifier Bias Classes.
Operational Amplifiers	Operational Amplifiers. Operational Amplifiers Characteristics Operational Amplifiers D.C Circuits. Operational Amplifiers A.C Operations
Other Semiconductor Devices	Unijunction Transistor. Silicon Controlled Rectifier or Thyristor. Triac and Diac Application. Field Effect Transistor

Dates available on request

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