**COURSE TITLE:** ELECTRONICS

**COURSE DURATION :** 10 DAYS

**COURSE CONTENT:**

* Construct basic electronic circuits

Outline

The learners will be able to identify, test components and build basic electronics circuits.

* Identify and test basic electronic components. (Resistors, capacitors, inductors, diodes, transistors and thyristors )
* Identify, construct and test electronic circuits. (Power supplies, amplifiers and multi-vibrators)
* Use of electronic measuring instruments. (Multi-meters and oscilloscope)

**COURSE TITLE:** INTRODUCTION TO PLC’S

**COURSE DURATION:** 5 DAYS

**COURSE CONTENT:**

* Demonstrate and understanding of basic Programmable Logic Controllers

Outline

Covering primarily the Mitsibishi PLC. In this course learners are introduced to the fundamentals of the PLC, working with ladder & statement list circuitry.

* Identify the three basic stages of a typical automation control system.
* Describe the operation of a two state switch and a two state logic system.
* Explain the operation of a two state relay and describe the function as a control device.
* Explain the basic differences between a relay logic controller and a programmable logic controller.
* Basic PLC ladder programming.
* Identifying and fault finding on ladder logic diagrams.

**COURSE TITLE:** INSTALL AND MAINTAIN DC DRIVES

**COURSE DURATION :** 5 DAYS

**COURSE CONTENT :**

* Install and maintain DC drives

Outline

The learner identify, install and fault find D.C. drive systems.

* D.C. power supplies
* Acceleration/deceleration control circuits
* Current amplifier circuits
* Trigger channel stages
* Power control sections
* Commission and test D.C. drives.

**COURSE TITLE:** INSTALL AND MAINTAIN AC DRIVES

**COURSE DURATION :** 5 DAYS

**COURSE CONTENT:**

* Install and maintain AC Drives

Outline

The learner identify, install and fault find A.C. drive systems.

* A.C. drive applications, ideal motors and common systems.
* Identify, apply and test power semiconductors.
* Describe construction and operation of three phase motors and starting systems.
* Describe the operating principles of variable frequency inverters and A.C. motors.
* Describe the working principle of A.C. drives.
* Install and set up A.C. drives.
* Describe the maintenance and fault finding procedures on A.C. drives.