

12.1.0 ELECTRICAL ENGINEERING PRINCIPLES

12.1.01 Introduction

This module unit is intended to equip the trainee with knowledge, skills and attitude required to understand the basic electrical engineering principles necessary for training in the area of trade.

12.1.02 General Objectives

At the end of the module unit, the trainee should be able to:

- a) Understand the concepts of electrical quantities
- b) Perform basic calculations on dc and ac circuits
- c) Explain the behaviour of magnetic materials, magnetism and electromagnetism
- d) Describe the construction and operation of dc sources
- e) Explain the basic concepts of ac generation
- f) Describe the theory of dielectrics, principles and characteristics of capacitors
- g) Analyze analogue ac and dc meters

12.1.03 Module Unit Summary and Time Allocation

Electrical Engineering Principles

| Code | Sub Module Unit | Content | Time Hrs |
|-------------|---------------------------------------|--|-----------------|
| 12.1.1 | Electrical quantities and application | <ul style="list-style-type: none">● Basic SI units● Derived units● Units of electrical quantities● Calculations | 8 |
| 12.1.2 | Cells and Batteries | <ul style="list-style-type: none">● Electrolysis and applications● Definition of electricity● Construction of simple cell● Determination of E.m.f in cells● Differentiation of primary and secondary● Construction and applications | 6 |