

Electrical Fundamentals – Tab 1

Electrical Basics – *Electrical terms, electrical symbols for formulas and prints, electrical calculations, measurement methods, sources of electrical energy, resistance in electrical circuits*
DC Circuits – *Ohms Law; electrical power; series, parallel and series-parallel circuits*
AC Circuits – *Magnetism, Sine Wave fundamentals, inductance, capacitance, reactance, impedance, single-phase AC systems*
Three-Phase AC Systems – *Delta, Wye, three-phase power measurements and calculations, power factor correction*

Electrical Equipment – Tab 2

Introduction to Electrical Equipment – *Switches, relays*
Transformers
Electrical Protective Devices – *Fuses, Overload Relays, Circuit Breakers, MCP's*
DC Motors & Generators
AC Motors & Generators

Electrical Control Systems – Tab 3

Fundamentals of Motor Control
Introduction to Solid State Components – *Diodes, transistors, SCR's, FET's, IGBT's, GTO's; introduction to integrated circuits*
Introduction to Analog and Digital Systems – *Analog Systems: op amps. Digital Systems: logic circuits, counters, shift registers.*
Programmable Control Systems – *Programmable Relays, Programmable Logic Controllers (PLC's)*
Motor Drives – *DC Motor Drives. AC Motor Drives: Soft Start Systems, Variable Frequency Drives*

Medium Voltage Systems – Tab 4

Electric Power Substations
Distribution Systems – *Underground, Overhead, Surface Mine*
Radial Feeder Analysis - *System Impedances, Available Fault Current, Motor Starting Voltage Drop*
Introduction to Protective Device Coordination
Principles of Voltage Regulation

Reference Data – Tab 5

Symbols
Formulas
Standard Device Designation Numbers
Types of Electrical Prints – *Block Diagrams, Schematics, Wiring Diagrams, Flow Charts, One-Line Diagrams*

Manufacturer's Data Sheets – Tab 6

Insert manufacturers' data sheets and instructions in this section.

My Notes – Tab 7

A handy place to keep your personal field notes from various jobs.

Appendix – Tab 8

Technical Article File – Insert trade publication articles, stories, and other literature you want to keep in this section.