



BASIC ELECTRICITY AND ELECTRONICS CERTIFICATION COMPETENCIES

Alternating Current (AC):

1. Principles of Alternating Current
2. Electronic Components and Terms
3. Principles of Inductance
4. Transformer Theory
5. Principles of Capacitance
6. AC Generator Theory
7. AC Motor Theory
8. RC, RL, and RCL Principles
9. Cabling
10. Test Equipment and Measurements
11. Basic Electrical Safety Precautions
12. Mathematics and Formulas

Direct Current (DC):

1. Basic Electrical Theory
2. Magnetism
3. Basic Electrical Safety
4. Electronic Equipment
5. Electronic Components
6. Ohms Law for Electronics
7. Basic Mathematics for Electronics
8. Electronic Measurements
9. Series Circuits for Electronics
10. Parallel Circuits for Electronics
11. Series/Parallel Combination Circuits for Electronics
12. Battery Power Supplies



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Analog:

1. Diodes
2. Transistors
3. Thyristors
4. Integrated Circuits
5. Optoelectronic Devices
6. Power Supplies
7. Test Equipment and Measurements
8. Mathematics and Formulas
9. Amplifiers
10. Operational Amplifiers
11. Oscillators
12. Filters
13. Wave-shaping Circuits

Digital:

1. Numbering Systems and Conversions
2. Block Diagrams – Schematics-Wiring Diagrams
3. Test Equipment and Measurements
4. Safety Precautions
5. Theory of Digital Logic Functions and Circuitry