SECTION HEADING

ELCO 1120: AC/DC II

Description

AC/DC II introduces students to the basic concepts of AC circuits, safety practices, basic studies of resistive, inductive, and capacitive circuits, circuit analyzing, oscilloscope operations, capacitance, capacitive reactance, inductance, inductive reactance, RC and RL time constants, Transformers, and three-phase circuits.

Credits

3

Prerequisite

ELCO 1110

Topics to be Covered

1. Safety

2. Introduction to alternating current

3. Training and equipment the familiarization

4. Generating AC electricity

5. Non-sinusoidal sine waves

6. Resistance in AC circuits

7. Inductors

8. RL series, parallel, and troubleshooting circuits

9. Capacitors

10. RC series, parallel, and troubleshooting circuits

11. RLC series, parallel, and troubleshooting circuits

12. Transformer action and troubleshooting

13. Three-phase circuits

Learning Outcomes

1. Analyze the theory of AC by using oscilloscopes, training equipment, volt-ohm meters.

2. Apply safe electrical tactics on the job with electricity.

3. Calculate and use AC electrical terms.

4. How to troubleshoot series, parallel circuits in RL inductance.

5. How to troubleshoot series, parallel circuits in RC capacitance

6. How to troubleshoot series, parallel circuits in RLC combination

7. How to troubleshoot series, parallel circuits in resistance

8. Understand how to measure capacitors in microfarads

9. Understanding and respecting AC electricity

10. Understand how to color code capacitors

Credit Details

Lecture: 1

Lab: 2

OJT: 0