

COURSE – J
TRANSFORMERS AND MOTORS
(Level 10)

- TEXT BOOK:** Electrical Principles and Practices - Mazur/Zurlis
(supplied by Schaedler / YESCO Distribution)
- TOOLS/MATERIALS:** Students should bring the following to class:
- Calculator
- Textbook listed above
- Writing utensils and notepaper
- TIME FRAME:** Half-day session (4 Hours)
- PREREQUISITE(s):** Course-A, Basic Industrial Electrical Theory I (Level 1)
Course-B, Basic Industrial Electrical Theory II (Level 2)
Course-G, Basic Industrial Electrical Theory III (Level 7)
Course-H, Basic Industrial Electrical Theory IV (Level 8)

General Sequence

- Chapter 15 Magnetism, Solenoids, and Transformers**
Chapter 16 Electric Motors

At the end of this training session, students should be able to.....

Chapter 15

- Explain the principles of magnetism and electromagnetism.
- Describe the function and common applications of a solenoid.
- Describe the function and operation of a transformer.
- Describe how transformers are rated and explain power loss.
- List and describe common types of transformers.
- Describe transformer overloading and transformer cooling methods.
- Explain how to size transformers.
- List and describe common transformer connections.

Chapter 16

- Describe the function and operation of an electric motor.
- Explain work and torque in relation to electric motors.
- List and describe common motor torque classifications.
- Describe the relationship between torque, horsepower, and motor speed.
- List and describe common types of 1 Φ motors.
- List and describe common types of 3 Φ motors.
- List and describe common types of DC motors.
- Describe the electrical, operating, environmental, and mechanical ratings listed on a motor nameplate.