



Department of Electrical and Control Eng.



Lab 146

Electrical Circuits

Capacity: 20 Students



It provides the essential Knowledge for the student to understand and validate the AC and DC electric circuit's concepts. And it also familiarizes the student with measurements devices, power supplies and other different circuit elements.



LABORATORY EQUIPMENTS

- Dual Digital DC power Supplies.
- Dual Digital function generators.
- Spectrum analyzers.
- Digital oscilloscopes.
- Multiplexer.
- Digital LCR meters.
- Digital Multimeters.
- Training Boards.

MAJOR EXPERIMENTS

- ✓ Ohm's Law.
- ✓ Kirchoff's Laws.
- ✓ Resistance in series and parallel.
- ✓ Node voltage method.
- ✓ Loop current method.
- ✓ Superposition theory.
- ✓ Thevenin's equivalent circuit.
- ✓ Maximum power transfer.
- ✓ R, L, C identification.
- ✓ Series and parallel resonance.
- ✓ Star Delta transformation.
- ✓ AC circuit analysis.
- ✓ Oscilloscope identification.
- ✓ Natural response for RL and RC circuits.
- ✓ Step response for RL and RC circuits.
- ✓ Multisim v12.0.



The Laboratory Serves the Following Courses

Course No.	Course Title	Semester
EE238	Electrical Eng. Fundamentals	3
EE231	Electrical Circuits 1	3
EE236	Electrical Engineering 1	4
EE232	Electrical Circuits 2	4
EE239	Electrical Eng. Fundamentals for Marine Technology	3