

POWER SYSTEMS LAB

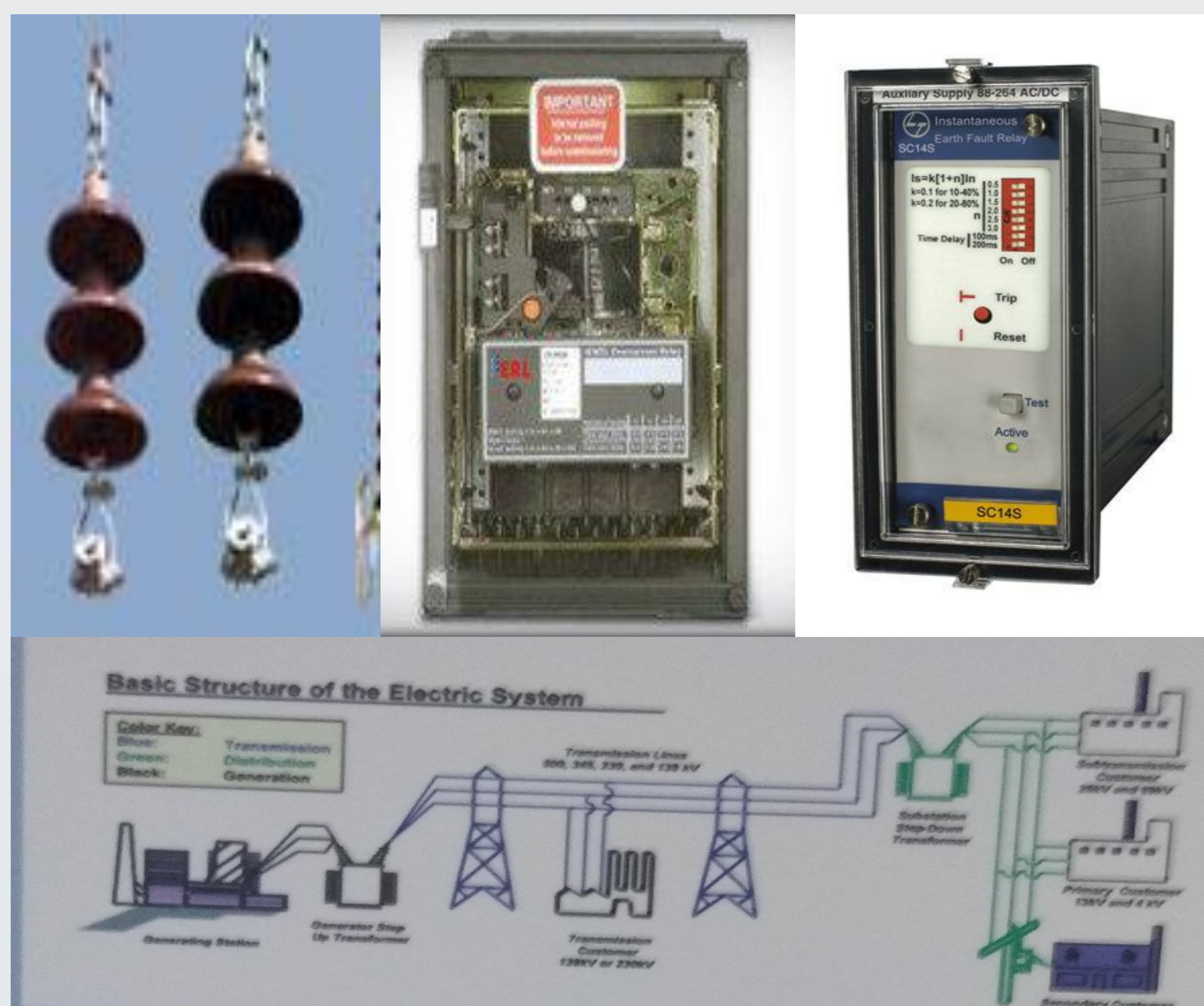
Introduction

The objective of this laboratory is to enable the students to strengthen their understanding of the Power system comprising of generation, transmission and distribution of energy and protection.

Scope of the Lab

This course aims at introducing the students to the hands on experience on basic features of the modern power systems, analysis and operation under steady state and transient conditions.

Infrastructure



- PSCAD & DSA Tools Software
- 3-ph 3 winding Transformer
- DC Motor-3 Ph Alternator
- IDMT Over Current Relay
- Static/Electro Magnetic differential Relay
- Transmission Line Simulator
- Current Transformer Test Set
- Potential Transformer Test Set
- String of Insulators
- Solar PV and Wind emulator hybrid system with DC micro grid
- ACE MLBX 1302 T Dspace kit.

Experimental Setups



Application Areas

- Load flow, Fault analysis
- Microgrid, Hybrid system,
- Frequency and voltage stability.
- Power Quality

List of experiments

- Power System Simulator ABCD parameters, voltage regulators, efficiency and power factor correction
- Power System Simulator Fault analysis
- Simulation of string insulators for determination of voltage distribution and string efficiency
- Characteristics of percentage based of static/ Electromagnetic differential Relay
- Characteristics of static relay under voltage/Over voltage
- IDMT characteristics of over current relay
- Determination of sequence impedances of a cylindrical rotor synchronous machine
- Potential transformer
- Current transformer
- Determination of equivalent circuit of a 3-winding transformer

Faculty Coordinator

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Other Faculty Users

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