

4/4 B.Tech. FIRST SEMESTER

EE7L2

POWER SYSTEMS LABORATORY

Credits: 2

Practical: 3 periods/week

Internal assessment: 25 marks

Tutorial : 0 period /week

Semester end examination: 50 marks

Course Objectives:

1. To expose the students to the equipment in electrical engineering practice.
2. To make the students to analyze different types of faults in power systems.
3. To make the students to run the powersystem networks in simulink software

Learning outcomes: The students accomplish

1. An ability to select and design protective devices for various equipment used in Electrical Industry.
2. An ability to determine impedances of various rotating machines.
3. An ability to determine parameters of transmission line, loading capability, compensation equipment required in practical transmission network. .

Conduct any TEN experiments

1. Determination of Sub-Transient Reactance of a Salient Pole Machine.
2. Determination of sequence impedances of an alternator.
3. Fault Analysis of
 - i) LG Fault
 - ii) LL Fault
4. Characteristics of under voltage relay – Microprocessor type
5. Characteristics of over voltage relay – Microprocessor type
6. Characteristics of IDMT Over Current Relay (Electro Magnetic Type).
7. Characteristics of Static Negative Sequence Relay.
8. Efficiency and regulation of a long transmission line
9. Equivalent Circuit of a Three Winding Transformer.
10. Characteristics of static type Biased Differential Relay.
11. Formation of Y-bus by Singular transformation.
12. Simulation of power system stabilizer