IV Year B.Tech. EEE I - Semester	L	T	P	TO	C
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EE431 POWER SYSTEMS LAB

Course Description & Objectives:

To analyze the performance of power system networks by conducting various experiments. To study different power system protective equipment by conducting suitable experiments. To develop computer programs for analysis of power systems

Course Outcomes:

- *Analyze the performance of transmission lines and relays*
- *Calculate the steady-state power flow in a power system.*
- *Analyze different types of short-circuit faults which occur in power systems*

Group 1: Software/PC related

1. Formation of incidence matrices
2. Building Z_{BUS} using step by step method
3. Formulation of Bus Admittance matrix.
4. Load flow studies by using N-R method.
5. Fault (Single phase ground) analysis using PC
6. Solution of Swing equation.
7. Economic Load Dispatch using Lambda – Iteration method.
8. Simulation of Single area load frequency control with and without integral controller.

Group 2: Hardware/Equipment related

1. Determination of ABCD parameters using Transmission line model
2. Determination of Regulation and efficiency of transmission line using Transmission line model
3. Determination of regulation of transmission line including Ferranti effect.
4. Percentage biased differential relay
5. Finding the sequence impedances of an Alternator and transmission line.
6. Electrical Power transmission line training system.
7. DC network analyzer for short circuit studies.
8. IDMT over current relay

Any 5 from each of the above two groups must be chosen.