IV Year B.Tech. EEE I - Semester	L	T	P	TO	C
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EE435 ELECTRICAL SYSTEMS SIMULATION LAB

Course Description & Objectives:

This course enables to simulate a given electrical circuits in any environment to analize its dynamic characteristics and to figure out its stability considerations.

Course Outcomes:

- *Able to analize dynamic performance of various loads that are connected to any electric circuits.*
- *Able to know the analysis and studies using the softwares.*
- *Able to design circuits as per the specifications.*
- *Able to find the stability of system.*

List of Experiments :

The following experiments are required to be conducted as compulsory experiments:

1. Simulation of Transient and Parametric Analysis of RLC circuits to an input (i) Pulse (ii) Step and (iii) Sinusoidal signals.
2. Analysis of three phase circuit representing the generator transmission line and load. Plot three phase currents & neutral current.
3. Simulation of single-phase full converter using RLE loads and single phase AC voltage controller using RLE loads.
4. Simulation of DC Circuits (Thevenin's Equivalent, Transfer Function).
5. Linear system analysis (Time domain analysis, error analysis) using MATLAB.
6. Stability analysis (Bode, Root Locus, Nyquist) of Linear Time Invariant Systems using MATLAB.
7. Simulation of Dynamical Systems (Single area and two area Power Systems) using SIMULINK.
8. Circuit Analysis using MATLAB (Sim Power Systems Tools Box)
9. Simulation of Resonant pulse commutation circuit and Buck chopper
10. Simulation of single phase Inver with PWM control
11. Modelling of transformer and simulation of loss less transmission line.
12. Simulation of Op-Amp based Integrator & Differentiator circuits.

Note : Any 10 of above experiments are to be conducted.