M.TECH SECOND SEMESTER

EEPC2TL1 **SIMUALTION LAB** **Credits: 4**

Lab: 4 periods/week **Internal assessment: 25 marks**
Semester end examination: 50 marks

Objective:

This laboratory deals with the modeling of the power system networks and analyzing the various models using different mathematical methods like Gauss-seidal, decoupled, fast decoupled unit commitment etc. It also acquint with analysis of power systems using MAT LAB / SIMULINK for various applications so that the study of various applications is made easy.

Outcomes:

At the end of the lab, the student will be able to

1. Simulate the characteristics of various power system controls using modern software tools
2. Get hands on experience in using modern software tools for simulation of various power system controls

List of Experiments

Any TEN of the following experiments

1. Y - Bus Formation.
2. Gauss – Seidel Load Flow Analysis.
3. Decoupled Load Flow Analysis.
4. Fast Decoupled Load Flow Analysis.
5. Load Flow Analysis for Distribution Systems.
6. Formation of Z-Bus.
7. Symmetrical and Unsymmetrical fault analysis using Z-Bus.
8. Economic load dispatch without and with transmission loss.
9. Unit Commitment Problem.
10. Hydro-Thermal scheduling problem.
11. Transient stability analysis using point by point method.
12. Step Response of Two Area System with Integral Control and Estimation of Tie Line Power Deviation using SIMULINK.