POWER SYSTEMS LAB

Course Code	19EE3751	Year	IV	Semester	I
Course Category	Program Core	Branch	EEE	Course Type	Lab
Credits	1	L-T-P	0-0-2	Prerequisites	BEEE
Continuous Internal Evaluation:	25	Semester End Evaluation:	50	Total Marks:	75

Course Outcomes	
Upon successful completion of the course, the student will be able to	
CO1	Determine the parameters of various machines used in power systems.
CO2	Understand the characteristics of different relays used in electrical Industry.
CO3	Determine parameters, loading capability, compensation equipment required in practical transmission network.
CO4	Design and analyze modern power system networks by using simulink and MATLAB Softwares.

Contribution of Course Outcomes towards achievement of Program Outcomes & Strength of correlations (3:High, 2: Medium, 1:Low)														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2											2	2
CO2	2	2											2	2
CO3	2	2											2	2
CO4	2	2			2								2	2

SYLLABUS		
	List of Experiments	Mapped CO
1	Determination of sub-Transient reactance of a salient pole synchronous machine.	CO1
2	Fault Analysis under occurrence of LG Fault & LL Fault.	CO1
3	Equivalent circuit of a three winding transformer.	CO1
4	Determination of positive, negative and zero sequence impedances of Cylindrical rotor synchronous machine.	CO1
5	Characteristics of microprocessor based under voltage relay.	CO2
6	Characteristics of microprocessor based over voltage relay.	CO2
7	Characteristics of electromagnetic type IDMT over current relay.	CO2
8	Characteristics of static negative sequence relay.	CO2
9	Characteristics of static biased differential relay.	CO2

10	Evaluation of ABCD parameters and surge impedance loading of transmission line.	CO3
11	Formation of Y-Bus by direct inspection method using MAT LAB	CO4
12	Transient stability studies using MAT LAB	CO4
13	Simulation of power system stabilizer using SIMULINK	CO4
14	Simulation of single area and two area systems using SIMULINK	CO4
15	Program to read and print out the power system load flow data of 5 BUS using MATLAB	CO4

Learning Resources
Reference Books:
1. MATLAB and its Tool Books user's manual by Math works, USA. 2. Fundamentals of Switchgear and Protection by J.B.Gupta , S.K. Kataria & Sons,2014. 3. Modern power system analysis by D.P.Kothari and I.J.Nagrath , TMH Publications. 4. Electrical power systems by C.L.Wadhwa, New Age International (P) Limited.