III Year II Semester **L T P C**

Code:20EE6111 **0 0 3 1.5**

POWER SYSTEM LABORATORY

Preamble: This lab course is introduced to evaluate the sequence networks under faulty conditions and know the load flow studies of bulk power systems. The lab also provides the knowledge on various matrices..

Course Objectives:

1. To impart the practical knowledge of functioning of various power system components and determination of various parameters and simulation of load flows, transient stability, LFC and Economic dispatch

Course Outcomes:

1. The student is able to determine the parameters of various power system components which are frequently occur in power system studies and he can execute energy management systems functions at load dispatch centre.

CO – PO & CO – PSO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	1			2					3		2	3	2	-
CO2	3	2			1					3		2	3	2	-
CO3	3	1			2					2		2	2	2	-
CO4	2	2			1					2		2	2	2	-

*1 – Weak, 2 – Moderate and 3 – Strong

S. No **List of Experiments**

1. Sequence impedances of 3 phase Transformer.
2. Sequence impedances of 3 phase Alternator by Fault Analysis.
3. Sequence impedances of 3 phase Alternator by Direct method
4. ABCD parameters of Transmission line.
5. Power Angle Characteristics of 3phase Alternator with infinite bus bars
6. Dielectric strength of Transformer oil.
7. Load flow studies using Gauss-Seidel method
8. Load flow studies using N-R method.
9. Transient Stability Analysis
10. Load frequency control with &without control
11. Load frequency control with control
12. Economic load dispatch with & without losses
13. Economic load dispatch with losses.
14. String Efficiency Evaluation of Insulator Discs

Text Books:

1. Charles K. Alexander and Mathew N.O. Sadiku, "Fundamentals of Electric Circuits", 5th Edition, Tata McGraw Hill Publications, 2012.

Reference Books:

1. M.E. Van Valkenburg , "Network Analysis", Prentice Hall of India Pvt Ltd.,3rd Edition, New Delhi.
2. Hayt and Kemmerly, "Engineering Circuit Analysis", Tata McGrawHill Publications, 7th Edition, 2007.