

**III B.Tech – II Semester**  
**(20EE6111) POWER SYSTEM LABORATORY**

**Int. Marks   Ext. Marks   Total Marks**

**15                      35                      50**

**L    T    P    C**

**-    -    3    1.5**

**Pre-Requisites:** Power System-II, Power System Analysis, PSOC.

**Course Objectives:**

- 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

**S. No                                      List of Experiments**

- Sequence impedances of 3 phase Transformer.
- Sequence impedances of 3 phase Alternator by Fault Analysis.
- Sequence impedances of 3 phase Alternator by Direct method
- ABCD parameters of Transmission line.
- Power Angle Characteristics of 3phase Alternator with infinite bus bars
- Dielectric strength of Transformer oil.
- Load flow studies using Gauss-Seidel method
- Load flow studies using N-R method.
- Transient Stability Analysis
- Load frequency control with & without control
- Load frequency control with control
- Economic load dispatch with & without losses
- Economic load dispatch with losses.
- String Efficiency Evaluation of Insulator Discs

**Course Outcomes:**

After successful completion of the course, the students will be able to:

S.No	Course Outcome	BTL
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.	L5

**Correlation of COs with POs& PSOs:**

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
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

**Text Books:**

1. Charles K. Alexander and Mathew N.O. Sadiku, “Fundamentals of Electric Circuits”, 5th Edition, Tata McGrawHill Publications, 2012.

**Reference Books:**

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