Course Type	Course Code	Name of the Course	L	T	P	Credits
DP	NEEC504	Advanced Power System Lab	0	0	3	1.5

Course Objective

- The objective of this lab is to introduce postgraduate students to the practical aspects of Advanced Power System.

Learning Outcomes

Upon successful completion of this course, students will develop:

- an ability to deal with advanced power system analysis techniques.
- an idea about the working of different modern practical concept of power system.

Unit No.	Topics to be Covered	Contact Hours	Learning Outcome
1	Formulation of Y_{bus} matrix for different standard power networks	2x4	Students will learn formulation of Y_{bus} matrix for different standard power networks
2	Experiments on Load-flow analysis using NR and GS method	2x4	Students will learn active power loss calculation and states of the power system
3	Experiments for identification of weak nodes for different standard power networks	2x4	Students will learn about the susceptible nodes of the power system and possible VAR sources allocation
4	Experiments on economic load and emission dispatch for different test systems	2x3	Students will learn about the generation scheduling and dispatch
5	Implementation of modern optimization techniques relevant to power system	2x3	Students will learn about the applicability of techniques to solve certain power system problems
6	Practice and review	6	-------
	Total Contact Hours	**42**	

Text Books:

1. J.J. Grainger and W.D. Stevenson, "Power System Analysis", McGraw Hill Int. Student Ed.
2. A.J. Wood and B.F. Wollenburg, "Power Generation Operation and Control", Willey, Student Ed.

Reference Books:

1. H. Saadat, 'Power System Analysis', TMH Publication, 2012