

Course Type	Course Code	Name of the Course	L	T	P	Credits
DP	EEC274	Electrical Machines and Power Lab.	0	0	2	2

Course Objective

The objective of this lab is to introduce undergraduate students to the basic practical aspects of electrical machines and power system.

Learning Outcomes

Upon successful completion of this course, students will develop:

- an idea about the basic working of electrical machines.
- an idea about the power system analysis.

Unit No.	Topics to be Covered	Laboratory Hours	Learning Outcome
1	Experiments on single-phase transformers	2x2	Students will learn OC/SC test and Scott connection of single-phase transformers
2	Experiments on different types of DC distribution system	3x2	Students will learn different types of DC distribution system
3	Experiments on different connections of three-phase transformer	2x2	Students will learn different connections of three-phase transformer
4	Experiments on grouping of three-phase transformer	2x2	Students will learn vector grouping and parallel operation of three-phase transformers
5	Experiments on speed control techniques of DC motors	1x2	Students will learn different speed control techniques of DC motors

Text Books

1. Electric Machines – D. P. Kothari and I. J. Nagrath (Tata McGraw Hill), 4th Edition, Wiley, 2010.
2. Power System Analysis by J.J.Grainger and William D.Stevenson
3. Electrical Power Systems by C.L.Wadhwa
4. Electric Energy Systems Theory by O.J.Elgard

Reference Books

1. Electrical Machines – P. S. Bimbhra (Khana Publ.), 2011.
2. Electric Machinery – Fitzgerald, Charles Kingsley Jr., S. D. Umans (Tata McGraw Hill)