

ELECTRICAL MACHINE (3rd Semester EE)

Course Code	Course Title	Hours per week L-T-P	Credit
EI181314	Electrical Machines-I Lab	0-0-3	1.5

Course Objectives:

The Electrical Machines-I Laboratory is designed to provide the students with the practical knowledge of electrical machines specifically keeping in view the following objectives:

1. to get hands-on experience in performing the basic tests on electrical machines
2. to reinforce the theoretical concepts with related practical understanding
3. to know about the various precautionary measures necessary in handling electrical machines
4. to develop technical report writing skill

Course Outcome:

After completing this course, the students will

CO1: be familiar with the mode of starting, switching-off, and taking precautionary measures while handling electrical machines

CO2: be able to reinforce their theoretical concepts by way of experimentation

CO3: develop report writing skill.

LIST OF EXPERIMENTS

1. O.C.C. of D.C. generators
2. Load Test on D.C. shunt generators
3. Speed Control of D.C. shunt motors
4. Open circuit and short circuit test on single-phase transformers
5. Load test on single-phase transformers
6. Sumpner's Test or back-to-back test on two similar single-phase transformers
7. Hopkinson's or Back-to-back test on two similar D.C. Machines

RUBRICS FOR ELECTRICAL MACHINE LAB ASSESSMENT

Category	Sub-Category	0-30%	31-60%	61-100%
continuous and comprehensive evaluation	Attendance and Preparedness (10%)	The student is present but not prepared for the lab at all	The student is present but not well prepared	The student has read and understood the lab manual before coming to lab.
	Ability to do circuit connection and experiments (10%)	Not able to complete the assigned work	Complete the work partially	Complete the work fully
RESULT & ANALYSIS	Observation and measuring the instruments reading (10%)	Missing several important details	Missing some important details	Details are well covered
	Reports: (20%)	Results contain errors.	Results are well presented but have some errors	Results are well presented without any corrections.
TEST (Physical performance of experiments /Viva-voce)	Performing experiments and knowledge of related concepts (50%)	Could not perform the experiments and could not answer anything	Completed/ Partially completed could perform and could not answer properly.	Completed the task and answered all the questions

ELECTRICAL MACHINE (4th Semester EE)

Course Code	Course Title	Hours per week L-T-P	Credit
EE181413	Electrical Machines-II Lab	0-0-3	1.5

Course Objectives:

The Electrical Machines-II Laboratory is designed to provide the students with the practical knowledge of electrical machines specifically keeping in view the following objectives:

1. to get hands-on experience in performing the basic tests on electrical machines
2. to reinforce the theoretical concepts with related practical understanding
3. to know about the various precautionary measures necessary in handling electrical machines
4. to develop technical report writing skill

Course Outcome:

After completing this course, the students will

CO1: be familiar with the mode of starting, switching-off, and taking precautionary measures while handling electrical machines

CO2: be able to reinforce their theoretical concepts by way of experimentation

CO3: develop report writing skill.

LIST OF EXPERIMENTS

1. Retardation test on a D.C. Machine
2. No-load test and Block-rotor test on 3-phase IM
3. Working of Single phase and three-phase induction regulator
4. V-curves of a synchronous motor
5. Slip-Test on Alternator
6. Regulation of alternator by synchronous impedance and MMF method
7. Measurement of real and reactive power of IG
8. Synchronization of alternators

RUBRICS FOR ELECTRICAL MACHINE LAB ASSESSMENT

Category	Sub-Category	0-30%	31-60%	61-100%
continuous and comprehensive evaluation	Attendance and Preparedness (10%)	The student is present but not prepared for the lab at all	The student is present but not well prepared	The student has read and understood the lab manual before coming to lab.
	Ability to do circuit connection and experiments (10%)	Not able to complete the assigned work	Complete the work partially	Complete the work fully
RESULT & ANALYSIS	Observation and measuring the instruments reading (10%)	Missing several important details	Missing some important details	Details are well covered
	Reports: (20%)	Results contain errors.	Results are well presented but have some errors	Results are well presented without any corrections.
TEST (Physical performance of experiments /Viva-voce)	Performing experiments and knowledge of related concepts (50%)	Could not perform the experiments and could not answer anything	Completed/ Partially completed could perform and could not answer properly.	Completed the task and answered all the questions

