COURSE TITLE : DC MACHINES LAB
COURSE CODE : 4039
COURSE CATEGORY : B
PERIODS/WEEK : 6
PERIODS/SEMESTER : 84
CREDITS : 3

Course Outcome:

Sl.	Sub	**On completion of this course the student will be able:**
1	1	To analyze the performance characteristics of shunt motor.
	2	To analyze the performance characteristics of series motor.
	3	To analyze the performance characteristics of compound motor.
	4	To analyze the characteristics of a) Self excited DC generators b) Separately excited DC generators

LIST OF EXPERIMENTS

1. To collect the name plate data and identify power supply controls and terminals of DC machines.
2. To dismantle and assemble a DC machine and identify parts.
3. To dismantle and assemble two points, three point and four point starters and identify parts.
4. To run a separately excited DC generator at rated conditions and plot OCC, determine critical speed and resistance. Deduce the same for different speeds.
5. To run a self excited DC generator at rated conditions and to plot OCC to determine critical speed and critical resistance. Deduce the same for different speeds.
6. To determine efficiency of a DC series generator at different loads.
7. To determine efficiency of a DC compound generator at different loads as;
    i. Cumulative compound generator.
    ii. Differential compound generator.
8. To control the speed of a DC shunt motor in field control method and plot the field current v/s speed curve.
9. To control the speed of a DC shunt motor in armature control method and plot the field current v/s speed curve.
10. To run a DC shunt motor and plot performance curves by direct loading.
11. To run a DC series motor and plot performance curves by direct loading..
12. To predetermine efficiency of a DC shunt machine (by conducting Swinburne's test) as a generator and as a motor.

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