

Electrical and Electronics Engineering Department

Utilization of Electrical Energy Lab

Paper Code(s): ETEE-354

L P C

Paper: Utilization of Electrical Energy Lab

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LIST OF EXPERIMENTS:

1. Study of charging methods of batteries and calculation of their life cycle.
2. Charging and discharging of super capacitors.
3. To plot polar curves for various lamps.
4. Verification of illumination laws.
5. Performance comparison of MV lamps, SV lamps, filament lamps, CFL & LED lights.
6. Design of lighting schemes for house / commercial complex / industry / street light / flood light.
7. Demonstration of resistance / inductance / dielectric heating's.
8. Characteristics of welding transformer.
9. Speed control of various traction motors.
10. Braking schemes for traction motors.

Course Outcome(CO)	
At the end of the course, the student will be able to:	
CO. ETEE.354. 1	Understand braking scheme of traction motor.
CO. ETEE.354. 2	Illustrate the charging and discharging of super capacitor.
CO. ETEE.354. 3	Analyze the laws of illumination.
CO. ETEE.354. 4	Evaluate the performance of electrical heating and welding.

List of Experiments		
Exp No	CO	Experiment
Exp 1	CO2	Study of charging methods of batteries and calculation of their life cycle.
Exp 2	CO2	Charging and discharging of super capacitors.
Exp 3	CO3	To plot polar curves for various lamps.
Exp 4	CO3	Verification of illumination laws.
Exp 5	CO3	Performance comparison of MV lamps, SV lamps, filament lamps, CFL & LED lights.
Exp 6	CO3	Design of lighting schemes for house / commercial complex / industry / street light / flood light.

Exp 7	CO4	Demonstration of resistance / inductance / dielectric heating's.
Exp 8	CO4	Characteristics of welding transformer.
Exp 9	CO1	Speed control of various traction motors.
Exp 10	CO1	Braking schemes for traction motors.
Advanced Exp 1	CO2	To study the terminology and use of LADSIM software and develop basic circuits on software using inputs and outputs and develop AND, OR, NOT, XOR, XNOR circuits.
Advanced Exp 1	CO1	To study the use of latch, flag, timers, counters, BSR, BSL in LADSIM software and develop a circuit to control an automated inspection conveyer.