

COURSE TITLE : ELECTRICAL TECHNOLOGY LABORATORY
COURSE CODE : 3028
COURSE CATEGORY : B
PERIODS/ WEEK : 3
PERIODS/ SEMESTER : 45
CREDIT : 2

TIME SCHEDULE

MODULE	TOPIC	PERIODS
1	Electrical circuits, measurements & Starters	9
2	DC motors	12
3	AC motors	12
4	Transformers & Rectifiers	12
TOTAL		45

COURSE OUTCOME:

Sl.No.	Sub	Student Will Be Able
1	1	To Understand the fundamentals of Electric Circuits.
	2	To comprehend the electrical instruments and measurements.
	3	To Understand different types of starters.
	4	To Understand the performance of DC motors
	5	To Understand the performance of AC motors.
	6	To understand the performance of transformers.
	7	To understand the working of rectifiers.

LIST OF EXPERIMENTS

1. Wire up a circuit with one lamp and one plug point as per IE Rule
2. Wire up a stair case circuit as per IE Rule
3. To Determine the Resistance in a DC Circuit using Voltmeter and Ammeter
4. To measure the Power in a DC Circuit
5. To measure the Power in a single phase Inductive load
6. To start a DC Shunt Motor using 3 point starter
7. To start an Induction Motor using DOL Starter and measure the no load current.
8. To start an Induction Motor using Star – Delta Starter and find starting and running Currents
9. To determine the efficiency of a single phase transformer at different loads
10. To construct a full wave bridge rectifier and observe the output wave form in a CRO

CONTENT DETAILS

Study of measuring instruments – Ammeter – Volt meter – Watt meter etc. – Used in AC and DC circuits.

Study of starters – 2 point- 3 point- DOL-star delta etc.

Study of CRO – observe wave form.

Measurement of low- medium and high resistor values by volt meter – ammeter method.

Measurement of carbon resistor values using multimeter and compare it with colour code values.

Load test on DC series motor to plot Output vs. Efficiency- Torque (T)/Speed(N) curves .

Load test on DC shunt motor and plot Output vs. Efficiency- Torque (T)/Speed(N) curves.

Overall efficiency of a DC Motor Generator set and to plot Efficiency curve.

Load test on 3 phase squirrel cage induction motor- plot output vs. efficiency- output vs. speed output vs. slip

OC and SC test on single phase transformer and pre-determine the efficiency at a particular load.

V-I characteristics of semiconductor Diode Rectifier – half wave and full wave- Measure the Output and compare it using CRO.

Understand the logic functions using logic gate.