

FUTURE INSTITUTE OF ENGINEERING & MANAGEMENT

Department of Electrical Engineering

Electric Drives Lab

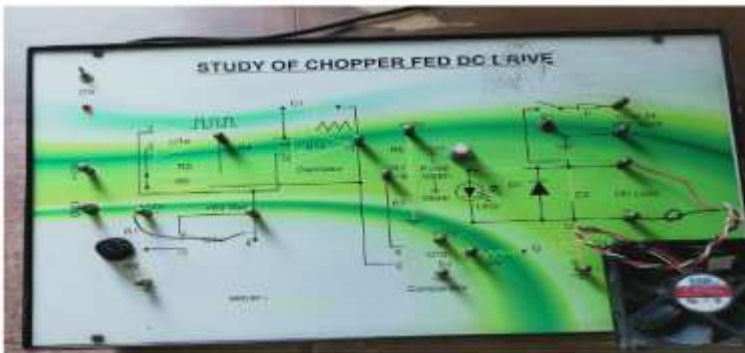
Description: The Electric Drives laboratory is equipped with Power Electronics controlled DC/AC Machines and MATLAB simulation mainly covered in the B.Tech. curriculum. Through hands-on experiments with real machines as well as simulation, students gain practical experience in using various Power Electronics controlled DC/AC motors and PLC etc.

Major facilities	: 1. Imparting hands on training with real world machines. 2. Monitoring change in nature of the output of simulation based experiments by changing the various inputs. 3. Acknowledging safety of the man and the equipments before study of each experiment.
Faculty In-Charge	: Mr. AvijitSaha, M.E, Assistant Professor
Technician	: Mr.Sujay Kumar Banerjee, DEE
Area	: 87.9 sq.m
No. of experiments	: 12
Courses conducted	: Electric Drives Lab
Exclusive / Shared	: Exclusive

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List of Major Equipments

Sl. No.	Major Equipment	Quantity
1	Chopper Drives for DC Motor Speed Control	1
2	Cycloconverter Module	1
3	Current Transformer	3
4	Digital Hand Tachometer	1
5	Digital Storage Oscilloscope	1
6	Hex 200 Burner	2
7	Isolation Transformer	1
8	Bulb Load	4
9	Digital Multimeter	4
10	PLC Based Trainer Kit	1
11	AC Phase Control Using Traic/Diac	1
12	Resistive Load	2
13	Breaking Rheostat	3
14	Thyristerised close loop control panel connected with DC motor coupled with DC generator	1
15	Variable Auto Transformer.	1

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List of Experiments as per Syllabus

Sl. No.	Name of the Experiment
1	Study of thyristor controlled DC Drives
2	Study of Chopper fed DC Drives
3	Study of AC Single phase motor –speed control using TRIAC
4	PWM inverter fed 3-phase Induction motor control using PSPICE/MATLAB/PSIM Software
5	VSI/CSI Induction motor Drive analysis using PSPICE/MATLAB/PSIM Software
6	Study of V/F control operation of 3-phase Induction motor Drives.
7	Study of permanent magnet synchronous motor drive fed by PWM Inverter using Software.
8	Regenerative braking operation for DC motor-study using software.
9	Dynamic braking operation for DC motor-study using software.
10	Regenerative braking operation for AC motor-study using software.
11	Dynamic braking operation for AC motor-study using software.
12	PC/ PLC based forward/reverse motion control operation of Induction motor.

List of Experiments beyond the Syllabus

Sl. No.	Name of the Experiment
01	Power supply control by cycloconverter