

# **ELECTRICAL DRIVES LAB**

Course Code : ETEE-451

Course Title : Electrical Drives Lab

<b>Course Outcomes:</b>	
<b>At the end of the course, the students will be able to:</b>	
CO.451.1	Apply Power Electronics Application in Control of Speed of Various Types of Induction Motors.
CO .451.2	Use phase controlled converters for control of different parameters of dc motors.
CO .451.3	Analyze the four quadrant operation of dc motor drives.
CO .451.4	Evaluate the performance characteristics of special purpose machine drives.

## List of Experiments:

1. To Study Speed Control of Single-Phase Induction motor using single phase AC Voltage Controller.
2. To Study Speed Control of Three Phase Induction motor, using single phase AC Voltage Controller.
3. To Study Speed control of 3 Phase Slipring Induction Motor using static Resistance Control.
4. To Study Speed control of separately excited DC Motor by varying Armature Voltage through Single Phase fully controlled bridge controller.
5. To Study closed loop control of separately excited DC motor.
6. To Study Closed Loop Speed control of BLDC motor drive.
7. To Study Speed Control of 3 & Induction motor using vector-controlled AC Drives.
8. To Study Closed Loop Speed control of 4 quadrants DC motor drive.
9. To Study Speed Control of DC motor using Micro- Controller.
10. To Study Speed Control of DC motor using Chopper.
11. To Study 3 Phase Fully controlled Bridge Converter.

Note:- At least 8 Experiments out of the list must be done in the semester.

<u>List of Experiments:</u>		
Exp. NO	CO	Experiment
1	CO1	To Study Speed Control of Single-Phase Induction motor using single phase AC Voltage Controller.
2	CO1	To Study Speed Control of Three Phase Induction motor, using single phase AC Voltage Controller.
3	CO1	To Study Speed control of 3 Phase Slipring Induction Motor using static Resistance Control.
4	CO2	To Study Speed control of Separately excited DC Motor by varying Armature Voltage through Single Phase fully controlled bridge controller.
5	CO2	To Study closed loop control of separately excited DC motor.
6	CO2	To Study Closed Loop Speed control of BLDC motor drive.
7	CO4	To Study Speed Control of 3 & Induction motor using vector-controlled AC Drives.
8	CO3	To Study Closed Loop Speed control of 4 quadrant DC motor drive.
Extra 1	CO2	To Study Speed Control of DC motor using Micro- Controller.
Extra 2	CO2	To Study Speed Control of DC motor using Chopper.
Extra 3	CO4	To Study 3 Phase Fully controlled Bridge Converter.