

**I Year I Semester**

**L P C**

**Code: 17PE211**

**4 0 3**

**POWER CONVERTERS AND DRIVES LAB**  
(Common to PE, P&ID, PE&ED, PE&D, PE&S, EM&D, PE&PS )

**Course Educational Objectives:**

1. To verify the operation of various converters and also their usage in the motor speed control application.

**List of experiments**

1. Analysis and speed control of DC motor drive using 3-phase full Converter.
2. Analysis of a four quadrant Chopper feeding DC motor.
3. Analysis of a 3-phase A.C. Voltage controller fed to R & RL - load.
4. Analysis of Buck, Boost, Buck-Boost DC-DC converters.
5. Analysis of Single Phase IGBT based PWM Inverter connected to R & R-L load
6. Analysis of 3-phase IGBT based PWM Inverterfeeding R & R-L load.
7. Analysis and speed control of 3 phase slip ring Induction motor by Static Rotor  
2. Resistance controller.
8. Analysis of three phase SVPWM Pulse generation using PIC Micro controller/DSP  
3. Processor.
9. Analysis of DSP based V/F Control of 3 phase Induction motor.
10. Analysis of vector control based speed control of three phase Induction Motor drive.

**Course Outcomes:**

- To analyse the working of phase controlled converters, AC voltage controllers, DC-DC converters, and PWM inverters and analyse the speed control operation of power converter fed motors.