

Course code	Course name	L-T-P-Credits	Year of introduction
AE334	POWER ELECTRONICS LAB	0-0-3-1	2016
Prerequisite : AE312 Power Electronics			
Course Objective <ul style="list-style-type: none"> To familiarise the characteristics of power semiconductor devices To provide experience on design, testing, and analysis of few power electronic circuits To expose simulation of power electronic circuits 			
Course Plan			
LIST OF EXPERIMENTS: (Minimum 12 experiments are to be done) <ol style="list-style-type: none"> SCR characteristics Triac and Diac characteristics Phase controlled rectifier-resistance triggering Phase controlled rectifier- UJT triggering Chopper circuits MOSFET characteristics Simple DC to AC inverter circuit Driven DC to AC inverter using MOSFET & IC IGBT characteristics Inverter circuit using IGBT Digital triggering circuit for phase controlled rectifiers Application of ICS: PWM IC TL 494, optocoupler IC -MCT2E DC motor speed control – Using digital logic circuits/microprocessor/PC AC motor speed control – Using digital logic circuits/microprocessor/PC Simulation of power electronic converter and inverter circuits using software like MATLAB,PSPIC SCR turn-off circuits using (i) LC circuit (ii) Auxiliary Commutation. AC voltage controller using Triac – Diac combination. Generation of firing signals for Thyristor/Triac using digital Circuit/ Microprocessor. 			
Expected outcome <ul style="list-style-type: none"> At the end of the semester students will be familiar with the concept of power semiconductor device, power electronics circuits etc 			