LESSON PLAN 2022(WINTER)		
Discipline: Electrical Engg.	Semester:5th Sem	Name of the Teaching Faculty: Mrs.JayashreeMohanty,Sr. Lect. Electrical Engg
Subject: Power Electronics and PLC	Theory Periods: 4P/Week	Semester From Date:-15.09.22 to Date:- 22.12.22 No. of Weeks:18
1st Week	1st	Construction, Operation, V-I characteristics & application of power diode
	2nd	Construction, Operation, V-I characteristics & application of SCR
2nd Week	1st	Construction, Operation, V-I characteristics & application of DIAC
	2nd	Construction, Operation, V-I characteristics & application of TRIAC
	3rd	Construction, Operation, V-I characteristics & application of Power MOSFET
	4th	Construction, Operation, V-I characteristics & application of GTO
3rd Week	1st	Construction, Operation, V-I characteristics & application of IGBT
	2nd	Two transistor analogy of SCR,Gate characteristics of SCR.
	3rd	Switching characteristic of SCR during turn on and turn off.
4th Week	1st	Turn on methods of SCR,
6th Week	1st	Turn off methods of SCR (Line commutation and Forced commutation) (i)Load Commutation (ii) Resonant pulse commutation
	2nd	Voltage and Current ratings of SCR,Protection of SCR,Over voltage protection
	3rd	Over current protection,Gate protection
	4th	Firing Circuits,General layout diagram of firing circuit
7th Week	1st	Class test 1
	2nd	R firing circuit,R-C firing circuit
	3rd	UJT pulse trigger circuit,Synchronous triggering (Ramp Triggering)
	4th	Design of Snubber Circuits
8th Week	1st	Controlled rectifiers Techniques(Phase Angle, Extinction Angle control), Single quadrant semi converter, two quadrant full converter and dual Converter,Working of single-phase half wave controlled converter with Resistive loads.
	2nd	Working of single-phase half wave controlled converter with R-L loads,Understand need of freewheeling diode.
	3rd	Working of single phase fully controlled converter with resistive and R- L loads.
9thWeek	1st	Working of single phase fully controlled converter with resistive and R- L loads.
10thWeek	1st	Working of three-phase half wave controlled converter with Resistive load
	2nd	Working of three phase fully controlled converter with resistive load
	3rd	Working of single phase AC regulator
11thWeek	1st	Working principle of step up & step down chopper
	2nd	Control modes of chopper,Operation of chopper in all four quadrants.
	3rd	Internal
	4th	Operation of chopper in all four quadrants.
12thWeek	1st	Operation of chopper in all four quadrants.
	2nd	Classify inverters,Explain the working of series inverter.
	3rd	Explain the working of parallel inverter
	4th	Explain the working of single-phase bridge inverter.

Mohanty