

Lesson Plan

Name of the Faculty : Ms Poonam Verma
 Discipline : Electronics and Communication Engg.
 Semester : 4th
 Subject : POWER ELECTRONICS
 Lesson Plan Duration : March 2023-June2023

Work Load (Lecture/ Practical) per week (in hours): 03 HOURS (Lecture)03 Hours per Group (PRACTICAL)

1 week	1st lecture	Construction & working of SCR	
	2nd lecture	V-I characteristics of SCR	
	3rd lecture	Two transistor analogy of SCR	
2 week	1st lecture	SCR Specifications & ratings	To plot V-I Characteristics of SCR
	2nd lecture	Triggering methods	
	3rd lecture	Commutation circuits	
3 week	1st lecture	series operation of SCR	To plot V-I Characteristics of DIAC
	2nd lecture	parallel operation of SCR	
	3rd lecture	DIAC -working & characteristics	
4 week	1st lecture	TRIAC -working & characteristics	To plot V-I Characteristics of TRIAC
	2nd lecture	V-I characteristics of UJT	
	3rd lecture	UJT as relaxation oscillator	
5 week	1st lecture	GTO,PUT-characteristics	To plot V-I Characteristics of UJT Relaxation Oscillator
	2nd lecture	MOSFET	
	3rd lecture	Heat sink of thyristors	
6 week	1st lecture	Light Intensity control	
	2nd lecture	speed control of universal motors	
	3rd lecture	Fan regulator & Battery Charger	
7 week	1st lecture	single phase half wave controlled rectifier with R load	Observation of wave shape of voltage of single-phase half controlled rectifier
	2nd lecture	single phase half wave controlled rectifier with R-L load	
	3rd lecture	single phase full wave controlled rectifier with R load	
8 week	1st lecture	single phase full wave controlled rectifier with R-L load	Observation of wave shape of voltage of single-phase full wave controlled rectifier
	2nd lecture	Fully controlled full wave bridge rectifier	
	3rd lecture	Fully controlled full wave bridge rectifier	
9 week	1st lecture	single phase full wave centre tap rectifier	Observation of wave shape of voltage at relevant point in TRIAC based AC phase control circuit for varying lamp intensity
	2nd lecture	Inverter operation ,concept of duty cycle	
	3rd lecture	series inverters	
10 week	1st lecture	parallel inverters	
	2nd lecture	Choppers-operation & working	
	3rd lecture	Type A , B chopper	
11 week	1st lecture	Type C,D chopper	Observation of wave shape of voltage at relevant point in TRIAC based AC phase control circuit for AC fan speed control
	2nd lecture	Dual converter working	
	3rd lecture	Dual converter types & applications	
12 week	1st lecture	cycloconverter -working & its applications	
	2nd lecture	half wave drives, Full wave drives	
	3rd lecture	Chopper drives, inverter drives	
13 week	1st lecture	phase control method & constant v/f operation	
	2nd lecture	cycloconverter drives	
	3rd lecture	UPS: Off line & on-line UPS	
14 week	1st lecture	Smart UPS	Installation of UPS system and routine maintenance of batteries
	2nd lecture	Concept of high voltage DC transmission	
	3rd lecture	Advantages high voltage DC transmission	
15 week	1st lecture	Idea of SMPS	
	2nd lecture	Classification of Batteries	
	3rd lecture	Classification of Batteries	
16 week	1st lecture	Revision	
	2nd lecture	Revision	
	3rd lecture	Revision	