

Dicipline:	Electrical	Semester: 5 th	Name of the Teaching Faculty: En. Tapan Ku Mohanty,	
Subject:	PE & PLC	No of Days/Week Class Allotted: 4	Semester From date: 1.10.2021 To date: 18.1.2022	No. of Weeks:
WEEK	Class Day	Theory Topics		
1 st	1st	Construction, Operation, V-I characteristics & application of power diode		
	2nd	Construction, Operation V-I characteristics & application of power mosfet		
	3rd	construction, operation V-I characteristics & Application of IGBT		
	4th	Construction, Operation, V-I characteristics & Application of SCR		
	5th			
2 nd	1st	Concept of turn on methods of SCR		
	2nd	Construction, Operation, V-I characteristics & Application of GTO		
	3rd	construction, operation, V-I characteristics & Application of diac and triac		
	4th	two transistor analogy of SCR		
	5th			
3 rd	1st	Switching characteristic of SCR during turn on and turn off		
	2nd	Gate characteristics of SCR		
	3rd	Turn off methods of SCR (Line commutation and Load commutation)		
	4th	Turn off methods of SCR (Forced commutation) resonant pulse commutation		
	5th			

WEEK	Class Day	Theory Topics
4th	1st	Protection of SCR over voltage protection designing of snubber circuits
	2nd	Protection of SCR over current protection gate protection
	3rd	Voltage and current ratings of SCR.
	4th	Firing circuits general Layout diagram of firing circuits firing circuits
	5th	
5th	1st	firing circuits R-C firing circuit
	2nd	firing circuits w/ Pulse trigger circuit synchronous triggering (Ramp triggering)
	3rd	controlled rectifiers techniques (Phase angle, α firing angle control) single quadrant semi converter two quadrant full converter and dual converter
	4th	working of single-phase half wave-controlled converter with resistive and R-Loads understand need of freewheeling Diode.
	5th	
6th	1st	working of single phase fully controlled converter with resistive loads.
	2nd	working of single phase fully controlled converter with R-L Loads.
	3rd	working of three-phase half wave-controlled converter with resistive load
	4th	working of three phase fully controlled converter with resistive load

Discipline: Electrical	Semester: 1st	Name of the Faculty: Dr. T. P. ...
Subject: P.E.C	No. of Theory/Prac. Class allotted: 4	Semester from date: 11/01/2021 to date: 11/25/22

WEEK	Class Day	Theory Topics
1st	1st	working of single phase, 230V, 50Hz AC
	2nd	working of single phase AC, synchronous
	3rd	working of motor, the step up & step down transformer
	4th	essential motor of dropper
	5th	
2nd	1st	operation of dropper in all four quadrants
	2nd	operation of dropper in all four quadrants
	3rd	class test
	4th	classification of inverter, explain the working of single phase bridge inverter
	5th	
3rd	1st	Explain the working of series inverter
	2nd	Explain the working of parallel inverter
	3rd	ans. to question discussion & distribution of small and answer sheet to the student for the 1st & 2nd semester
	4th	Explain the principle of cycloconverter & explain the working of single phase, step up cyclo converter
	5th	

WEEK	Class Day	Theory Topics
10th	1st	Explain the working of single phase step down cyclo converter applications of cyclo converter
	2nd	List application of power electronic circuits List the factors affecting the speed of DC motors
	3rd	Speed control for DC shunt motor using converter
	4th	Speed control for shunt motor using chopper
	5th	
11th	1st	List the factors affecting speed of the AC motors
	2nd	Speed control of induction motor by using AC voltage regulator
	3rd	Speed control of induction motor by using converters and inverters (V/f control)
	4th	working of ups with block diagram battery charger circuit using SCR with the help of a diagram
	5th	Basic switched
12th	1st	Basic switched mode power supply (SMPS) - explain its working & applications
	2nd	Introduction of Programmable Logic Controller (PLC) Advantages of PLC applications of PLC
	3rd	Different parts of PLC by drawing the block diagram and purpose of each part of PLC Distribution of assignment question
	4th	Ladder diagram s.g description of contacts and coils in the following states i) Normally open ii) Normally closed iii) Energized output iv) Latched output v) Branching
	5th	

Discipline: Electrical	Semester: 5th	Name of the Teaching Faculty: En Tolan Ku Mohanty	
Subject: PE 2 PLC	No of Days/Week Class Allotted: 4	Semester From dates: 1st 10th 2021 To date: 1st 1st 2022	No. of Weeks:

WEEK	Class Day	Theory Topics
13th	1st	Ladder diagrams for D and gate NOR gate and ii) NO1 gate Ladder diagrams for combination circuits using NAND NOR, AND-OR and NOT timers Don ii) 1 on and iii) general timer
	2nd	
	3rd	Counters etc etc Ladder diagram using timers and counters PIC instruction set
	4th	Ladder diagrams for following
	5th	
14th	1st	Special control systems Basics of SCADA systems computer control data Acquisition BIRLET Digital control system (Basics only)
	2nd	class test
	3rd	Discussion of Assignment Question
	4th	previous semester question discussion
	5th	
15th	1st	previous semester question discussion
	2nd	previous semester question discussion
	3rd	ORR Fest
	4th	class test questions discussion & distribution of evaluated answer sheet of the student for their references
	5th	