

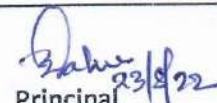
SYNERGY POLYTECHNIC, BBSR

The Lesson Plan

Discipline: ELECTRICAL ENGINEERING	Semester: 5th	Name of the Teaching Faculty: SOURYASHREE MOHAPATRA
Subject: POWER ELECTRONICS & PLC	No of Days/per week class allotted: 4	Semester from Date: 15.09.22 to Date: 22.12.22 No of Weeks:
Week	Class Day	Theory/Practical Topics
1st Module-III Module-IV	1st 28.10.22	1- ϕ bridge Inverters; Cyclo-converters
	2nd 29.10.22	1- ϕ Stepup & Step-down. Cyclo-converters.
	3rd 31.10.22	Application of Cyclo-converters.
	4th 01.11.22	Application of Power Electronic Ckts.
	5th	
2nd Module-IV	1st 02.11.22	Factors affecting speed of DC motors Speed control of DC shunt motor using converters.
	2nd 03.11.22	Speed control of DC shunt motor using choppers.
	3rd 06.11.22	Factors affecting speed of AC motors.
	4th 07.11.22	Speed control of Induction motor using AC voltage Regulator.
	5th	
3rd Module-IV	1st 09.11.22	Speed control of Induction motor by using converters & inverters (V/F control)
	2nd 10.11.22	Working of UPS with Block Diagram.
	3rd 13.11.22	Battery charger circuit using SCR
	4th 14.11.22	with help of diagram, Switched mode power supply (SMPS).
	5th	
4th Module-V	1st 17.11.22	Programmable Logic Controller (PLC)
	2nd 18.11.22	Advantages of PLC.
	3rd 19.11.22	Different parts of PLC, Block diagram & Parts.
	4th 21.11.22	Applications of PLC.
	5th	
5th Module-V	1st 23.11.22	Ladder Diagram.
	2nd 24.11.22	Contacts & coils, Normally open, Normally closed
	3rd 25.11.22	Energized open, latched open, Branching
	4th 28.11.22	Ladder diagram [AND gate, OR gate, NOT gate]
	5th	


Sign of Faculty


HOD


Principal 23/11/22

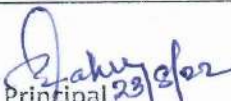
SYNERGY POLYTECHNIC, BBSR

Lesson Plan

Discipline: ELECTRICAL ENGINEERING	Semester: 5th	Name of the Teaching Faculty: SOUMYASHREE MOHAPATRA.
Subject: POWER ELECTRONICS & PLC	No of Days/per week class allotted: 4.	Semester from Date: 15.09.22 to Date: 22.12.22 No of Weeks:
Week	Class Day	Theory/Practical Topics
Module - V	1st 30.11.22	Ladder Diagrams for combination lcts using NAND, NOR, AND, OR, NOT
	2nd 02.12.22	Timers. [TON, TOFF, Retentive Timer]
	3rd 03.12.22	Counters [CTU, CTD]
	4th 06.12.22	Ladder Diagrams using Timers & Counters & PLC Instruction Set
	5th	
2nd	1st 07.12.22	Ladder diagrams for DOL Starter, STAR-DELTA STARTER
	2nd 09.12.22	Staircase lighting, Traffic light Control
	3rd 10.12.22	Temperature Controller.
	4th 13.12.22.	Basic DCS. & SCADA System.
	5th	
3rd	1st 14.12.22	Data Acquisition. &
	2nd 16.12.22.	Direct Digital Control System.
	3rd 17.12.22	Revision Module I, II
	4th 20.12.22	- do -
	5th	
4th	1st 21.12.22.	- do -
	2nd 23.12.22	Important Question discussion Module III, IV, V
	3rd	- do -
	4th	- do -
	5th	
5th	1st	- do -
	2nd	- do -
	3rd	- do -
	4th	- do -
	5th	


Sign of Faculty


HOD


Principal 23/12/22

SYNERGY POLYTECHNIC, BBSR

The Lesson Plan

Discipline: ELECTRICAL ENGINEERING		Semester: 5th	Name of the Teaching Faculty: SOUMYASHREE MOHAPATRA.
Subject: POWER ELECTRONICS & PLC		No of Days/per week class allotted: 4	Semester from Date: 15.09.2022 to Date: 22.12.22 No of Weeks:
Week	Class Day	Theory/Practical Topics	
1st	Module - I. 1st 16.09.22	Construction, operation, VI characteristic of SCR, DIAC, TRIAC	
	2nd 17.09.22	Power MOSFET, GTO & IGBT, Two Transistor Analogy of SCR	
	3rd 20.09.22	Gate characteristics of SCR	
	4th 21.09.22	Switching Characteristics of SCR during turn ON & turn OFF	
	5th		
2nd	Module - I. 1st 23.09.22	Turn ON Methods of SCR	
	2nd 24.09.22	Turn OFF Methods of SCR [Load Commutation, Resonant Pulse Commutation]	
	3rd 27.09.22	Voltage & Current Rating of SCR, Over Voltage Protection	
	4th 28.09.22	Over current Protection, Gate Protection Firing Circuits, R-firing ckt.	
	5th		
3rd	Module - I 1st 30.09.22	R-C firing ckt, UJT Pulse Triggering ckt Ramp Triggering.	
	2nd 01.10.22	Design of Snubber ckt.	
	Module - II 3rd 11.10.22	Controlled Rectifier Techniques, Single Quadrant semi converter.	
	4th 12.10.22	2-Quadrant full converter, dual Converter 1- ϕ half wave controlled converter (R & R-L load)	
	5th		
4th	Module - II 1st 14.10.22	Need of Freewheeling Diode, 1- ϕ fully controlled converter (R, R-L Load)	
	2nd 15.10.22	3- ϕ half wave & full wave controlled converter with R-Load.	
	3rd 18.10.22	1- ϕ AC regulator.	
	4th 19.10.22	Step-up & step-down Chopper.	
	5th		
5th	Module - II 1st 21.10.22	Control modes of Chopper.	
	2nd 22.10.22	Operation of Chopper in all 4-Quadrants	
	Module - III 3rd 25.10.22	Classification of Inverters, Series Inverter.	
	4th 26.10.22	Parallel Inverters.	
	5th		

Sign of Faculty

HOD

Principal