

GOVERNMENT POLYTECHNIC, PURID DEPARTMENT OF ELECTRICAL ENGINEERING

Discipline: ELECTRICAL ENGG.	Semester: 5TH	Name of the Teaching Faculty: JASOWANTA BARIK PTGF IN ELECTRICAL ENGINEERING	
Subject: P&PLC LAB	No. of days/per week class allotted: 06	Semester-5 th From date: : 01.08.2023 To Date: 30.11.2023	No. of Weeks: 15
PRE-REQUISITE	Basic knowledge about the construction, working principle & application of various power electronics devices and also PLC programming.		
COURSE OUTCOMES	CO1: Understand construction, working principle & application of various power electronics devices. CO2: Understand The Working Of Converters, Ac Regulators And Choppers. CO3: Understand The Inverters And Cyclo-Converters CO4: Understand Applications Of Power Electronic Circuits CO5: PLC And Its Applications		
Week	Class Day	Theory/Practical Topics	DELIVERY METHOD
1 ST	1 ST	Study of switching characteristics of a power transistor.	Whiteboard
	2 ND	Study of switching characteristics of a power transistor	Whiteboard
2 ND	1 ST	Study of V-I characteristics of SCR.	Whiteboard
	2 ND	Study of V-I characteristics of SCR.	Whiteboard
3 RD	1 ST	Study of V-I characteristics of TRIAC.	Whiteboard
	2 ND	Study of V-I characteristics of TRIAC.	Whiteboard
4 TH	1 ST	Study of drive circuit for SCR & TRIAC using DIAC	Whiteboard
	2 ND	Study of drive circuit for SCR & TRIAC using DIAC	Whiteboard
5 TH	1 ST	Study of drive circuit for SCR & TRIAC using UJT.	Whiteboard
	2 ND	Study of drive circuit for SCR & TRIAC using UJT.	Whiteboard
6 TH	1 ST	To study phase controlled bridge rectifier using resistive load.	Whiteboard
	2 ND	To study phase controlled bridge rectifier using resistive load.	Whiteboard
7 TH	1 ST	To study series Inverter	Whiteboard
	2 ND	To study series Inverter	Whiteboard
8 TH	1 ST	Study of voltage source Inverter.	Whiteboard
	2 ND	Study of voltage source Inverter.	Whiteboard
9 TH	1 ST	To perform the speed control of DC motor using Chopper.	Whiteboard
	2 ND	To perform the speed control of DC motor using Chopper.	Whiteboard
10 TH	1 ST	To study single-phase Cyclo-converter	Whiteboard
	2 ND	To study single-phase Cyclo-converter	Whiteboard

11TH	1 ST	Introduction/Familiarization PLC Trainer & its Installation with PC (a) Learn the basics and hardware components of PLC (b) Understand configuration of PLC system (c) Study various building blocks of PLC (d) Determine the No. of digital I/O & Analog I/O	Whiteboard
	2 ND	Introduction/Familiarization PLC Trainer & its Installation with PC (a) Learn the basics and hardware components of PLC (b) Understand configuration of PLC system (c) Study various building blocks of PLC (d) Determine the No. of digital I/O & Analog I/O	Whiteboard
12TH	1 ST	Execute the different Ladder Diagrams (a) Demonstrate PLC and Ladder diagram-Preparation downloading and running (b) Execute Ladder diagrams for different Logical Gates (c) Execute Ladder diagrams using timers & counters	Whiteboard
	2 ND	Execute the different Ladder Diagrams (a) Demonstrate PLC and Ladder diagram-Preparation downloading and running (b) Execute Ladder diagrams for different Logical Gates (c) Execute Ladder diagrams using timers & counters	Whiteboard
13TH	1 ST	Execute the Ladder Diagrams with model applications (i) DOL starter (ii)Star- Delta starter	Whiteboard
	2 ND	Execute the Ladder Diagrams with model applications (i) DOL starter (ii)Star- Delta starter	Whiteboard
14TH	1 ST	Execute Ladder diagrams with model applications (i) Stair case lighting (ii) Traffic light controlle	Whiteboard
	2 ND	Execute Ladder diagrams with model applications (i) Stair case lighting (ii) Traffic light controlle	Lecturenotes


LEARNINGRESOURCES:


1. Power Electronics Dr. P. S. Bhimbhra Khanna Publisher
2. Modern Power Electronics B.K.Bose PHI Publisher

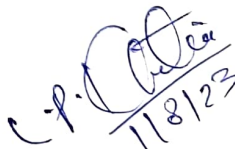
WEBSITERESOURCES:

<https://youtu.be/ZbvWe9xBu3Q>

<https://youtu.be/ozUsp9IIoPM>


11/08/23
Sign. of Faculty concerned


Principal
G. PPuri


11/8/23
Sign. of HODi/c