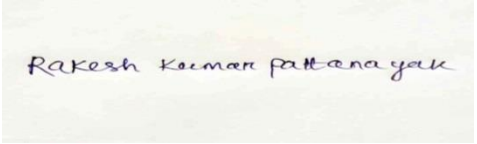
ACADEMIC LESSON PLAN OF WINTER 2023

Discipline: **ELECTRICAL**	Semester:5TH Sem (SEC-A(G-1))	Name of the Teaching Faculty: Rakesh pattanayak
Subject: **POWER ELECTRONICS & PLC LAB**	No. of days/per week class allotted: 1p(3hr)/week	Semester From: 1st Aug 2023 to 30th Nov 2023 No. of Weeks: 17 weeks
1st	1st	**(I) Power Electronics** 1. . Plot V-I characteristics of devices & trace the output waveform a) SCR b) DIAC c) TRIAC d) GTO f) MOSFET
2nd	1st	2. Construct the circuits using Trainer Board/Kit of the followings a) R-C triggering circuits using SCR & trace the output waveform at different test points. b) UJT Triggering & trace the output waveform at different test points. c) UJT relaxation oscillator circuits
3rd	1st	3. Construct lamp dimmer using TRIAC using Trainer Board/Kit & trace the output waveform using Trainer Board/Kit
4th	1st	4. Construct the Single Phase Half wave Converter using Trainer Board/Kit for R load & RL load & trace the output waveform at different test points
5th	1st	5. Construct the Single Phase Full wave Converter for R load & RL load using Trainer Board/Kit & trace the output waveform at different test points.
6th	1st	6. Construct & trace the output wave form of a single phase AC voltage controller using TRIAC with Trainer Board/Kit
7th	1st	7. . Study of UPS and observe the waveform of various section (ON, OFF & Line interactive)
8th	1st	8. Construct of Battery Charger circuit & trace the output waveform at different tests points.
9th	1st	9. Study of SMPS circuit & trace the output waveform at different tests points.
10th	1st	10. Simulate the Sl No 1-8 (Any 3) using the simulation tool like PSPICE/ multisim/orcad/tina.
11th	1st	11. To study single-phase Cyclo-converter.
12th	1st	**(II) PLC Programming** 1. 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
13th	1st	2. 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
14th	1st	3. Execute the Ladder Diagrams with model applications (i) DOL starter (ii)Star- Delta starter
15th	1st	4. Execute Ladder diagrams with model applications (i) Stair case lighting (ii) Traffic light controller
16th	1st	Revision class
17th	1st	Revision class



Signature of Teaching Faculty