

Lesson Plan

Name of Faculty : Ajay Kumar
Discipline : Electronics & Comm. Engg.
Semester : 5th SEM
Subject : PLC & SCADA
Lesson Plan Duration : 16 weeks
Work load (Lecture /Practical) per week (in hours): Lectures—02,
 Practical—04

Week	Lecture Day	Theory	Practical	
		Topic (Including Assignment/ Test)	Practical Day	Topic
1 st	1	Introduction, limitations of relays and advantages of PLCs over electromagnetic relays	1 st	Introduction to PLC Lab
	2	PLC Operation, PLC Architecture and building blocks		
2 nd	3	Different programming languages	2 nd	1. Show PLC modules and components in lab/industry or through online videos.
	4	PLC applications and manufacturers, PLC selection criteria		
3 rd	5	Number systems and conversions, Binary arithmetic, Binary codes	3 rd	Demonstration of ladder diagram programming using NO, NC and OTE instructions
	6			
4 th	7	Boolean algebra, logic Gates, Introduction to Ladder logic	4 th	Write a ladder diagram program for switching ON-OFF light
	8	Basic components and their symbols		
5 th	9	Fundamental of ladder diagrams, Ladder logic functions	5 th	Write a ladder diagram program for liquid level contro
	10	Boolean logic and relay logic		
6 th	11	Assgnment	6 th	Write a ladder diagram program for industry process control
	12	File structure and addressing formats Introduction, Input and output data files		
7 th	13	status file, Bit data file, Timer data file	7 th	Write a ladder diagram program for main door control
	14	Counter data file, Control data file		
8 th	15	Integer data file and Float data file	8 th	Write a ladder diagram program for vehicle parking control
	16	Ladder Programming Instructions introdtion		

9 th	17	Bit instructions, Timer instructions	9 th	Write a ladder diagram program for bottling pla
	18	Counter instructions, Reset instruction		
10 th	19	Data handling instructions, Comparison Instructions Sequencer instructions	10 th	Write a ladder diagram program for drink dispenser
	20	Introduction to SCADA		
11 th	21	Project and Tag creation	11 th	Write a ladder diagram program for traffic light control
	22	Visibility and text animation		
12 th	23	Numeric display and Numeric input	12 th	Write a ladder diagram program for temperature control
	24	String display and String input		
13 th	25	Concept of Label, Arrow, vertical slider, horizontal slider	13 th	Show online videos to demonstrate the creation and animation of graphics for various applications using SCADA.
	26	Creation of various animations like color		
14 th	27	fill, horizontal position, vertical position	14 th	Industrial visit to monitor the actual working of PLC and SCADA
	28	height, width and touch		
15 th	29	Alarming Data Logging	15 th	Revision
	30	Assignment		
16 th	31	Revision	16 th	Revision
	32	Revision		