PLC Course (Advance Level I) 45 Days (90 Hrs.)

Sr. No.	Chapters	Sub Chapters	Points in Sub Chapters
1	Automation		
2	Automation Components	Relay	
		Switches and its type	
		Sensor	Optical
			Capacitive
			Inductive
			Ultrasonic
			Hall effect
			Fluid flow Industrial Sensor
			Angular Displacement(Potentiometer, Encoder , Tachometer)
			LVDT
			Force Sensor(Strain Gauge)
			Temperature(RTD, Thermocouple, thermistor)
			Light (LDR)
			Liquide , Gass
		Control Actuators	Solenoides
			Valve
			Pneumatic
			Hydraulic
3	PLC	Introduction	
		Advantages of PLC Control Panel	
		Architecture of PLC	
		Function of Blocks that makes PLC	
		Working Principle of PLC	

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		Memory Types	
		Different types of Input and Output Circuits	
		Concept of Inputs and Outputs	Digital input and Output
			Analog Input and Output
		Concept of PLC Scan Cycle	
		Concept of Sink and Source	Concept of Sink and Source input card
			Concept of Sink and Source Output card
			Programming Methods
			Programming Devices
			Programming with PLC
			Basic Instructions NO and NC Contact
			Boolean Gates- Symbol and truth table
			Ladder Logic, Basic Ladder Symbols
			Concept of Latching and Unlatching
			Timers and Counters
		Maintenance and troubleshooting of PLC	
		Selection Of PLC	
		Applications	
4	Mitsubishi PLC	Hardware Review of FX5-32MT/ESS	
		Mitsubishi Pin Configuration and Technical Specification	
		Introduction to GXWorks 3 Software	

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		Programming Instructions	Data Types
			Absolute , Bit , Byte and word
			How to create New Project and add new CPU
			How to go Online and Backup
			Simulator
			Bit Logic
			Word Logic
			Input / Output
			Timer & Counter
			Compare Instructions
			Math Instruction
			Move Instruction
			Convert Instruction
			High Speed Counter
		Analog	Input & Output
		Communication	Modbus TCP IP, CC link
	OR		
	Siemens PLC	Hardware Review of S7 1200	
		Mitsubishi Pin Configuration and Technical Specification	
		Introduction to TIA V 18	
		Programming Instructions	Data Types
			Absolute , Bit , Byte and word
			How to create New Project and add new CPU
			How to go Online to S7 1200 and Backup
			Siemens Prog. languages
			Simulator
			System Memory Bits and Tags

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			Bit Logic
			Word Logic
			Input / Output
			Timer & Counter
			Compare Instructions
			Math Instruction
			Move Instruction
			Convert Instruction
			Data Blocks
			High Speed Counter
			Function Block
			Function
			Program Control Instruction
		Analog	Input & Output
		Communication	Modbus TCP IP, CC link
5	VFD	Mitsubishi or Siemens Make	
6	Maintenance/ troubleshooting		
7	Live Applications	Switching of Light	
		Silo Control	
		Seven Segment Display	
		Starter Control	
		Sequential Control of Motor	
		Star Delta Control	
		Resistance Welding	
		Tank Level Control	
		Traffic Light Control	
		Bottling Plant	
		Drink Dispenses	
		Reaction Vessel	

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		Oven	
		Parking Garage	
		Combination Lock	
		Elevator Simulator	
		Process Control Trainer	
		Washing Machine	
		DoorBell Operation	
		Electro Pneumatic System	
		VFD Kit	
8	Panel Designing		
9	Live Projects		