

# PLC Syllabus

## Theory

1. Introduction to PLC
2. Types of PLC
3. PLC VS Microcontroller
4. PLC Advantages & PLC Applications
5. Introduction to PLC Hardware
6. Introduction to I/O Devices (Digital only)
7. Introduction to Logic Gates
8. Introduction to Ladder programming, Ladder Symbols, function Blocks.
  - a) Syntax & its error
  - b) Scanning of I/O in ladder
9. Benefits of ladder programming
  - a) Designing Single Rung & network
  - b) Designing Multiple & branching Rungs & networks
  - c) Learning algorithms for Practical applications.
  - d) Introduction to PLC Trainer 100A

Note: (Our PLC Trainer 100A supports only digital I/O)

# VFD Syllabus

1. To study Functions of VFD Switches & Symbols.
2. To operate motor using VFD Console switches.
3. To change parameter settings.
4. To change Ramp Down time [deceleration time].
5. To change Ramp up time [acceleration time].
6. To set output frequency limit [Maximum].
7. To set output frequency limit [Minimum].

## List of Practical's

List of PLC Practicals			
No	Experiments	Expt nos.	File name
<b>1</b>	<b>BIT wise Operations</b>		
	a) NO (X0 & Y0)	EXPT NO:1	EXPT NO:1
	b) NO with internal coil	EXPT NO:2	EXPT NO:2
	c) NC (X0 & Y0)	EXPT NO:3	EXPT NO:3
	d) NO with internal coil	EXPT NO:4	EXPT NO:4
<b>2</b>	<b>Implementation of Basic logic Gates</b>		
	a) AND,OR,NOT,XOR,NAND,NOR	EXPT NO:5A	EXPT NO:5A
		to 5F	to 5F
<b>3</b>	<b>Use of Timer functions</b>		
	b) NO (X0=NO ,T0 & Y0=o/p)	EXPT NO:6	Timer_1
	b) NC (X0=NC ,T0 & Y0=o/p)	EXPT NO:7	Timer_2
<b>4</b>	<b>Use of Counters Functions</b>		
	a) Preset counter using Counter C0 Preset value is 5 Y0 is o/p X0 in count i/p & X1 is counter reset	EXPT NO:8	counter_1
<b>5</b>	<b>Binary counter 8421</b>		
	a) using 4 counters with internal coil	EXPT NO:9	8421
<b>6</b>	<b>Latch Set_Reset functions</b>	EXPT NO:10	Set
	a) Set-Reset functions		
	<b>Industrial Applications</b>		
<b>7</b>	<b>Motor Starter</b>		
	a) Start/Stop Push button with Motor overload & High temp i/p	EXPT NO:11	Motor_1
	b) Motor Directions control For-Rev direction with delay & interlock Protections.	EXPT NO:12	Motor_2
<b>8</b>	<b>Conveyor Systems</b>		
	a) Material conveyor with counter	EXPT NO:13	conveyor
<b>9</b>	<b>Traffic Light control</b>		
	a) Traffic Light controller 4 lane	EXPT NO:14	Traffic_light
<b>10</b>	<b>Water Level controller</b>		
	a) Water level controller with pump	EXPT NO:15	water_level