

<b>BASIC INDUSTRIAL AUTOMATION COURSE</b>			
<b>Sequence of commencement of Classes</b>			
<b>S.No.</b>	<b>Duration</b>	<b>Topic</b>	<b>Description</b>
1	1 (2 Hour 30 Minutes)	(Introduction of Technology)	Basic Engineering Definitions(Electrical, Electronics, Instrumentation, industrial Automation), Types of Automation, Tools of Industrial Automation, Similarities Between Human body and Industrial Automation, Difference Between Scientist and Engineers, Difference between Electrical and Electronics
2	1 (2 Hour 30 Minutes)	(Relay Logics and interlocks)	Logic gates (AND, OR, NOT, NAND, NOR ETC.) Implementation (Using NO, NC , NO&NC), RELAY HOLDING CIRCUIT, OTHER INTERLOCKS
3	1 (2 Hour 30 Minutes)	PLC Introduction	Definition, Types, Brands, Catalog number decoding, Architecture(overview and internal), Sink and Source, Introduction to Softwares (Communication and Programming), GUI interface of Programming Software (How to use it), Uploading and Downloading of programs (define it and show the operation)

4	8 (20 hours)	(Allen Bradley, Rockwell Automation, Micrologix 1000 Basic PLC Programming)	Introduction about Data Files, Addressing Format of Micrologix Series PLC, <u>Instructions to be covered:</u> (Bit instructions: XIC, XIO, OTE, OTL, OTU), <u>Programs to be covered:</u> Logic gates, Holding logic
5		(Allen Bradley, Rockwell Automation, Micrologix 1000 Basic PLC Programming)	<u>Instructions to be covered:</u> (Timer instructions: TON, TOF, RTO) <u>Programs to be covered:</u> Basic TON based star delta operation and use of EN, TT & DN bit, Blinking of LED, Automatic Sequence of operation of LED's, and other interlocks using timers only
6		(Allen Bradley, Rockwell Automation, Micrologix 1000 Basic PLC Programming)	<u>Instructions to be covered:</u> (Counter instructions: CTU, CTD; Compare instruction: LES,GRT,LEQ,NEQ,MEQ, LIM(for limit);Move instructions: MOV, MVM; Jump and Control instructions: JMP, LBL, TND, MCR,JSR etc.) <u>Programs to be covered:</u> Counting of bottles, Car parking- Automated Entry and Exit with boom barrier control, etc.
7		(Allen Bradley, Rockwell Automation, Micrologix 1000 Basic PLC Programming)	Revision class and Doubt Session of all Earlier classes (Introduction, Relay, PLC and Automation)
<b>OTHER BRANDS OF PLC</b>			
8	3 (7 Hour 30 minutes)	SIEMENS S7-200	Siemens Theory, Addressing Format, Memory Overlapping Concept, Basic Programming: Logic gates, holding and toggle

9		<b>SIEMENS S7-200</b>	Timers, Counters, Compare, Jump and Move and other miscellaneous
10	<b>3 (7 Hour 30 minutes)</b>	<b>SIEMENS S7-300</b>	Siemens Theory, Addressing Format, Memory Overlapping Concept, Types of Programming blocks: OB, FC, FB, DB Work on Basic Programming Block (OB): Logic gates, holding and toggle, Timers, Counters, Compare, Jump and Move and other miscellaneous
11		<b>SIEMENS S7-300</b>	Work on Other Programming Block ( FC, FB, DB)
12	<b>3 (7 Hour 30 minutes)</b>	<b>MITSUBISHI &amp; DELTA</b>	Mitsubishi & Delta Theory, Addressing Format, Memory Overlapping Concept, Basic Programming: Logic gates, holding and toggle
13		<b>MITSUBISHI &amp; DELTA</b>	Timers, Counters, Compare, Jump and Move and other miscellaneous
14	<b>3 (7 Hour 30 minutes)</b>	<b>OMRON</b>	OMRON Theory, Addressing Format, Memory Overlapping Concept, Basic Programming: Logic gates, holding and toggle
15		<b>OMRON</b>	Timers, Counters, Compare, Jump and Move and other miscellaneous