BASIC INDUSTRIAL AUTOMATION COURSE

Sequence of commencement of Classes

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
- 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
- 1 (2 Hour 30 Minutes)

PLC Introduction

- Definition
- Types
- Brands
- Catalog number decoding
- Architecture(overview and internal)
- Sink and Source
- Introduction to Software's (Communication and Programming)
- GUI interface of Programming Software (How to use it)
- Uploading and Downloading of programs (define it and show the operation)
 - 1 (2 Hour 30 Minutes)

Allen Bradley, Rockwell Automation, Micrologix 1000 Basic PLC Programming)

- Introduction about Data Files
- Addressing Format of Micrologix Series PLC
- Instructions to be covered: (Bit instructions: XIC,
- XIO, OTE, OTL, OTU)
- Programs to be covered: Logic gates, Holding logic
- 8 (20 hours)
- (Allen Bradley, Rockwell Automation, Micrologix 1000 Basic PLC Programming)
 - Instructions to be covered: (Timer instructions: TON,
 - TOF, RTO)
 - Programs to be covered: Basic TON based star delta
 - operation and use of EN, TT & DN bit
 - Blincking of LED
 - Automatic Sequence of operation of LED's, and other
 - interlocks using timers only
 - 8 (20 hours)

OTHER BRANDS OF PLC

SIEMENS S7-200

- Siemens Theory
- Addressing Format
- Memory Overlapping Concept
- Basic Programming: Logic gates, holding and toggle
- 3 (7 Hour 30 minutes)

➤ SIEMENS S7-200

- Timers
- Counters
- Compare
- Jump and Move and other miscellaneous
- 3 (7 Hour 30 minutes)

SIEMENS S7-300

- 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
- **3** (7 Hour 30 minutes)

SIEMENS S7-300

Work on Other Programming Block (FC, FB, DB)

MITSUBISHI & DELTA

- Mitsubishi & Delta Theory
- Addressing Format
- Memory Overlapping Concept
- Basic Programming: Logic gates, holding and toggle
- **3** (7 Hour 30 minutes)

MITSUBISHI & DELTA

Timers

- Counters,
- Compare,
- Jump and Move and other miscellaneous
 - 3 (7 Hour 30 minutes)

> OMRON

- OMRON Theory
- Addressing Format
- Memory Overlapping Concept
- Basic Programming: Logic gates, holding and toggle
- 3 (7 Hour 30 minutes)

