

Course code VA- BTI 01

Course title Basic Automation – 1 (PLC and HMI) in coordination with Siemens

Target Group : Engineers in Electrical/ Mechanical/ Electronics/Instrumentation/ENTC/Biomedical Engineering.

Course Duration: 40 hours

Prerequisite: Basic Knowledge of Automation technology, relay logic essential but not mandatory

Course Objectives : The participants will

1. understand working of PLC
2. understand basic concepts of HMI

Course Outcomes: The participants will be able to

1. use Siemens PLC by understanding installation and by applying the knowledge of programming

Course Contents:

| Module | Details |
|---------------|--|
| 1 | Basic constituents of PLC: Signal modules, CPU, Power Supply, mounting rail and MMC |
| 2 | Working of PLC, Installation guidelines, powering and wiring of modules with information on addressing. |
| 3 | Programming: Programming language and representation in STL,FBD and LAD, Hardware Configuration and setting object Properties of Modules in STEP, Programming instruction: AND, OR, AND-before-OR, OR-before-AND, NO / NC contacts, Edge detection instructions, Set/ Reset, Elementary data type. |
| 4 | Overview of SIMATIC S7 – PLC: Programming Units and using PC as Programming Unit, Hardware Configuration and setting object Properties of Modules in STEP, Step 7 Instructions and programming: Set/ Reset, Elementary data type, Load/Transfer, comparison, basic math instructions, Timers/ Counters List etc |
| 5 | Using Symbol Table and VAT. |

Unrestricted