

SYLLABUS Of SMC TRAINING CENTER

1. SMCTC – BASIC AUTOMATION

➤ OBJECTIVES

Participants will have a course that meets 4 days where they will be able to:

- Understand compressed air production and purification, construction and the components in pneumatic control systems
- Understand the construction and function of the components in electro-pneumatic control system
- Identify and use control schematics
- Design, construct and troubleshooting of pneumatic and electro-pneumatic circuits
- Gain wider knowledge of complex electro-pneumatic circuit design

➤ COURSE CONTENT

1. Properties of compressed air and its area of application
2. Economical and technical aspect of electro - pneumatic systems
3. Basic pneumatic system and Basic electric theory
4. Compressed air theory, Compressed air production, purification and distribution
5. Construction and principle of operation of actuators and directional control valves
6. Construction and principle of operation electro pneumatic components
7. Ancillary pneumatic equipment
8. Symbols – ISO 1219 / 5599 and Reading /design of control schematics
9. Electrical symbols – DIN and ladder diagram and Reading/design of control schematics
10. Safety requirements
11. Design of various controls with Logic ladder Diagram , Memory, Intermediate Position, Counting , Time - Dependent and Pressure - Dependent Controls
12. Reading of complex circuit with step diagram
13. Systematic approach to sequential design
14. Various cut off methods for opposing signals
15. Sequential design with supplementary conditions (single/continuous cycle, manual/automatic mode, inching, Emergency Stop Design, etc)
16. Special circuits for industrial application



17. Electrical Safety
18. Practical exercises with systematic troubleshooting