

INSTRUMENTATION, PLC AND CONTROL SYSTEM

INTRODUCTION

This course is designed to prepare all ranks of Marine Engineers and electrical officers to face the challenges of modern vessels in Automation and Control. It addresses the earlier, but still widely prevalent, pneumatic automation devices as well as the more modern Programmable Logic Controller.

This course provides a forum for theoretical lecture delivery, computer simulation exercises, hands on training on the pneumatic components as well as on the PLC and group discussions leading to improvement in competency and confidence in handling automated equipment.

OBJECTIVE

1. Familiarization of automatic process control system: MV, SP, error, principles of feedback, Open Loop & Closed Loop System
2. Two step, Proportional, integral, derivative, P+I, P+D and three term controllers
3. Working and maintenance of pressure, temperature, Flow, level and other measuring equipment.
4. Operation and maintenance of various types of transmitters, Transducers, Controllers, Actuators, Valve positioner with their individual characteristics.
5. Factors influencing control action & Tuning of P-I-D controllers
6. Main engine temperatures, fuel oil viscosity and speed control
7. Boiler water level controller, Air/Fuel combustion controller and firing sequence. Exposure to different types of combustion control systems.
8. Safematic steering system: regulation and operations
9. Oil tanker: vac - strip and remote valve control
10. IOPP equipment: Oily Water Separator, ODME
11. Safety equipments: OMD, Oxygen/gas analyzer, fire detection and monitoring, Co2 flooding
12. Stress monitoring, vibration monitoring and impressed current systems
13. The use of computer for Control: alarm and data monitoring
14. Concept of Analog and Digital interfacing
15. Programmable Logic Controller – Detailed study of the architecture of the PLC and the memory organization in PLC
16. Understanding the configuration the input/output section of PLC
17. Practical exercises on the PLC



DETAILS

Duration	: 6 Days
Eligibility	: Engineers both Management & Operational Level
No. of Participants	: Minimum 4
Course Facilitator	: Experience Chief Engineer & Electrical officer/ Domain Expert
Course Venue	: ARI, Delhi

FEATURES

1. Understand the fundamental concepts of process control
2. Recognize component construction, functioning and applications
3. Understand usage of different type of controllers for different applications
4. To tune/adjust the controller if required
5. To understand the working of various shipboard applications on main and auxiliary machineries
6. Learn through sharing of experience amongst participants
7. To have hands on training on various components: sensors, controllers, actuators, positioners, PLCs
8. To do maintenance of various components

For Course Booking and Schedule please email us at coursebookings@ariworld.com

ARI will be pleased to work with companies for customized courses.

Companies can opt for Block Booking. For more information email us at info@ariedu.com