



Training Course :

Industrial Process Measurement and Control

Training Course For One Week In

UAE , Dubai , Cityseason Suites Hotel



Which Be Held As Under Details :

Abar Solutions Petroleum Consultancy Invite Your Employee To Participate With Us In Special Training Course As Under Details :

Course Name		Industrial Process Measurement and Control			
Code	Period	Language	Start	End	Location
ICT 008	5 Days	Bilingual (Arabic & English)	13/08/2017	17/08/2017	UAE , Dubai , Cityseason Suites Hotel
			03/09/2017	07/09/2017	
			08/10/2017	12/10/2017	
			12/11/2017	16/11/2017	
			10/12/2017	14/12/2017	
			14/01/2018	18/01/2018	
			11/02/2018	15/02/2018	
			11/03/2018	15/03/2018	
			15/04/2018	19/04/2018	
			20/05/2018	24/05/2018	
			10/06/2018	14/06/2018	
22/07/2018	26/07/2018				
<p>** The Fees Includes : Lecturer , Training Material , Training Room With One Coffee Break Daily , Certificate Of Attendance In Last Day Training Course **</p>					

Course Description

⇒ This course provides an overview of industrial measurement and control. Technicians, engineers, and managers are provided with fundamentals to more effectively communicate with other control system professionals. This course teaches a systematic approach to troubleshooting and start-up as they apply to single and multi-loop control loops. Covers how pressure, level, flow, and temperature loops operate to maintain good process control systems.

Course Objectives

⇒ Communicate the latest trends in measurement and control

- ⇒ Understand the role of measurement and control in industrial processes
- ⇒ Compare continuous, batch, and discrete control and how they are used in industry
- ⇒ Interpret measurement and control terminology
- ⇒ Compare the methods and devices used in temperature, pressure, level, flow measurement
- ⇒ Understand the operation and components of a feedback control loop
- ⇒ Understand the fundamental concepts of controller tuning
- ⇒ Compare different control system architectures including single loop controllers, DCS, and PLCs
- ⇒ Understand why a systematic approach to troubleshooting is most effective
- ⇒ Follow specified procedures for proper loop check-out
- ⇒ Verify, locate, and identify performance problems and the causes of the problems
- ⇒ Take or recommend appropriate follow-up procedures to minimize problem recurrence
- ⇒ Identify the common causes of sensor, transmitter, controller, and final control element problems
- ⇒ Troubleshoot control systems
- ⇒ Apply DCS functions for troubleshooting
- ⇒ Understand pneumatic and electronic loops
- ⇒ Apply safety practices for start-up
- ⇒ Check and utilize control loop documentation

Course Content & Outlines

- ⇒ **Process Control Concepts:**
 - Continuous,
 - Batch,
 - Discrete Control,
 - The Role of Measurement and Control in Industry,
 - Graphic Description of Loop Components,
 - Component Loop Dynamics
- ⇒ **Industrial Measurement Systems:**
 - Overview,
 - Sensor Selection and Characteristics,

- Transmitters,
- Smart Transmitters

⇒ **Pressure Measurements:**

- Concepts,
- Instruments,
- Differential Pressure Measurement

⇒ **Level Measurement:**

- Concepts,
- Hydrostatic Head Level Measurement,
- Capacitance Level Measurement,
- Ultrasonic Level Measurement,
- by Weight

⇒ **Flow Measurement:**

- Fluid Fundamentals,
- Methods and Concepts,
- Differential Head Flow Measurement,
- Velocity Flow Measurement Devices,
- Mass Flowmeters

⇒ **Temperature Measurement:**

- Concepts,
- Thermometers,
- Thermocouples,
- RTDs & Thermistors,
- Temperature Transmitters

⇒ **Industrial Process Control:**

- Basic Feedback Control,
- Components,
- PID Control,
- Final Control Elements,
- Tuning Concepts

⇒ **Trends in Control Technologies:**

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- Smart Components,
- Fieldbus.

⇒ **Approaches to Troubleshooting:**

- Purpose of Troubleshooting,
- Reasons for Troubleshooting Equipment History,
- Input/Output (Serial) | Shotgun Approach,
- Logical Analysis

⇒ **Logical Analysis Troubleshooting:**

- Verify, Identify, Repair and Test.
- Follow-up on Problems

⇒ **Single-Loop Feedback Control Troubleshooting:**

- Measurement Concerns,
- Controller Operations,
- Signal Conditioners,
- Troubleshooting Simulation

⇒ **Multi-Loop Control Systems Troubleshooting:**

- Ratio (Two Controlled Streams, Wild Stream),
- Cascade,
- Three-Element Control,
- Troubleshooting Simulation

⇒ **Introduction to Digital Control Systems:**

- Advantages,
- Digital Control (DDC),
- Supervisory DC,
- Supervisory Plus DDC,
- Analog Back-up

⇒ **Distributed Control Functions for Troubleshooting:**

- Elements,
- Displays (Graphic, Trend, Alarm)

⇒ **Start-up Concerns:**

- Safety, Documentation, and tuning Review