

Training Title

Fundamentals Of Process Control Training

Training Duration

5 days

Training Venue and Dates

REF IC011	Fundamentals Of Process Control Training	5	18-22 November 2024	\$5,500	Dubai, UAE
--------------	---	---	------------------------	---------	------------

In any of the 4 or 5 star hotels. The exact venue will be intimated once finalized.

Training Fees

\$ 5,500 per participant including Very useful Materials/ Handouts, Tea/Coffee, Breakfast, Snacks, Refreshments & Lunch.

Training Certificate

Define Management Consultants & Training Certificate of course completion will be issued to all attendees.

TRAINING OBJECTIVES

Upon successful completion of this course, the delegates will be able to:

Explain the theory of process control

Identify all industrial process applications, control of process variables

Act safe and efficiently operate the process.

Recognize the most common variables controlled are pressure, level, temperature, and flow.

Define many different methods used to control these processes, this monitoring and control is generically called process control. Level, pressure, temperature, and flow are all controlled in a similar fashion.

Discuss the difference between direct- and reverse-acting controllers.

Define common terms and symbols used in process control.

Describe the function of self-regulated and non-self-regulated processes."

Introduction to industrial instrumentation

Refresh knowledge of basic electricity, electronics and physics

Sensors and their use in the measurement of a wide variety of physical variables – such as level, pressure, flow, temperature, humidity, and mechanical measurements – are discussed in The use of regulators and actuators for controlling pressure, flow, and the control of the input variables to a process are discussed in Documentation as applied to instrumentation and control is introduced, together with standard symbols recommended by the Instrument Society of America (ISA) for use in instrumentation control diagrams.

DMCT/OL/9/18(Rev3Dt:23/9/18)

WHO SHOULD ATTEND

This course is tailored for:

- Electrical Operators, Technicians and Engineers.
- Chemical Operators, technicians and Engineers
- Managers, engineers, and technicians working in the field of instrumentation and process control.

It is anticipated that the prospective participant will have a basic understanding of mathematics, electricity, and physics.

TRAINING METHODOLOGY

The training course will be highly participatory and the course leader will present, guide and facilitate learning, using a range of methods including formal presentation, discussions, sector-specific case studies and exercises. Above all, the course leader will make extensive use of real-life case examples in which he has been personally involved. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Case studies & Practical Exercises
- 10% Role Play
- 10% Videos, Software or Simulators (as applicable) & General Discussions

COURSE OUTLINE

Chapter 1. Introduction and Review

- 1.1 Introduction
- 1.2 Process Control
- 1.3 Definitions of the Elements in a Control Loop
- 1.4 Process Facility Considerations
- 1.5 Units and Standards
- 1.6 Instrument Parameters

Chapter 2. Basic Electrical Components

- 2.1 Introduction
- 2.2 Resistance
- 2.3 Capacitance
- 2.4 Inductance

DMCT/OL/9/18(Rev3Dt:23/9/18)

Chapter 3. Documentation and Symbols

- 3.1 Introduction**
- 3.2 System Documentation**
- 3.3 Pipe and Identification Diagrams**
- 3.4 Functional Symbols**
- 3.5 P and ID Drawings**

Chapter 4. Process Control

- 4.1 Introduction**
- 4.2 Basic Terms**
- 4.3 Control Modes**
- 4.4 Implementation of Control Loops**
- 4.5 Digital Controllers**

Chapter 5. Pressure

- 5.1 Introduction**
- 5.2 Basic Terms**
- 5.3 Pressure Measurement**
- 5.4 Pressure Formulas**
- 5.5 Measuring Instruments**
- 5.6 Application Considerations**

www.definettraining.com

Chapter 6. Level

- 6.1 Introduction**
- 6.2 Level Formulas**
- 6.3 Level Sensing Devices**
- 6.4 Application Considerations**

Chapter 7. Flow

DMCT/OL/9/18(Rev3Dt:23/9/18)

- 7.1 Introduction**
- 7.2 Basic Terms**
- 7.3 Flow Formulas**
- 7.4 Flow Measurement Instruments**
- 7.5 Application Considerations**

Chapter 8. Temperature and Heat

- 8.1 Introduction**
- 8.2 Basic Terms**
- 8.3 Temperature and Heat Formulas**
- 8.4 Temperature Measuring Devices**
- 8.5 Application Considerations**

Chapter 9. Humidity, Density, Viscosity, and pH

- 9.1 Introduction**
- 9.2 Humidity**
- 9.3 Density and Specific Gravity**
- 9.4 Viscosity**
- 9.5 pH Measurements**

Chapter 10. Actuators and Control

- 10.1 Introduction**
- 10.2 Pressure Controllers**
- 10.3 Flow Control Actuators**
- 10.4 Power Control**
- 10.5 Motors**
- 10.6 Application Considerations**

DMCT/OL/9/18(Rev3Dt:23/9/18)