

## **(4) Process Control and Instrumentation**

### **WHO SHOULD ATTEND**

This short course is designed for all operators and technicians familiar with the general purpose of process measuring instruments and control equipment. The course will also be of benefit to plant and laboratory personnel who are required to work closely with plant personnel and therefore should have an understanding of the types of process instruments used and any associated limitations.

### **COURSE OBJECTIVES**

At the end of this training, participants will be able to:

- Specify and design instrumentation systems for pressure, level, temperature and flow.
- Identify a large number of industrial analytical measuring instruments.
- Describe the construction and operation of the most important analytical instruments.
- Be able to conduct the following types of measurement; pH, conductivity, turbidity, hygrometry, dissolved oxygen, total free chlorine and on-line chromatography.
- Implement procedures for testing and calibration of analytical instruments.
- Correctly select and size control valves for any particular application.
- Troubleshoot and identify problems with instrumentation systems.
- Isolate control loops and identify a faulty instrument.

### **CONTENT**

- Introduction to Process Measurement
- Pressure Measurement
- Level Measurement
- Temperature Measurement
- Flow Measurement
- Control Valves
- Process Considerations
- Transmission of Measurement Signals
- Basic Control Concepts
- Complex Control Systems
- Computer Control Systems
- Networks

### **INTENDED FOR**

Operators and technicians familiar with the general purpose of process measuring instruments and control equipment. Plant and laboratory personnel