

Tutorial

(Subject: Process Loop Components)

Chapter 1

1. Explain elements of Process Control loop in detail
2. Explain concept of process variable, set point, controlled variable, manipulated variable, Load Variable.
3. Explain Temperature Control Loop with Process Example
4. Explain Pressure Control Loop with Process Example
5. Explain Flow Control Loop with Process Example
6. Explain Level Control Loop with Process Example
7. What is need of standardization of signal, Explain concept of live and dead zero

Chapter 2

1. Explain Difference between Convertor & Transmitter
2. Explain Two wire & Four wire transmitter in detail
3. Explain Square Root Extractor in detail
4. Explain application of DPT for flow and Level Measurement.
5. Explain types of Transmitters

Chapter 3

1. What is Control Valve? Explain different body parts of control valve
2. Explain Control Valve Characteristics in detail
3. Explain Cavitation & Flashing in control valve
4. Explain selection criteria for control valve
5. List out the types of control valves, explain any one.
6. Explain concept of Control valve coefficient.
7. Explain Types of actuators in detail.

Chapter 4

1. Explain PID Controller
2. Explain digital PID Controller
3. Write a short note on Process Reaction Curve Method
4. Explain PLC hardware in detail
5. Explain block diagram of PLC in detail

- 6.** Explain the concept of anti-reset wind up.
- 7.** Write a short note on ZN Method
- 8.** List out the PLC Programming Languages, Explain ladder diagram with example.
- 9.** Explain Control modes in detail.
- 10.** Develop a ladder diagram for motor on and off application
- 11.** Write a short note on Frequency Response Method.

Chapter 5

- 1.** Explain Synchro transmitter and receiver in detail
- 2.** List out types of control panel. Explain any one type of control panel
- 3.** Write a short note on Alarm Annunciator
- 4.** Write a short note on Gyroscope Indicators