

V / CSC / INST / CBES / 22.11.16
Control Sys^m Components

QP Code : 597402

(3 Hours)

[Total Marks : 80



- N.B. :** (1) Question No.1 is compulsory
(2) Attempt any three questions from remaining five questions.
(3) Draw neat diagrams wherever required.
(4) Assume suitable data if required.

1. Solve any **Five**.

- (A) Explain ATC & ATO control valves.
(B) Explain Volume Booster as control system component.
(C) Compare conventional & SMART Transmitters.
(D) Describe working of pressure Relief valve.
(E) Compare pneumatic, Hydraulic & Electrical system.
(F) Explain Types of switches with symbols.

2. (A) Explain with a neat sketch working of NO Contactor. Draw wiring scheme to START/ STOP Pump using Starter & Contactor. **10**

(B) What is necessity of control valve in process industry? Explain Operation of Single seated Globe Control valve with various parts & MOC. **10**

3. (A) Explain with Block diagram working of SMART transmitter. State its Features. **10**

(B) Why valve positioner is necessary? Explain Motion balance valve positioner with diagram. **10**

4. (A) Explain components of Air supply Distribution system. How will you control Compressor using Pressure switch. **10**

(B) Explain various Types of Directional control valves used in Pneumatics. **10**

5. (A) Why Transmitter is required in Process Measurements? Explain open Tank Level Measurement using Differential Pressure Transmitter. Draw wiring diagram of the same. **10**

(B) State working & Advantages of various types of Actuators. **10**

6. Write short notes on: **20**

- (A) Selection criteria for Transmitters.
(B) RFID.
(C) Control Relay.
(D) Thermostat.

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