

INST/IV/CSC/CBGS/17-05-2017

Control System Components

QP Code : 597400

(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**.

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- (A) Explain Flapper Nozzle Systems.
- (B) List out various pneumatic and hydraulic system components.
- (C) Give difference between two wire and four wire transmitter.
- (D) Describe working of pinch valve.
- (E) Explain working of Alarm Annunciator.
- (F) Explain any one application of RFID system.

2. (A) List out speed control circuits for hydraulic actuator. Explain any one of them with neat diagram. 10

(B) What is necessity of pressure regulating valve in pneumatic system. Explain relieving pressure regulating valve in details. 10

3. (A) Explain desirable features of SMART transmitter. 10

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

4. (A) Explain control valve actuators in details. 10

(B) Compare: pneumatic, hydraulic and electric systems. 10

5. (A) What are control relays? Explain electromechanical relay and reed relay with their specifications. 10

(B) Write a short note on pneumatic controller. 10

6. Write short notes on:

(A) Selection criterion of control valve. 20

(B) Synchros.

(C) Pneumatic temperature Transmitter.

(D) Pneumatic to electric converter.