

(3 Hours)

[Total Marks: 80]

- N. B.: (1) Question No. 1 is compulsory.  
(2) Attempt any three questions from remaining five questions.  
(3) Assume suitable data if necessary.  
(4) Figures to the right indicate full marks.

1. (a) With neat block diagram, explain the working of multichannel data acquisition system. 10  
(b) Compare an electrical, pneumatic and hydraulic systems. 10
2. (a) Explain flow characteristics of globe control valves. 10  
(b) What is necessity of valve positioner? Explain any one type of valve positioner. 10
3. (a) Explain the working of pneumatic to electrical converter. 10  
(b) What is need of tuning of controller? Explain any one method of tuning of PID controller. 10
4. (a) Explain flapper nozzle system. Explain any two applications of flapper nozzle System. 10  
(b) With neat block diagram explain working of telemetry system. 10
5. (a) Compare conventional and smart transmitters. 10  
(b) Draw and explain inherent and installed characteristics of control valves. 10
6. (a) With neat diagram, explain speed control circuit for hydraulic actuator. 10  
(b) Explain the working of electronic DP transmitter. 10

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