

Note: 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.

- Q.1 Explain in brief
- Data logger 5M
 - Derivative controller 5M
 - Sequence valve 5M
 - Smart transmitter 5M
- Q.2) a) What is the necessity of the positioner. Draw the diagram for any one valve positioner and give the details. 10M
- b) Explain the control valve characteristics with diagram. A velocity control system has a range of 200 to 480 mm/s. If the set point is 327 mm/s and the measured value is 294 mm/s, calculate the error as % of span. 10M
- Q.3) a) Give the comparison details of electrical, pneumatic and hydraulic systems. 10M
- b) Explain methods for local pressure control with diagram. 10M
- Q.4) a) Give the classification of compressors. Explain any two rotary compressors with diagram. 10M
- b) What is Transmitter? Give the classification details of transmitters. Draw and Explain a process loop with transmitter. 10M
- Q.5) a) Explain flapper nozzle system. Explain any two applications of flapper nozzle system for industrial use. 10M
- b) What is the necessity of controller tuning? Explain any two methods of controller tuning? 10M
- Q.6) a) With neat block diagram, explain the working of multichannel data acquisition system. 10M
- b) Write short note on 10M
- Actuator selection parameters
 - Double acting cylinder
