

Time: 3 hours

Total Marks: 80

- 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
- Integral controller 5M
 - Telemetry 5M
 - I-P converter 5M
 - Pneumatic logic gates 5M
- Q.2) a) Compare conventional and smart transmitters. Explain the working of DP transmitter. 10M
- b) What are the different characteristics of data loggers? Draw the block diagram of data logger and explain its working? 10M
- Q.3) a) Explain compressed air receiver unit. What are the different control strategies for air receiver unit? 10M
- b) Explain detail cylinder construction with its dynamics. 10M
- Q.4) a) What is the need of composite controller? Explain PI controller in detail. 10M
- b) Give the classification of compressors. Explain any two rotary compressors with diagram. 10M
- Q.5) a) Explain loading of valves in pump application with diagram. 10M
- b) Give the classification of control valve based on characteristic, plug design etc. 10M
- Q.6) a) Give the comparisons of electrical, hydraulic and pneumatic systems. 10M
- b) Brief the classification of hydraulic pumps. Draw neat sketches of any three hydraulic pumps and explain the working. 10M
