T.E/Sem VI/ETRX/CBSGS/A.Y.15/ND-17
RTC

Q. P. Code: 22743

Total Marks: 80 **Time: 3 Hours**

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

a) Smart transmitter 5M

b) Derivative controller 5M

c) Butterfly valve 5M

d) Data logger 5M

Q.2) a) Give the comparison details of electrical, pneumatic and hydraulic systems. 10M

b) What is proportional control? Explain it in detail. 10M

Q.3) a) Give the details of 2wire, 3wire and 4wire transmitters with suitable diagrams. 10M

b) Explain the terms rangeability and control valve sizing. A velocity control system has a range of 200 to 400 mm/s. If the set point is 325 mm/s and the measured value is 290 mm/s, calculate the error as % of span. 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) Explain methods for local pressure control with diagram. 10M

Q.6) a) What is the necessity of the positioner. Draw the diagram for any one valve positioner and give the details. 10M

b) Write short note on 10M

i) Telemetry

ii) Actuator selection parameters

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