

TE - ELX (C) - VI - AIS

CBES

2611115

QP Code : **6305**

(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) What is need of tuning of PID controller ? Explain process reaction curve method for tuning of PID controller. 10  
(b) With neat diagram, explain working of telemetry system. 10
2. (a) Explain installed and inherent characteristics of control valves. 10  
(b) Explain construction and working of single and double acting actuators. 10
3. (a) Compare conventional and smart transmitters. 10  
(b) With neat block diagram, explain the working of electrical to pneumatic converter. 10
4. (a) Explain the working of electronic DP transmitter. 10  
(b) Explain flapper-nozzle system. Explain any two applications of flapper-nozzle system for industrial use. 10
5. (a) Explain the installation procedure of control valve. 10  
(b) With neat diagram, explain the parallel form of PID controller. 10
6. (a) What is necessity of valve positioner ? Explain anyone valve positioner in detail. 10  
(b) With neat diagram, explain the instrument air system. 10

—v—