



C16-AEI-402

**6415**

**BOARD DIPLOMA EXAMINATION, (C-16)  
AUGUST/SEPTEMBER—2021  
DAEI - FOURTH SEMESTER EXAMINATION  
PROCESS CONTROL**

*Time : 3 hours ]*

*[ Total Marks : 80*

**PART—A**

3×10=30

- Instructions :** (1) Answer **all** questions.  
(2) Each question carries **three** marks.  
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. Define controlled variable.
2. List the discontinuous control modes.
3. Define proportional control mode.
4. List the characteristics of integral control mode.
5. List the different types of actuators.
6. Classify control valves.
7. State the principle of pneumatic actuator.
- \* 8. Define multivariable control system.
9. List any three applications of feedforward control system.
10. Define piping and instrumentation diagram.

\*

## PART—B

10×5=50

- Instructions :** (1) Answer *any five* questions.  
(2) Each question carries **ten** marks.  
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

11. Explain the development of automatic process control with example.
12. Explain the ultimate gain method for tuning of PID controllers.
13. Explain the PID control mode with diagram.
14. Explain the solenoid valve actuator with diagram.
15. Explain the block diagram of final control operation.
16. Explain programmed adaptive control system with block diagram.
17. Explain the block diagram of cascade control system with diagram.
18. Explain the use of letter codes for identification of instruments.

★ ★ ★

\*

\*