



C09-AEI-406

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BOARD DIPLOMA EXAMINATION, (C-09)
MARCH/APRIL—2017
DAEIE—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 and manipulated variable.

2. Define the parameters dead time and cycling.

3. Define proportional band and offset.

4. List the constructional details of control valve.

5. Give two examples of electrical actuators.

6. Mention the applications of adaptive control system.

7. Define interactive variable control system.

- * 8. Define feedback control system.
9. Draw the line diagram for control valves.
10. Write the full form of BS and DIN.

PART—B

10×5=50

Instructions : (1) Answer *any five* questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Draw the block diagram of process control and describe each element in it. 2+8=10
12. Explain the ultimate gain method of tuning of PID controller in detail. 10
13. Define integral control mode and describe the characteristics of integral control mode. 2+8=10
14. Describe the multi-position mode of controller with an example. 5+5=10
15. Explain hydraulic actuator in detail. 10
16. Explain the flow-lift characteristics of quick opening and equal percentage valves. 5+5=10
17. Explain the operation of a ratio control with a neat sketch. 2+8=10
- * 18. Explain the following standards : 5+5=10
- (a) ISI
- (b) ANSI
