



C16-AEI-402

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BOARD DIPLOMA EXAMINATION, (C-16)
SEPTEMBER/OCTOBER - 2020
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 process and process control.
 2. Define cycling in process control system.
 3. List the different continuous control modes.
 4. Define self-regulation in a process control system.
 5. Draw the diagram of sliding stem single-seat plug control valve.
 6. State the need for pressure to electric converters.
 7. State the principle of hydraulic actuator.
 8. List any three applications of adaptive control system.
 9. State the merits of cascade control system over single-loop control system.

- * 10. Draw the symbols for the following controllers :
- (a) Pressure controller
 - (b) Flow controller
 - (c) Level controller

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. (a) Draw the block diagram of a process control loop. 5
(b) Explain each element in a process control loop. 5
12. Explain two-position, multiposition and floating control modes.
13. Explain PID control mode and list its advantages and disadvantages.
14. Explain the stepper motor actuator with diagram.
15. Explain the principle of final control operation with block diagram.
16. Explain the feed forward control system with an example.
17. Explain the operation of ratio control system with a diagram.
- * 18. Explain the use of letter codes for identification of instruments.
