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BOARD DIPLOMA EXAMINATION
MARCH/APRIL - 2019
 * **DIPLOMA IN APPLIED ELECTRONICS AND INSTRUMENTATION**
PROCESS CONTROL
FOURTH SEMESTER EXAMINATION

Time: 3 Hours

Total Marks: 80

PART - A (3m x 10 = 30m)

Note 1: Answer all questions and each question carries 3 marks

2: Answers should be brief and straight to the point and shall not exceed 5 simple sentences

1. Define the term 'process'
2. List three advantages of PID controllers
3. List two characteristics of Proportional-Integral Control mode
4. List two characteristics of derivative control mode
5. Draw the diagram of Stepper motor actuator
6. State the principle of Electric to Pressure converter
7. State the principle of Hydraulic Actuator
8. Draw the diagram of Ratio control system
9. List three applications of adaptive control system
10. Draw the following line diagrams.
 - a) Electromagnetic signal.
 - b) Mechanical link.

Point of measurement

PART - B (10m x 5 = 50m)

Note 1: Answer any five questions and each carries 10 marks

2: The answers should be comprehensive and the criteria for valuation is the content but not the length of the answer

- * 11. Explain the development of automatic process control with an example
12. Explain integral control mode and List its characteristics.
13. Explain two position and multi position control modes
14. Explain the operation of butterfly control valve with diagram

15. Explain the principle of Electro Pneumatic Actuator with diagram.
16. Explain the feed forward control system with block diagram
17. Explain the self adaptive control system with model reference adaptive control using block diagram
18. Explain the following standards used in Instrumentation.
 - a) ANSI
 - b) DIN

- xxx -

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