**Total No. of Pages:** 1

Register Number: **7201**

Name of the Candidate:

# DIPLOMA EXAMINATION - 2010

## (CHEMICAL PROCESS INSTRUMENTATION AND CONTROL)

## (PAPER – III)

## 131. CHEMICAL PROCESS CONTROL

*December*) (*Time: 3 Hours*

Maximum: 100 Marks

**Answer any FIVE questions.**
**All questions carry equal marks. (5 × 20 = 100)**

1. Explain the interacting and non-interacting systems with examples.

2. Explain first order and second order system with examples.

3. Discuss the following:
   (i) ON-OFF Controller. (5)
   (ii) P-PI Controller. (5)
   (iii) PD and PID Controller. (5)
   (iv) Servo Regulator Control (5)

4. With neat sketch, describe the actual mechanism of pneumatic and electronic control systems.

5. Explain the Routh Stability Criterion for Control System.

6. Discuss the various types of controllers with the transfer function for each type.

7. Write short notes on
   (i) Control value Characteristics. (10)
   (ii) Transducers. (10)

8. Explain the methods of data acquisition and data conversion from analog to digital and vice versa.

9. With a neat block diagram, explain the DCS based control system for chemical plants.

10. Discuss the importance and usage of MAT Lab in Chemical Process Plants.

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