

SIXTH SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/
TECHNOLOGY—OCTOBER, 2013

INDUSTRIAL AUTOMATION AND MECHATRONICS

(Common for ME & TD)

[Time : 3 hours

(Maximum marks : 100)

Marks

PART—A

I Answer *all* questions in one or two sentences. Each question carries 2 marks.

1. What you mean by Open Loop Control System ?
2. What are different types of Mechatronic system ?
3. Name four performance parameter.
4. What is a stepper motor ?
5. Define ladder logic.

(5×2=10)

PART—B

II Answer *any five* questions. Each question carries 6 marks.

1. What are the advantages of mechatronic system ?
2. Explain eddy current proximity sensor.
3. Sketch and explain liquid flow sensor.
4. Explain directional control valves.
5. Explain tacho generator.
6. What is the basic principle of DC motor ?
7. What are the factors considering selection of PLC ?

(5×6=30)

PART—C

(Answer *one* full question from each unit. Each question carries 15 marks.)

UNIT – I

- III (a) Explain the components of mechatronic system. 8
- (b) Explain the advantages and disadvantages of automation. 7

OR

- IV (a) Define mechatronic. Explain measurement system. 8
- (b) Compare open loop and closed loop system. 7

UNIT – II

- V (a) Sketch and explain fluid pressure measuring devices. 8
(b) Explain an optical encoder. 7

OR

- VI (a) What are the factors that needed to be considered the selection of sensors ? 8
(b) What is proximity switch ? Explain different type with figure. 7

UNIT – III

- VII (a) Explain different type of cylinders. 8
(b) Explain different type solid state switches. 7

OR

- VIII (a) Sketch and explain process control valves. 8
(b) Sketch and explain AC motors. 7

UNIT – IV

- IX (a) Explain input/output processing. 8
(b) Explain counters. 7

OR

- X (a) Sketch and explain timer. 8
(b) Sketch and explain bathroom scales. 7
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