



Reg. No. :

Name :

**Seventh Semester B.Tech. Degree Examination, May 2014
(2008 Scheme)**

08.702 : MECHATRONICS (MPU)

Time : 3 Hours

Max. Marks : 100

PART – A

Answer **all** questions from Part – A.

1. Define the terms stability and resolution.
2. Explain a closed loop control system.
3. Differentiate between absolute and incremental encoders.
4. Explain the working of a tactile sensor.
5. Model a series connected resistor inductor circuit with output voltage V_L and input voltage V .
6. Describe a CCD camera.
7. What is brushless motor ?
8. Show the basic building block of fluid system.
9. What is harmonic drive ?
10. Describe various types of pressure control valves. **(10×4=40 Marks)**



PART – B

Answer **one full** question from **each** Module in Part – B.

Module – I

- | | | |
|--------|---|----|
| 11. a) | Explain the methods of high temperature measurement. | 10 |
| b) | Explain the working of LVDT. | 10 |
| 12. a) | Describe about resolvers and synchros. | 10 |
| b) | Describe about different methods of MEMS fabrication. | 10 |

Module – II

- | | | |
|--------|--|----|
| 13. a) | Explain about thermal and mechanical system building blocks. | 10 |
| b) | Explain the working of hydrostatic bearings. | 10 |
| 14. a) | With block diagram explain the architecture of a PLC. | 10 |
| b) | Explain ladder logic diagrams of PLC. | 10 |

Module – III

- | | | |
|--------|---|----|
| 15. a) | Explain the working of AC motor. | 8 |
| b) | Explain various image processing techniques. | 12 |
| 16. a) | Explain various types of range finders. | 8 |
| b) | Explain with neat diagram an automatic car park barrier system. | 12 |

(3×20=60 Marks)
