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1552

Reg. No. :

Name :

**Seventh Semester B.Tech. Degree Examination, May 2012
(2008 Scheme)
08.702 MECHATRONICS (MPU)**

Time : 3 Hours

Max. Marks : 100

PART – A

Answer **all** questions from Part A.

1. Define Accuracy and sensitivity.
2. Explain an open loop control system.
3. What is the difference between smart sensor and microsensor ?
4. Explain the working of a tactile sensor.
5. What is anti friction bearing ?
6. Model a series connected resistor, inductor and capacitor circuit with an output voltage V_c and input voltage V .
7. What is MOSFET ?
8. Explain the working of ultrasonic range finder.
9. Explain various types of strain gauges.
10. What is a CCD camera ?

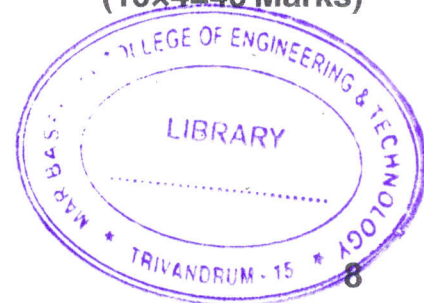
(10×4=40 Marks)

PART – B

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

Module – I

11. a) Explain the working of LVDT.
b) With a neat sketch explain hydraulic system to automate a work holding device.



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12. a) Explain the working of MEMS based accelerometer. 12
b) What are the applications of MEMS based gyroscope ? 8

Module – II

13. a) Explain about fluid and thermal system building blocks. 12
b) Describe the working of hydro dynamic bearing. 8
14. a) With a block diagram explain adaptive control of machine tools. 12
b) Explain ladder logic diagrams of PLC. 8

Module – III

15. a) Explain various image processing techniques. 10
b) Describe AC, DC and brushless motors. 10
16. a) Explain with neat diagram the construction and working of a pick and place robot. 12
b) Explain how eddy current method is used in sensing. 8

(3×20=60 Marks)

