

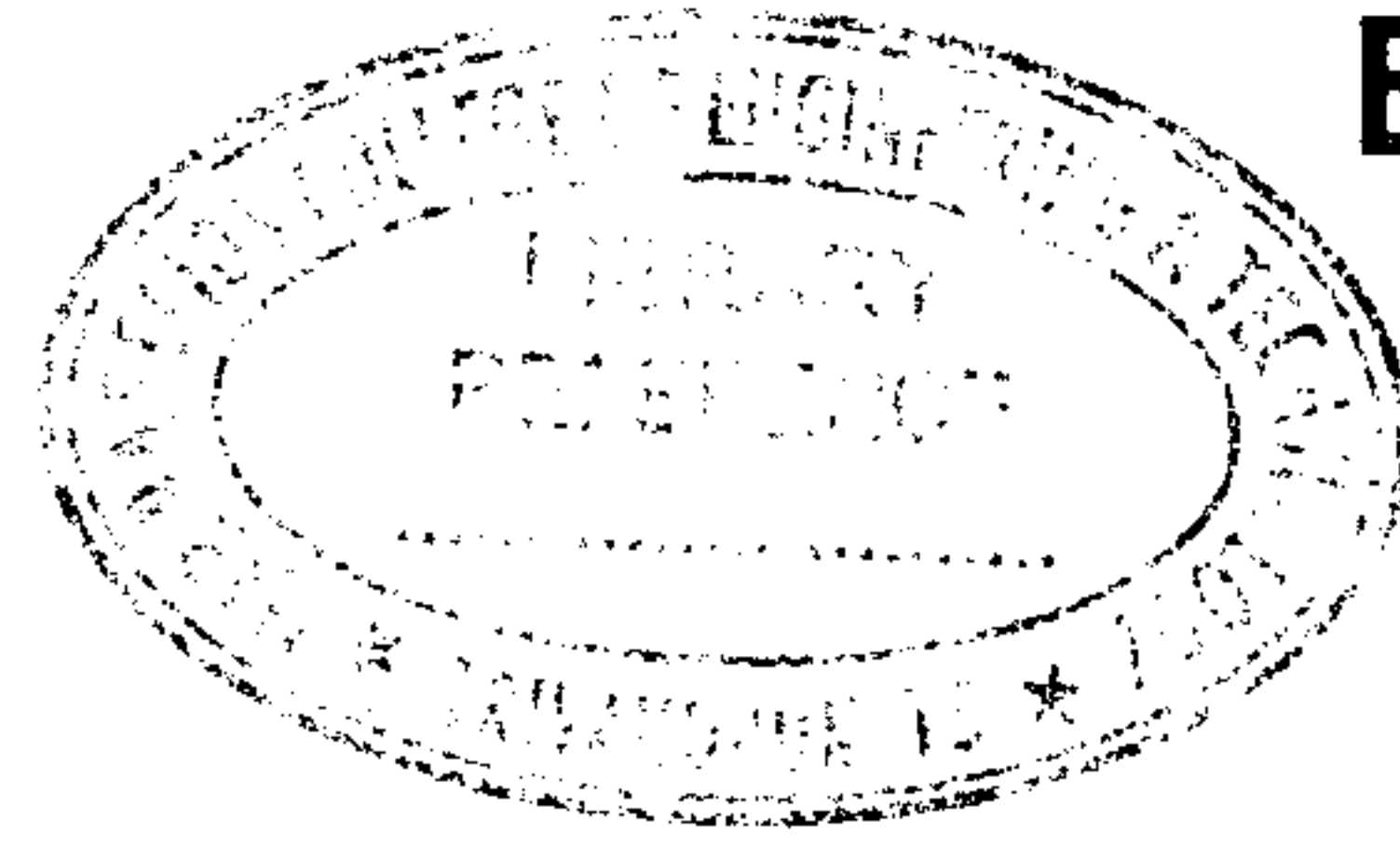


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B-5258

Reg. No. :

Name :



Seventh Semester B.Tech. Degree Examination, February 2017
(2008 Scheme)
08.702 – MECHATRONICS (MPU)

Time : 3 Hours

Max. Marks : 100

PART – A

Answer **all** questions. **All** questions carry **equal** marks.

1. Distinguish between a transducer and sensor.
2. What are the basic elements of feedback system ?
3. What do you understand by the term static and dynamic characteristics of transducers ?
4. Explain the significance of Sommer field number in distinguishing bearings.
5. Define the elements used to build fluid systems.
6. Draw the PLC ladder diagram for an AND gate.
7. List the factors to be considered while selecting a motor.
8. List any four properties of stepper motor.
9. What are the materials used to construct tactile sensors and mention their application ?
10. List the sensors and actuators used in pick and place robot systems. **(10×4=40 Marks)**

PART – B

Answer **any one** question from **each** Module.

Module – I

11. Explain the principle, construction and working of Position sensors. **20**
12. Explain in detail about Mechanical actuators for a mechatronics system. **20**

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Module – II

13. Explain the process models for the following systems.
- a) Hydraulic system 10
 - b) Pneumatic system 10
14. a) Draw the architecture of PLC with a block diagram and explain. 14
- b) Write the specifications of PLC. 6

Module – III

15. Explain construction and working principle of AC and DC motor. 20
16. Discuss in detail the mechatronic application of automatic car park barrier system.
Mention the sensors and actuators used for each control. 20

(3×20=60 Marks)
