

Exam.Code:0944
Sub. Code: 7079

(26)

1059

B.E. (Mechanical Engineering)
Eighth Semester
MEC-801: Mechatronics

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

I. Attempt the following:-

- a) What is meant by a system in mechatronics?
- b) Name the applications of Mechatronics.
- c) What are the elements of a measurement system and sketch its block diagram?
- d) Compare closed loop and open loop control system.
- e) Distinguish between a sensor and transducer.
- f) List the types of proximity sensors.
- g) State the functions of control valves.
- h) What is the use of flow control valves
- i) List down the various components of a pneumatic system
- j) Write any four factors to be considered for the selection of sensors. (10x1)

UNIT - I

- II. Using simple programs, explain the data handling operation in a PLC. (10)
- III. Explain types of controllers. What you understand from PID controller. (10)
- IV. Explain how control valves can be used as processing elements? (10)

UNIT - II

- V. How to control the speed of stepper motor with 8085 CPU & its interface? Draw a neat diagram & explain its operation. (10)
- VI. Explain open loop and closed loop control system with neat sketches. (10)
- VII. What is an engine management system? Explain briefly (10)

x-x-x