

Total No. of Pages :02

Total No. of Questions : 09

B.Tech.(ME) (2011 Onwards E-II) (Sem.-7,8)

MECHATRONICS

Subject Code :DE/ME-3.8

M.Code :72024

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.**

SECTION-A

1. Answer briefly :

- a. What is solenoid?
- b. What is the use of RTD?
- c. What is RVDT?
- d. What is Load Cell?
- e. What are the constituent elements of measurement systems?
- f. What do you mean by piezoelectric sensor?
- g. Define Mechatronics.
- h. What is Quick Exhaust Valve?
- i. Define Error.
- j. Why are pilot operated valves used?

SECTION-B

2. What is Control Engineering? What is meant by sequential control and illustrate your answer by an example?
3. Explain the working of double acting hydraulic actuator with sketch.
4. How sensors are selected for the specific use? Discuss various Temperature sensors.
5. Explain the architecture microprocessor with neat sketch.
6. What are the various types of valves used in pneumatic systems?

SECTION-C

7. Discuss any four types of commonly used transducers with neat sketch.
8. What is Operational Amplifier? Discuss various methods of using the operational amplifiers.
9. Write short notes on :
 - a. Stepper Motor
 - b. Proximity sensor

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.