Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐☐   **Total No. of Pages : 02**

Total No. of Questions : 18

B.Tech. (ME) (2012 Onwards E-II)   (Sem.–7)
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 have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

Write briefly :

1. What is measurement system?

2. What is meant by actuators?

3. Define mechanical switches.

4. Define hysteresis error.

5. Define resolution.

6. What is a stepper motor?

7. What is the use of strain gauge?

8. What is proximity sensor?

9. Give the symbol of 5/3 push button spring return valve.

10. How force is measured?

SECTION-B

11.   Explain sequential controller with suitable example.

12.   Discuss the steps of signal conditioning.

13.   What do you mean by hydraulic and pneumatic actuation systems?

14.   Give an overview of microprocessor architecture.

15.   What is the procedure of signal conditioning?

SECTION-C

16.   What is control system? What are the different types of control systems? Explain.

17.   What is difference between sensor and transducer? Discuss any three displacement sensors.

18.   Write short note on :

    a) Pulse-modulation

    b) AC motor

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.