1034

Code : **15MC43T**

Register Number : 3 1 5 M C 1 6 2 0 1

IV Semester Diploma Examination, Nov./Dec.-2018

MEASUREMENT SYSTEMS

Time : 3 Hours] [Max. Marks : 100

PART – A

Answer any **six** questions. 5 × 6 = 30

1. Define the following terms : 5
   Sensitivity, accuracy, error

2. Explain the modes of measurements with examples. 5

3. Explain piezoelectric effect. 5

4. Explain the working of Eddy current proximity sensor. 5

5. Explain the working of bimetallic strip to measure temperature. 5

6. Explain the working of photovoltaic cell. 5

7. Explain signal conditioning and its necessity. 5

8. Discuss the objectives of a DAS. 5

9. Explain briefly the working of 7-segment display. 5

PART – B

Answer any **seven** full questions.   10 × 7 = 70

10. Draw the block diagram of the representation of a generalized measurement system and point out the functions performed by each element.   10

11. How transducers are classified ? Explain.   10

12. (a) Explain the working principles of capacitive transducer.   5

     (b) Explain briefly the LVDT with neat diagram.   5

13. (a) Explain the working of tactile sensor for pressure measurement.   5

     (b) Explain the working of orifice meter for flow measurement.   5

14. (a) Explain briefly the working of fluid level measurement transducer.   5

     (b) Explain the principle of photoemissive cell.   5

15. Explain the working of Wheatstone bridge.   10

16. With neat block diagram, explain briefly analog and automated DAS.   10

17. Explain briefly the successive approximation A-D converter.   10

18. Explain the working of oscilloscopic UV Recorders.   10

19. Explain the working of LASER printers.   10