Code No: 158DP

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech IV Year II Semester Examinations, July/August - 2022
MEASURING INSTRUMENTS
(Common to EEE, CSE, IT)

Time: 3 Hours   **Max.Marks:75**

Answer any five questions
All questions carry equal marks
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1.a)   Discuss about the statistical analysis of measurement data with an example.
  b)   A 0-150V voltmeter has a guaranteed accuracy of 1 percent of full scale reading. The voltage measured by instruments is 75V. Calculate the limiting error in percent.   [8+7]

2.a)   Explain in detail about Resistance Standards.
  b)   Discuss about the different forms and methods of measurements.   [7+8]

3.a)   With a neat diagram, explain the operation of Resistive Temperature Detectors.
  b)   Describe the working of Eddy current sensors and this application.   [8+7]

4.a)   What is a Potentiometer? Describe the working of Potentiometer with a neat sketch.
  b)   Explain the working of a Differential capacitor with a neat diagram.   [8+7]

5.a)   Discuss the design of Linear Measurement Instruments in detail.
  b)   Define a comparator. Discuss the functional requirements of a comparator.   [8+7]

6.a)   Describe the measurement of Rotational Velocity with a neat diagram.
  b)   List the types of Accelerometers. Explain any one type of accelerometers in detail.[7+8]

7.a)   Define Manometer. Briefly explain about inverted U-Tube Manometers in detail?
  b)   With a neat sketch, explain the principle of Vibrating wire Force Transducer.   [8+7]

8.a)   Describe with neat sketch, the construction and working Variable area Flow meter.
  b)   With a neat diagram explain the operation of two float viscometer.   [8+7]

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