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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year I Semester Examinations, February - 2022
ELECTRONIC MEASUREMENTS AND INSTRUMENTATION
(Electronics and Communication Engineering)

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

Answer any five questions
All questions carry equal marks
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1.a) A basic D' Arsonval meter movement with an internal resistance, R_m =100Ω and a full scale current of I_m =1mA is to be converted in to a multi range D.C. voltmeter with ranges of 0-10V, 0- 50V, 0- 250V,0-500V. Determine the values of various resistances required for potential divider arrangement.
   b) Explain the principle of working of true RMS responding voltmeter with a neat sketch and outline its applications.   [6+9]

2.a) Explain the principle of working of Function Generator with a neat sketch.
   b) Compare AF and HF Signal Generators.   [7+8]

3.a) How can you measure frequency using Lissajous figures and time period method? Elaborate.
   b) Compare Analog Storage and Digital storage CROs.   [7+8]

4.a) Explain the working principle of Gyroscope and summarize its application.
   b) Explain the working of digital temperature sensing system and summarize its limitation.   [7+8]

5.a) How could you measure High pressure? Elaborate.
   b) Construct the bridge circuit to measure inductance and explain how can you measure using it and develop relation for unknown Inductance.   [6+9]

6.a) Compare shunt ohmmeter and series ohmmeter.
   b) Explain the principle and working of heterodyne wave analyzer with a neat sketch, summarize its applications.   [6+9]

7.a) Explain the block schematic of CRO with a neat sketch and summarize its applications.
   b) Describe the working principle of Piezoelectric transducers and summarize its application.   [7+8]

8.a) Develop a data acquisition system for measuring 2 parameters and explain its working.
   b) What are the dynamic characteristics of measuring instruments? Define them.   [7+8]

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