Code No: 155BC

R18

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, $R_m = 100\Omega$ 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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