Code No: 115AM

R13

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, November - 2015

ELECTRONIC MEASUREMENTS AND INSTRUMENTATION

(Electronics and Communication Engineering)

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

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks.

PART - A (25 Marks)

1.a)	Distinguish between accuracy and precision.	[2]
b)	Enumerate the salient features of a measuring system.	[3]
c)	What is Barkhausen Criteria for sustained oscillation?	[2]
d)	Draw the block diagram of spectrum analyzer.	[3]
e)	What will happen when sweep signal is applied to horizontal plates of CRO?	[2]
f)	Draw the internal structure of CRT and list its functions.	[3]
g)	What are the factors to be considered for selections of transducers?	[2]
h)	What are the applications of LVDT?	[3]
i)	Give the significance of Kelvin Bridge.	[2]
j)	Write about velocity measurement system.	[3]

PART - B (50 Marks)

2.a) Describe the Operating Principle involved in the integrating type digital voltmeter with a neat block diagram.
b) List out the advantages of Digital Voltmeter over other voltmeters. [6+4]

OR

3.a) How do you extend the range of a given ammeter and voltmeter?
b) Explain different types of errors in digital voltmeters. [5+5]

4.a) State the application of a spectrum analyzer.
b) Draw the block diagram of a distortion measuring component type meter and explain its working. [5+5]

OR

5. Discuss the following with neat block diagram.
a) Pulse wave generator
b) Square wave generator. [5+5]

6. How does the Digital storage Oscilloscope differ from the conventional storage oscilloscope using a storage cathode ray tube? What are the advantages of each? [10]

OR

7. Discuss about the electrostatic focusing deflection system of a CRO with necessary diagrams. [10]

8. What is meant by Piezo electric transducer? Explain its working with a neat block diagram. [10]

OR

9. Describe the construction and working of potentiometer type resistance transducer for measuring linear displacement. [10]

10. Draw the block diagram of analog data acquisition system and explain the function of the components. [10]

OR

11. Explain how the Humidity and Moisture are measured. [10]

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