

Code No: 115AM

R13

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech III Year I Semester Examinations, February/March - 2016

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 and may have a, b, c as sub questions.

Part- A

- 1.a) What are random errors? (25 Marks) [2]
b) Compare Moving coil with Moving iron instruments. [3]
c) What is known as duty cycle? [2]
d) Define pulse period. [3]
e) List main parts of CRT. [2]
f) What is dual trace CRO? [3]
g) What is the principal of LVDT? [2]
h) What are the different types of strain gauges? [3]
i) Define Rise time, fall time. [2]
j) Define rounding. [3]

Part-B

(50 Marks)

- 2.a) Define : (50 Marks)
i) Sensitivity
ii) Resolution
iii) Static sensitivity
iv) Absolute error.
b) Draw the block diagram of a multimeter and explain its function detail. [5+5]
- OR
- 3.a) Explain about True RMS Responding Voltmeters.
b) With neat diagram explain the construction, working, torque equation and Advantages, disadvantages of PMMC instrument. [3+7]
- 4.a) Explain about Heterodyne wave Analyzers.
b) Write about Square wave Generators. [5+5]
- OR
- 5.a) Explain about AF Signal Generators in detail.
b) Explain about Specifications of Video Signal Generators. [5+5]
6. Explain with block diagram of Sweep frequency generator. [10]
- OR
7. Write in detail about Storage Oscilloscopes with neat sketch. [10]

8.a) Explain the operation of RTD with a neat sketch.

b) Write in detail about Synchros.

[5+5]

OR

9.a) Explain about Displacement Transducers.

b) Explain in detail about Magnetostrictive Transducers.

[5+5]

10.a) With the help of circuit diagram explain the Maxwell Bridge.

b) Explain about Special Resistance Thermometers.

[5+5]

OR

11.a) Explain about Displacement Meter in detail.

b) Write in detail about Measurement of Humidity and Moisture.

[5+5]

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OR