

Code: 13A04604

B.Tech III Year II Semester (R13) Regular & Supplementary Examinations May/June 2017

ELECTRONIC MEASUREMENTS & INSTRUMENTATION

(Electronics & Communication Engineering)

Time: 3 hours

Max. Marks: 70

PART – A
(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) Compare the terms 'Accuracy and Precision'.
 - (b) Define the term Instrument and give the function of Ohm meter.
 - (c) List out the standard specifications of CRO.
 - (d) What are the various probes of CRO?
 - (e) What are the limitations of AF Oscillators?
 - (f) Give the applications of logic analyzer.
 - (g) What is the significance of Q-meter?
 - (h) What do you understand by the term 'EMC'?
 - (i) What are active transducers and give its examples?
 - (j) Give the operating principle involved in piezoelectric transducers.

PART – B
(Answer all five units, 5 X 10 = 50 Marks)**UNIT – I**

- 2 Explain in detail about the static and dynamic calibrations. Also, explain about the Lag and dynamic error.

OR

- 3 Discuss the various steps involved for multimeter for voltage, current and resistance measurements.

UNIT – II

- 4 Draw the block diagram of sampling oscilloscope and explain the operation of this oscilloscope. Also, explain how the sampling oscilloscope is different from general purpose oscilloscope.

OR

- 5 With a neat block diagram, explain the operating principles of Dual trace CRO. Also, give the significance of vertical deflection plates in a CRT.

UNIT – III

- 6 With a neat block diagram, explain the operation, advantages and limitations of Harmonic Distortion analyzer.

OR

- 7 Discuss in detail about the fixed and variable type of signal generators.

UNIT – IV

- 8 Discuss about the construction, operation and applications of Anderson Bridge, with a neat diagram.

OR

- 9 Identify the bridge used for measurement of inductance and explain the construction and operation of this bridge.

UNIT – V

- 10 With a neat diagram, explain the construction operation and applications of LVDT.

OR

- 11 Derive the expression for gauge factor of a strain gauge. Also, explain about the thermocouples.
