

**R09****Code: 9A04604**

B.Tech III Year II Semester (R09) Supplementary Examinations December/January 2015/2016

**ELECTRONIC MEASUREMENTS & INSTRUMENTATION**

(Electronics Communication and Engineering)

Time: 3 hours

Max Marks: 70

Answer any FIVE questions  
All questions carry equal marks

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- 1 (a) Differentiate static and dynamic characteristics.  
(b) Define calibration. What are the different steps involved in calibration procedure? What is meant by calibration record?
- 2 (a) List the advantages and disadvantages of sweep generator.  
(b) Explain the arbitrary wave form generator.
- 3 (a) State different types of harmonic distortion analyzer.  
(b) State with a diagram, the suppression method of a harmonic distortion analyzer.
- 4 (a) Explain the basic principle of an oscilloscope.  
(b) What is the use of post deflection acceleration?
- 5 (a) Explain the following features of an analog type storage oscilloscope:  
(i) Bistable persistence storage.  
(ii) Bistable storage.  
(iii) Fast storage.  
(b) Discuss in detail the delayed sweep.
- 6 (a) A Maxwell bridge is used to measure inductive impedance at a frequency of 3 kHz. The bridge constants at balance are arm 1: a capacitor of value  $0.02 \mu\text{F}$  in shunt with  $390 \text{ kohm}$ ; arm 3 opposite to the arm 1 is having the unknown component; the other arms have each  $18 \text{ kohm}$  resistor. Find the equivalent series circuit of the unknown impedance. What is the value of the quality factor?  
(b) What is the usual procedure for balancing the Maxwell bridge? What is the necessity for following such a procedure? Explain with the circuit diagram.
- 7 (a) What parameters should be considered in selecting a transducer?  
(b) Define active transducer and passive transducer. Give the examples for each.
- 8 (a) Discuss the organization of PC memory.  
(b) Give the various signal standards for RS-232 as given by IEEE.

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