Code: 9A04604

R9

B.Tech IV Year I Semester (R09) Supplementary Examinations, May 2013

ELECTRONIC MEASUREMENTS AND INSTRUMENTATION

(Electronics and Computer Engineering)

Time: 3 hours Max Marks: 70

Answer any FIVE questions

All questions carry equal marks

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1 (a) Define: (i) Resolution. (ii) Threshold.
(iii) Linearity. (iv) Zero drift.
(b) List the advantages of an electronic measurement.

2 (a) Explain the random noise generator with the help of a block diagram.
(b) Draw the frequency response of noise and explain.

3 (a) What are measured using wave analyzers?
(b) Explain with the help of neat block diagram, the operation of an AF wave analyzer.

4 (a) Explain with the help of a neat sketch, the various voltages applied to CRT electrodes.
(b) With a neat sketch explain the block diagram of the vertical amplifier.

5 (a) What is the need for time base generator?
(b) With help of circuit diagram explain the working of triggered sweep generator.

6 (a) Discuss the problems associated in AC bridges if used for measurement at very high frequencies.
(b) A Hay bridge is used to measure inductive impedance. The bridge constants at balance are C_1 = 0.1μF, R_1= 20 KΩ, R_2 = 5 KΩ, R_3 = 2 KΩ and W = 3000 rad/s. Calculate R_X, L_X.

7 (a) Write applications of thermistor.
(b) State different elements used as a sensor in RTD. Explain each in brief.

8 Explain the RS-232 standards for communication with neat diagram. Also give the limitations with this standard.

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