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IC–603

B. TECH.

SIXTH SEMESTER EXAMINATION, 2003-2004

ELECTRONICS MEASUREMENT & INSTRUMENTATION

Time : 2 Hours *Total Marks : 50*

Note : Attempt **ALL** questions.

1. Attempt any *FOUR* parts of the following :— **(4×4=16)**

(a) Explain the working of Carey-Foster slide wire bridge.

(b) Discuss the circuit diagram and phasor diagram of Hay's bridge. Derive the equations at balance of Hay's bridge.

(c) Explain the factors causing errors in a.c. bridge circuits. Discuss the precautions and techniques used for reducing errors in a.c. bridges.

(d) Describe various types of errors in instruments.

(e) Write a short note on Storage-type Oscilloscope.

(f) Discuss, briefly, the basic block diagram of Cathode Ray Oscilloscope. Describe horizontal deflection system in CRO.

2. Attempt any *FOUR* parts of the following :— **(4×4=16)**

(a) Describe AC voltmeter using rectifier with diagram.

(b) Discuss, briefly, electronic multimeter.

(c) Explain vector impedance-meter with the help of block diagram.

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(d) Write a short note on True RMS reading voltmeter.

(e) Describe the working principle of Q-meter.

(f) Discuss the circuit for measurement of power at radio frequencies.

3. Attempt any *TWO* parts of the following :— **(4·5×2=9)**

(a) Write a short note on the working of harmonic distortion-meter.

(b) With the help of block diagram, explain spectrum analyser.

(c) Describe Heterodyne wave-analyser with diagram.

4. Attempt any *TWO* parts of the following :— **(4·5×2=9)**

(a) Explain digital energy-meter with diagram.

(b) Describe, briefly, digital frequency-meter with diagram.

(c) Write a short note on Time Interval Measurement.