

GUJARAT TECHNOLOGICAL UNIVERSITY
B. E. - SEMESTER – VI • EXAMINATION – WINTER 2012

Subject code: 160905**Date: 07/01/2013****Subject Name: Electrical & Electronics Measurement****Time: 02.30 pm - 05.00 pm****Total Marks: 70****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a)** Explain the following terms. **07**
1. Accuracy 2. Precision 3. Resolution 4. Sensitivity
- (b)** Explain Maxwell's Bridge for measurement of self-inductance. **07**
- Q.2 (a)** Usages of Wein's Bridge and derive the expression of frequency in terms of its parameters. **07**
- (b)** Usages of De Sauty's Bridge and derive the equation for the same. **07**
- OR**
- (b)** Derive the equation of capacitance and dissipation factor according to the working of Schering Bridge. **07**
- Q.3 (a)** Principle and working of Digital LCR meter **07**
- (b)** Kelvin's double bridge, explain its working with diagram. **07**
- OR**
- Q.3 (a)** Explain Anderson's Bridge. **07**
- (b)** Measurement of earth resistance, describe methods with diagram. **07**
- Q.4 (a)** Describe the Varley loop test. **07**
- (b)** Explain construction and working of flux meter. **07**
- OR**
- Q.4 (a)** Derive equation for ratio and phase angle error of a potential transformer. **07**
- (b)** What are the problems with measurement of high resistance? Derive equation for measurement of insulation resistance. **07**
- Q.5 (a)** Explain Heterodyne wave analyzer with necessary block dia. **07**
- (b)** Explain construction and working of current transformer. **07**
- OR**
- Q.5 (a)** Which methods are used for measurement of low resistance, explain any one. **07**
- (b)** Describe the method for determination of B-H curve of magnetic material. **07**
