

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI • EXAMINATION – WINTER 2013****Subject Code: 160905****Date: 04-12-2013****Subject Name: Electrical and Electronic Measurement****Time: 02:30 pm to 05:00 pm****Total Marks: 70****Instructions:**

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

- Q.1** (a) Describe sources and null detector used in A.C. bridge. **07**
(b) Explain Campbell's bridge. **07**
- Q.2** (a) Describe working of low voltage Schering bridge. Derive equation of capacitance and dissipation factor. **07**
(b) Explain Anderson's bridge with vector diagram. **07**
- OR**
- (b) Describe method of measurement of earth resistance with neat sketch. **07**
- Q.3** (a) Usages of Wein's Bridge and derive the expression of frequency in terms of its parameters. **07**
(b) Derive equation for ratio and phase angle error of a potential transformer. **07**
- OR**
- Q.3** (a) Which methods are used for measurement of low resistance, Explain any one. **07**
(b) State the methods for measurement of high resistance and Explain the construction and working of meggar. **07**
- Q.4** (a) Discuss principle and working of digital LCR meter. **07**
(b) Explain the construction and operation of flux meter. **07**
- OR**
- Q.4** (a) Explain construction and working of current transformer. **07**
(b) Explain Murray loop test for location cable fault. **07**
- Q.5** (a) Explain Heterodyne wave analyzer with necessary block diagram. **07**
(b) Describe the method for determination of B-H curve of magnetic material. **07**
- OR**
- Q.5** (a) Describe the varley loop test for localization of ground and short circuit fault in cables. **07**
(b) Explain frequency selective wave analyzer with block diagram. **07**
