

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE- VI<sup>th</sup> SEMESTER-EXAMINATION – MAY- 2012****Subject code: 160905****Date: 19/05/2012****Subject Name: Electrical and Electronic Measurement****Time: 10:30 am – 01:00 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) Give classification of errors in detail and explain their remedies in brief. **07**  
(b) Explain following term **07**  
1 Accuracy 2. Precision. 3 Sensitivity 4 Resolution
- Q.2** (a) Explain Maxwell's inductance capacitance bridge with connection diagram and phasor diagram also state balance condition for the same **07**  
(b) Describe sources and null detector used in a.c. bridge **07**  
**OR**  
(b) Describe working of low voltage Schering bridge. Derive equation of capacitance and dissipation factor **07**
- Q.3** (a) Explain Wheastone Bridge method for measurement of resistance **07**  
(b) Describe Kelvin's double Bridge with neat diagram **07**  
**OR**
- Q.3** (a) Discuss difficulties observed in measurement of high resistance **07**  
(b) Describe method of measurement of earth resistance with neat sketch **07**
- Q.4** (a) Explain method for measurement of flux density **07**  
(b) Discuss principle and working of digital LCR meter **07**  
**OR**
- Q.4** (a) Explain construction of current transformer **07**  
(b) Discuss effect of change in burden and power factor on the ratio and phase angle of CTs **07**
- Q.5** (a) Short note on determination of B-H curve **07**  
(b) Explain Murray loop test for location cable fault **07**  
**OR**
- Q.5** (a) Explain harmonic distortion analyzer **07**  
(b) Describe application of instrumentation amplifier **07**

\*\*\*\*\*