

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VI (OLD) EXAMINATION – WINTER 2018****Subject Code:160905****Date: 20/11/2018****Subject Name: Electrical & 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) Explain Anderson's bridge with vector diagram. **07**
(b) Explain the following terms, **07**
1. Sensitivity 2. Accuracy 3. Drift 4. Precision
5. Linearity 6. Resolution 7. Stability
- Q.2** (a) Give classification of errors in detail. **07**
(b) Explain Hay's Bridge for measurement of self-inductance. **07**
- OR**
- (b) Derive the equation of unknown resistance of Kelvin's double bridge under balanced condition. **07**
- Q.3** (a) Write short note on Megger. **07**
(b) Explain Schering Bridge with diagram. **07**
- OR**
- Q.3** (a) Usages of Wein's Bridge and derive the expression of frequency in terms of its Parameters. **07**
(b) What are the different difficulties encountered in the measurement of high resistance? Explain how these difficulties are over come. **07**
- Q.4** (a) Explain the working of CT with neat circuit diagram and phasor diagram. **07**
(b) Explain the working of Crompton's potentiometer. **07**
- OR**
- Q.4** (a) Explain Murray loop test to determine the location of cable fault. **07**
(b) Why instrument transformer is required? justify the statement "Never open secondary winding circuit of a current transformer while its primary winding is energized". **07**
- Q.5** (a) Explain harmonic distortion analyzer. **07**
(b) Describe the method of determination of B-H curve of a magnetic material using method of reversals. **07**
- OR**
- Q.5** (a) Derive equation for ratio and phase angle error of a potential transformer. **07**
(b) Explain frequency selective wave analyzer with block diagram. **07**
