

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III • EXAMINATION – WINTER • 2014

Subject Code: 2130903

Date: 18-12-2014

Subject Name: Electrical Measurements and Measuring Instruments

Time: 02.30 pm - 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) Define and explain: (1)Accuracy (2) Precision **07**
(b) State different errors in measurement and explain any three. **07**
- Q.2** (a) Draw neat sketch of single phase electrodynamicometer type power factor meter. **07**
Explain its working.
(b) Explain two wattmeter method used to measure power of a 3-phase balanced load. **07**
- OR**
- (b) Explain working of Kelvin's double bridge for measurement of low resistance with neat diagram. **07**
- Q.3** (a) Explain measurement of inductance with the help of Hay's Bridge. Write advantages and disadvantages of Hay's Bridge. **07**
(b) Explain the working of digital volt meter with schematic block diagram. **07**
- OR**
- Q.3** (a) Describe the working of a digital frequency meter with schematic block diagram. **07**
(b) Define transducer and classify transducers on different basis. **07**
- Q.4** (a) Describe the construction and working of L.V.D.T. with neat sketches. Draw its output characteristics. State advantages and disadvantages of it. **07**
(b) Explain AC tachometer generator with neat diagram and write limitations of it. **07**
- OR**
- Q.4** (a) State different types of torque measurement techniques and explain any one in brief. **07**
(b) Explain the principle of operation and construction of RTD . **07**
- Q.5** (a) What is Hall effect? Describe the construction, working principle of Hall effect Transducers and write its applications. **07**
(b) State different pressure measurement techniques. Explain any one in detail. **07**
- OR**
- Q.5** (a) Describe how to make extension of range of voltmeter and ammeter. **07**
(b) Describe digital storage oscilloscope with schematic block diagram and state its applications. **07**
