

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. Explain its working. 07
(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
