

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III • EXAMINATION – SUMMER • 2014

Subject Code: 130903

Date: 23-05-2014

Subject Name: Electrical and Electronics 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: (i) Accuracy (ii) Precision (iii) Sensitivity (iv) Resolution **07**
(b) Explain the classification of measuring instruments on the basis of operating principle. **07**
- Q.2** (a) Explain the construction and working of PMMC instrument. **07**
(b) Explain deflecting, controlling and damping torques of indicating instruments. **07**
- OR**
- (b) Explain the D'Arsonval galvanometer. **07**
- Q.3** (a) Discuss the classification of analog instruments. **07**
(b) Discuss the comparison between moving iron and moving coil instrument. **07**
- OR**
- Q.3** (a) Discuss the methods by which range of ammeter and voltmeter can be extended. **07**
(b) Explain the induction type energy meter. **07**
- Q.4** (a) Explain the methods to measure 3-phase power in 3-phase ac circuits. **07**
(b) Differentiate AC and DC potentiometers. **07**
- OR**
- Q.4** (a) Explain the electrodynamic type wattmeter. **07**
(b) Explain the digital tachometer. **07**
- Q.5** (a) Explain construction and working of a maximum demand indicator. **07**
(b) What are the types of frequency meters? Explain any one in detail. **07**
- OR**
- Q.5** (a) What are the types of electronics instruments? Explain electronic voltmeter. **07**
(b) What is an error? Discuss the types of errors. Explain the causes of various types of errors. **07**
