

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III (OLD) EXAMINATION – WINTER 2018****Subject Code:130903****Date:10/12/2018****Subject Name:Electrical And Electronics Measuring Instruments****Time:10:30 AM TO 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) Define the terms.1.Accuracy 2.Precision 3.Sensitivity 4.Resolution **07**
(b) Discuss Extension of range of instruments. **07**
- Q.2** (a) Explain construction working of D'Arsonval galvanometer. Also derive its torque equation **07**
(b) Explain voltage standards. **07**
- OR**
- (b) Discuss the classification of analog instruments. **07**
- Q.3** (a) With a neat diagram explain 1).construction 2).working, 3).torque equation and 4). Advantages and disadvantages of a PMMC instruments. **07**
(b) Compare moving coil and moving iron instruments. **07**
- OR**
- Q.3** (a) Explain the construction of multi range ammeter. **07**
(b) Explain construction and working principle of thermocouple instruments. **07**
- Q.4** (a) Explain the construction and working principle of single phase induction type energy meter. **07**
(b) Explain the two watt-meter method for 3-phase power measurement for balanced load. **07**
- OR**
- Q.4** (a) Explain the need of measuring phase sequence and also explain types of phase sequence indicator. **07**
(b) Discuss applications of DC potentiometer. **07**
- Q.5** (a) Write a short note on digital tachometer **07**
(b) Explain with a neat diagram working of a Synchroscope **07**
- OR**
- Q.5** (a) Explain the circuit diagram and operation of an Electronic Voltmeter using a differential amplifier **07**
(b) Explain the principle of operation of a power factor meter. **07**
