

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III(OLD) • EXAMINATION – WINTER 2016

Subject Code:130903

Date:11/01/2017

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) Explain the classification of measuring instruments on the basis of operating principle. **07**
- (b) Define and explain: (i) Precision (ii) Accuracy (iii) Sensitivity (iv) Resolution (v) Drift **07**
- Q.2** (a) Explain various methods of providing damping torque in indicating instruments. **07**
- (b) Explain construction working of D'Arsonval galvanometer. Also derive its torque equation. **07**
- OR**
- (b) Explain two wattmeter method used to measure power of a 3-phase balanced load. **07**
- Q.3** (a) Describe construction and working of an electro-dynamometer type instrument. **07**
- (b) Describe use multiplier in case of voltmeter. State disadvantages of Multiplier. **07**
- OR**
- Q.3** (a) Describe with a circuit diagram operation of an electronic voltmeter used in differential amplifier. **07**
- (b) Explain working principle and use of analog tachometer. **07**
- Q.4** (a) Describe the construction and operation of co-ordinate type Gall Tinsley a. c. Potentiometer. **07**
- (b) Describe the constructional detail of single phase induction type energy meter. **07**
- OR**
- Q.4** (a) Explain working principle of Slide wire D.C. potentiometer. Also explain how it is standardized. **07**
- (b) Discuss sources of error in single phase induction type energy meter. **07**
- Q.5** (a) Explain the voltage standards. **07**
- (b) Explain construction and working of a maximum demand indicator. **07**
- OR**
- Q.5** (a) Explain resistance standards. **07**
- (b) Write a short note on single phase electro-dynamometer type power factor meter. **07**
