

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 electrodynamicometer 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 electrodynamicometer type power factor meter. **07**
