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 electrodynamometer 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 electrodynamometer type power factor meter.	**07**

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