Seat No.: _____ Enrolment No._____

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'Arsonaval 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 electrodynamometer 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**

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