Seat No.: _____ Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– III(OLD) EXAMINATION – SUMMER 2019

Subject Code: 130903 Date: 18/06/2019

Subject Name: Electrical And Electronics Measuring Instruments

Time: 02:30 PM TO 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) Precision (ii) Accuracy (iii) Sensitivity (iv) Resolution (v) Drift (vi) Repeatability (vii) Error.	**07**
	(b)	Explain the voltage standards.	**07**
Q.2	**(a)**	Describe the construction and working of PMMC instrument.	**07**
	(b)	Differentiate between spring control and gravity control methods used to produce the controlling torque.	**07**
		OR	
	(b)	Explain construction working of D'Arsonval galvanometer. Also derive its torque equation.	**07**
Q.3	**(a)**	Discuss the methods by which range of ammeter and voltmeter can be extended.	**07**
	(b)	Give brief note on digital tachometer.	**07**
		OR	
Q.3	**(a)**	Sketch and explain the construction and working of attracted disc type Kelvin absolute electrometer.	**07**
	(b)	Explain the various factors which are taken in to consideration while selecting an electronic type analog voltmeter.	**07**
Q.4	**(a)**	Explain the electrodynamometer type wattmeter.	**07**
	(b)	Draw the circuit diagram of a Crompton's Potentiometer & explain its working. Describe the steps used when measuring an unknown resistance.	**07**
		OR	
Q.4	**(a)**	Differentiate AC and DC potentiometers.	**07**
	(b)	Describe the constructional detail of single phase induction type energy meter.	**07**
Q.5	**(a)**	Write a short note on Weston frequency meter.	**07**
	(b)	Discuss the types of errors. Explain the causes of various types of errors.	**07**
		OR	
Q.5	**(a)**	Write a short note on single phase electrodynamometer type power factor meter.	**07**
	(b)	Explain construction and working of a maximum demand indicator.	**07**

****