Seat No.: _____ **Enrolment No._____**

GUJARAT TECHNOLOGICAL UNIVERSITY

ME Semester –II Examination Dec. - 2011

Subject code: 1720310 **Date: 19/12/2011**
Subject Name: Industrial Measurements
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)**	What are the different types of the static errors? Explain each of them.	**07**
	(b)	Explain the construction & working of ultrasonic thermometers.	**07**
Q.2	**(a)**	Explain in line rotating torque sensor.	**07**
	(b)	Explain with neat sketch the working of a laser diameter gauge.	**07**
		OR	
	(b)	Explain the strain gauge & derive expression for gauge factor.	**07**
Q.3	**(a)**	With a neat sketch, explain the construction & working of a magnetic method of density measurement.	**07**
	(b)	What are the different types of direct methods of liquid level measurement? Explain with neat sketch any one of them.	**07**
		OR	
Q.3	**(a)**	List the different types of manometer. Explain any one of them with sketch.	**07**
	(b)	Explain working principle of variable head flow meter.	**07**
Q.4	**(a)**	Explain the neat sketch the construction & working of Rotameter.	**07**
	(b)	What is thermistor? Explain, with neat sketch, the construction & working of thermistors.	**07**
		OR	
Q.4	**(a)**	Explain the construction & working of LVDT with neat sketch.	**07**
	(b)	Explain the working principle of capillary viscometer with neat sketch.	**07**
Q.5	**(a)**	Name different types of expansion thermometers. Explain with neat sketch any one of them.	**07**
	(b)	Describe with block diagram, what is meant by an automatic control system & explain the function of each unit of the system.	**07**
		OR	
Q.5	**(a)**	Explain the construction & working of Radiation pyrometer.	**07**
	(b)	Explain Mcleod gauge for vacuum measurement.	**07**

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