Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

M.E –IIst SEMESTER–EXAMINATION – JULY- 2012

Subject code: 1720310 **Date: 14/07/2012**

Subject Name: Industrial Measurements

Time: 10:30 am – 13:00 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 reference electrode for PH measurement with neat sketch.	**07**
	(b)	Explain gas density measurement scheme with neat sketch.	**07**
Q.2	**(a)**	Explain laser diameter gauge with neat sketch.	**07**
	(b)	Explain torque measurement scheme with neat diagram.	**07**
		OR	
	(b)	Explain the working of air purge system for level measurement.	**07**
Q.3	**(a)**	Explain principle and working of Ultrasonic level detector for level measurement of solid materials in detail.	**07**
	(b)	Explain principle, working, construction and merits of mass flow meter with neat diagram.	**07**
		OR	
Q.3	**(a)**	Explain principle, working and merits of pitot tube flow meter with neat diagram.	**07**
	(b)	Explain principle, working, construction and merits of rotameter with neat diagram.	**07**
Q.4	**(a)**	Compare different types of manometers for their merits, principle, applications.	**07**
	(b)	Explain construction, working and application of pirani gauge for vacuum measurement.	**07**
		OR	
Q.4	**(a)**	Give the classification of transducers in detail.	**07**
Q.4	**(b)**	Explain working and principle of strip chart recorder.	**07**
Q.5	**(a)**	Explain principle and working of optical pyrometer with neat sketch.	**07**
	(b)	Give classification of thermometers with their application, range and merits as well as limitations.	**07**
		OR	
Q.5	**(a)**	Explain principle, working, construction and merits of any one quantity flow metre with neat diagram.	**07**
	(b)	Explain principle, working, and merits of hydrostatic pressure type level measurement with neat diagram.	**07**

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