Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–V(New) • EXAMINATION – WINTER 2016

Subject Code:2151706 **Date:22/11/2016**

Subject Name:Industrial Measurement II

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.**

			MARKS
Q.1		**Give explanation about following terms.**	**14**
	1	Conductivity	
	2	Viscosity	
	3	Bouncy force	
	4	Relative Humidity	
	5	Strain	
	6	Turbidity	
	7	P_H	
	8	Electromagnetic Spectrum	
	9	Sensitivity	
	10	Mono-chromators	
	11	Dew-point	
	12	ORP	
	13	Polarography	
	14	Beer Lambert's Law	
Q.2	**(a)**	Explain Hydrometer in detail with sketch.	**03**
	(b)	Explain pneumatic transducer for displacement measurement.	**04**
	(c)	Explain with sketch Working principle of Strain Gauge. List Different type and their application.	**07**
		OR	
	(c)	List different type of load cell. Explain the working principle of Load Cell with sketch.	**07**
Q.3	**(a)**	Explain with sketch about accelerometer.	**03**
	(b)	Explain in detail with neat sketch about Oswald Viscometer.	**04**
	(c)	Explain in detail with sketch about LVDT and its application.	**07**
		OR	
Q.3	**(a)**	Explain with sketch about Flapper Nozzle arrangement.	**03**
	(b)	Explain with neat sketch about Tachometer for speed measurement.	**04**
	(c)	Explain working principle of Flame Photometer.	**07**
Q.4	**(a)**	Explain with sketch About Ultrasonic sensor for displacement measurement.	**03**
	(b)	Explain with sketch about Proximity sensor.	**04**
	(c)	Explain principle, working and construction of Wet and Dry bulb Hygrometer for Humidity measurement.	**07**
		OR	
Q.4	**(a)**	Explain Sample Handling system with sketch.	**03**
	(b)	Write a short notes on X ray Spectroscopy.	**04**
	(c)	Explain with sketch about Gas Chromatograph. Discuss role of different components of GC. Explain any one	**07**

detector in Gas Chromatograph.

Q.5	**(a)**	Explain with sketch NMR Spectroscopy.	**03**
	(b)	Explain working principle of Atomic absorption spectrometer.	**04**
	(c)	Explain with suitable Ray diagram about UV-VIS Spectro Photometer.	**07**

OR

Q.5	**(a)**	Explain with sketch about Oxygen Analyzer.	**03**
	(b)	Explain with Ray Diagram about IR spectrophotometer	**04**
	(c)	Explain working principle of Mass Spectrometer. Explain with sketch about any one type of Mass spectrometer.	**07**

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