Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC– SEMESTER VII– • EXAMINATION – SUMMER - 2016

Subject Code: X70903 **Date:18/11/ 2016**

Subject Name: Industrial Instrumentation

Time:10:30 AM to 1:00 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 Transducer. State and explain its static and dynamic characteristics in brief.	**07**
	(b)	Write a short note on modern digital data acquisition system.	**07**
Q.2	**(a)**	Define gauge factor and derive its equation.	**07**
	(b)	Enlist various types of Orifice plate and explain any one in detail.	**07**
		OR	
	(b)	Explain construction and working of Rotameter. State its advantages and disadvantages.	**07**
Q.3	**(a)**	List out the types of potentiometers and explain any one of them in brief.	**07**
	(b)	Explain in detail about air purge method used in level measurement.	**07**
		OR	
Q.3	**(a)**	Explain any one analog and one digital transducer for angular displacement.	**07**
	(b)	State different methods used for Torque measurement. Explain any one in detail.	**07**
Q.4	**(a)**	State different type of Load cell used for force measurement. Explain any one in detail.	**07**
	(b)	Enlist the types of temperature sensors and explain any one in detail.	**07**
		OR	
Q.4	**(a)**	Write a short note on Pyrometer.	**07**
	(b)	What is sample and hold circuit? Why it is needed? Explain sample and hold circuit with a neat diagram.	**07**
Q.5	**(a)**	Explain principle of operation and construction of McLeod gauge.	**07**
	(b)	Write a short note on XY recorder.	**07**
		OR	
Q.5	**(a)**	Explain construction and working of Pirani gauge.	**07**
	(b)	Write different temperature compensation techniques used with strain gauge. Explain any one of the methods in detail.	**07**

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