Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–V • EXAMINATION – SUMMER • 2014

Subject Code: 151702 **Date: 19-06-2014**

Subject Name: Sensors and Signal Conditioning

Time: 10.30 am - 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.**

Q.1	**(a)**	Explain piezoelectric transducer in detail.	**07**
	(b)	Explain eddy current type inductive transducer in detail.	**07**
Q.2	**(a)**	Explain capacitive moisture transducer in detail.	**07**
	(b)	Explain digital tachometer in detail.	**07**
		OR	
	(b)	Explain reference electrode for PH measurement with neat sketch.	**07**
Q.3	**(a)**	Give the detailed classification of transducers.	**07**
	(b)	Give the difference between periodic and aperiodic signals	**07**
		OR	
Q.3	**(a)**	Give the classification of signals in short.	**07**
	(b)	Explain the measurement of phase angle with neat sketch.	**07**
Q.4	**(a)**	Explain operational amplifier in short.	**07**
	(b)	Explain resistive moisture transducer in detail.	**07**
		OR	
Q.4	**(a)**	Explain crystal oscillator with neat sketch.	**07**
	(b)	Explain Op-amp based V to F converter with neat sketch.	**07**
Q.5	**(a)**	Explain data loggers in detail.	**07**
	(b)	Explain Schmitt trigger in detail.	**07**
		OR	
Q.5	**(a)**	Explain photoconductive transducer in detail.	**07**
	(b)	Explain hall effect transducer in detail.	**07**

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