Seat No.: _____   www.FirstRanker.com   Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER–V (OLD) EXAMINATION – WINTER 2018

Subject Code:151702   **Date: 16/11/2018**
Subject Name: Sensors And Signal Conditioning
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.**

Q.1	**(a)**	Enumerate the various test signals, its waveform and mathematical representation.	**07**
	(b)	Defines terms 1) Fidelity 2) Span 3) Laplace transform 4) Bandwidth 5) Gross error 6) PCM 7) Reproducibility	**07**
Q.2	**(a)**	Explain in detail- Photo emissive transducers	**07**
	(b)	Explain in detail- Foster Seely Detector	**07**
		OR	
	(b)	Explain the operation of electromagnetic flow meter	**07**
Q.3	**(a)**	Explain in detail capacitive level transducer	**07**
	(b)	Explain – DC power supplies	**07**
		OR	
Q.3	**(a)**	Define Calibration and explain the Process of Calibration	**07**
	(b)	Explain operational amplifier in short.	**07**
Q.4	**(a)**	Explain Schmitt trigger in detail	**07**
	(b)	Explain hall effect transducer in detail.	**07**
		OR	
Q.4	**(a)**	Draw functional block diagram of Measurement System and describe each Component in detail.	**07**
	(b)	Explain the operations of 'multiplexing' and 'demultiplexing' and indicate their application in instrumentation.	**07**
Q.5	**(a)**	Explain: (1) Peltier Effect (2) Thompson effect (3) See beck effect (4) Law of intermediate metals (5) Law of intermediate temperature	**07**
	(b)	What is pH? Explain different types of pH electrodes in detail.	**07**
		OR	
Q.5	**(a)**	Give the difference between periodic and aperiodic signals	**07**
	(b)	Give the detailed classification of transducers	**07**

****

1