Seat No.:	Enrolment No

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER- II(New course) • EXAMINATION (Remedial) - WINTER- 2015

Subject Code: 2724114			Date: 10/12/2015	
Tir	•	Name: Sensor Signal Processing 30 pm to 5:00 pm Total Marks:	70	
	1.	Attempt all questions.		
Q.1	(a) (b)	Give the names of two displacement sensors. Draw their characteristics. What is a thermister? Give one application of it.	07 07	
Q.2	(a) (b)	Draw the block diagram of object counting system. What is PWM circuit? Where can it be used? OR	07 07	
	(b)	How does IC based sensor and conventional sensor differ?	07	
Q.3	(a)	Draw the op-amp based inverting amplifier circuit to amplify temperature sensor output.	07	
	(b)	Draw the op-amp based difference amplifier circuit. Give one application of the same.	07	
		OR		
Q.3	(a)	What is a Resistance Temperature Detector ? Show the processing circuit for the same.	07	
	(b)	Give the name of two level sensors. Show their characteristics.	07	
Q.4	(a) (b)	Explain about capacitive touch sensor with one application. In order to detect the tilt of object which sensor can be used? Explain the application.	07 07	
		OR		
Q.4	(a) (b)	Explain about op-amp based differentiator circuit with application. Explain about op-amp based integrator circuit with application.	07 07	
Q.5	(a)	Draw and explain one circuit which converts given signal in to square wave signal.	07	
	(b)	Explain about any one controller for processing of touch based sensor. OR	07	
Q.5	(a) (b)	Explain about any one controller for processing motion sensor signal. State and explain with block diagram speed and position sensing of motor shaft.	07 07	
