Seat No.:	

Subject Code: 162401

Date: 26/10/2016

GUJARAT TECHNOLOGICAL UNIVERSITY BE – SEMESTER – VI (OLD).EXAMINATION – WINTER 2016

•		Name: Industrial Instrumentation	
Time Instru	-	0:30 AM to 01:00 PM Total Marks: 70	
msuu		Attempt all questions.	
	2.	Make suitable assumptions wherever necessary.	
	3.	Figures to the right indicate full marks.	
Q.1	(a)	Explain Ultrasonic Flow Meter. Enlist its advantages and disadvantages.	07
	(b)	Derive the equation of the gauge factor for the resistance strain gauge.	07
Q.2	(a)	Explain the construction and working of LVDT. List advantages of LVDT.	07
	(b)	Explain electrical and mechanical characterization of transducers.	07
	. ,	OR	
	(b)	Explain the construction and working of Capacitive transducer for displacement	07
		measurement.	
Q.3	(a)	Explain the construction and working of Resistance thermometer. List advantages	07
•	` '	and disadvantages of RTD.	
	(b)		07
		OR	
Q.3	(a)	Explain the pyroelectric thermal sensors for temperature measurement.	07
	(b)	Explain the working principle and construction of Hall effect sensors.	07
Q.4	(a)	Explain the construction, working and characteristics of Photovoltaic cell.	07
	(b)		07
	()	OR	
0.4	(a)	Explain the fiber optic liquid level sensing in detail.	07
Ψ	(b)		07
	(~)		0,
Q.5	(a)	Explain the data communication in smart transducers.	07
	(b)	Explain the oxygen sensors in detail.	07
	. ,	OR	
Q.5	(a)	Explain the thin film sensors in detail.	07
=.	(b)	Explain the static pressure sensor in detail.	07
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