Seat No.:	Enrolment No.

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

M. E. - SEMESTER – II • EXAMINATION – SUMMER • 2013

Su	bject	code: 1722804 Date: 05-06-2013	
		Name: Metrology and Computer Aided Inspection	
		0.30 am – 01.00 pm Total Marks: 70	
In	struc	etions:	
		<ol> <li>Attempt all questions.</li> <li>Make suitable assumptions wherever necessary.</li> <li>Figures to the right indicate full marks.</li> </ol>	
Q.1	(a)	What is relation between sensitivity and range? what is disadvantage of very sensitive instrument?	07
	<b>(b)</b>	List pressure sensor and explain any one in detail.	07
Q.2	(a) (b)	Explain with neat sketch mechanical type sigma comparator.  What is transducer? Types, Application and features of transducer in measurement.	07 07
		OR	
	<b>(b)</b>	Advantages, Disadvantages, Application and features of CMM.	07
Q.3	(a) (b)	Explain tool wear measurement and surface measurement.  What is the difference between accuracy and uncertainty, and precision and accuracy?	07 07
		OR	
Q.3	(a) (b)	Explain Hall effect sensor and proximity sensor. Discuss the machine vision system.	07 07
Q.4	(a) (b)	Explain Line standard and End standard with example. Write a short note on LASER Interferometer.	07 07
		OR	
Q.4	(a) (b)	Features of computer aided inspection.  Discuss factor affecting in selection of measuring instrument.	07 07
Q.5	(a) (b)	Explain application of sensor in measurement with example.  Discuss the various types of errors in measurement.	07 07
Q.5	(a)	OR Type of gauges, explain Taylor  Principle of measurement.	07
Ų.S	(a) (b)	Explain primary, secondary and tertiary measurement with example.	07

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