## **GUJARAT TECHNOLOGICAL UNIVERSITY**

ME – SEMESTER II (NEW) – • EXAMINATION – SUMMER 2016			
Subject Code: 2722809 Date: 31/05/2016 Subject Name: METROLOGY & COMPUTER AIDED INSPECTION			
Time: 10:30 am to 01:00 pm Total Marks: 70			<b>70</b>
Inst	2.	Attempt all questions.	
Q.1	(a) (b)	Define linear measurement. Explain in brief about Vernier caliper with sketch. Explain with neat sketch mechanical type sigma comparator.	07 07
Q.2	(a) (b)	Write the different terminology used in surface roughness. Describe any four terminologies.  Discuss the advantage and limitation of vernier calipers, micrometer screw	07 07
	(b)	gauge and dial indicators.  OR  Explain what is error and types of error.	07
Q.3	(a) (b)	Write the sine principle. How to measure the unknown angles by using sine bar.  Write short note on õLASER Interferometerö  OR	07 07
Q.3	(a)	Explain with a neat sketch Tomlinson surface recorder? Explain the construction of it.  State the basic principle of LASER. Discuss use of LASER in metrology.	07
Q.4	<ul><li>(b)</li><li>(a)</li><li>(b)</li></ul>	Types of coordinate measuring machine and their application.  Define sensor. Explain basic operating principle of sensor with a schematic diagram.	07 07 07
		OR	
Q.4	(a) (b)	Explain and major features of CMM. Write short notes about non contact and in-process inspection.	07 07
Q.5	(a) (b)	Write short note on reflex detection, and Proximity detection Explain Capacitive proximity sensors. List out applications of Capacitive proximity sensor.	07 07
Q.5	(a) (b)	OR  Describe about laser scanners  Describe the Classification of microwave sensing technology. Discuss the Characteristics of microwave Sensors.	07 07

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