GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. Sem. – IInd - Examination – June/July- 2011
Subject code: 1722804
Subject Name: Metrology & Computer Aided Inspection
Date:29/06/2011   **Time: 10:30 am – 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)**	Explain Principles and different methods of measurement.	**07**
	(b)	Explain what is error and types of error.	**07**
Q.2	**(a)**	Comparison between line standard and end standard.	**07**
	(b)	Classification and use of comparator.	**07**
		OR	
	(b)	Explain with neat sketch mechanical type sigma comparator.	**07**
Q.3	**(a)**	Explain limitation, characteristics and error of sine bar.	**07**
	(b)	Explain and major features of CMM.	**07**
		OR	
Q.3	**(a)**	Explain Laser interferometer measuring system.	**07**
	(b)	Definition of sensor and classify by performance parameters.	**07**
Q.4	**(a)**	Explain Proximity and ultrasonic sensor.	**07**
	(b)	Factors affecting the accuracy of the measuring system.	**07**
		OR	
Q.4	**(a)**	Explain principle and application of color sensor.	**07**
	(b)	Types of coordinate measuring machine and their application.	**07**
Q.5	**(a)**	Write the benefits and drawbacks of CMM.	**07**
	(b)	Explain contact method & write advantages and disadvantages compare to non-contact method.	**07**
		OR	
Q.5	**(a)**	Classify the clinometers and explain any one of them.	**07**
	(b)	Explain tool wear measurement & surface measurement.	**07**

****

1