Seat No.: GUJARA		Enrolment No	
		GUJARAT TECHNOLOGICAL UNIVERSITY	
		BE- IV th SEMESTER-EXAMINATION – MAY/JUNE- 2012	
Subject code: 143402 Date:			5/2012
Subj	ect N	Vame: Metrology & Computer Aided Inspection	
Time: 10:30 am – 01:00 pm Total M			rks: 70
Instr		<u>-</u>	
		empt all questions.	
		ke suitable assumptions wherever necessary.	
3.	Figu	res to the right indicate full marks.	
Q.1	(a)	Explain the working principle of Tool makers Microscope with neat	
Ų.1	(a)	sketch and brief how to use it for measuring measurements.	07
	(b)	Write short notes about accuracy and precision.	07
	` /	•	
Q.2	(a)	Write any three identification of surface texture symbol with sketch.	
	<i>a</i>)		07
	(b)	Write the types of profilometer. Write the working principle and advantages about any one profilometer with schematic diagram.	07
		OR	U/
	(b)	Write the sine principle. How to measure the unknown angles by using	
		sine bar.	07
0.3	()		0.7
Q.3	(a) (b)	Explain the functioning of human vision system. Explain about Computer imaging system and image analysis.	07 07
	(D)	OR	07
Q.3	(a)	<u> </u>	07
	(b)	Write the working principle with schematic diagram and specification	
		of any one Laser interferometer.	07
0.4	()		
Q.4	(a)	Write the various types of CMM. Explain in brief about Bridge CMM with neat sketch.	07
	(b)	Write short notes about laser micrometer.	07
	(6)	OR	07
Q.4	(a)	Explain in brief about laser scanning gauge.	07
	(b)	Write short notes about non contact and in-process inspection.	07
0.5	(2)	Define Total quality control Evaluin how it is immortant in methology?	
Q.5	(a)	Define Total quality control. Explain how it is important in metrology?	07
	(b)	Brief about quality assurance and PDCA.	07
	(-)	OR	
Q.5	(a)	Explain the concept involved in POKA - YOKE.	07
	(b)	Explain about Zero Defects. How it is implemented in Industry with	0=
		suitable example?	07
