Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC SEM-II Examination May 2012 Subject code: X21903

Date:	25/05	Subject Name: Mechanical Measurement & Metrology 7/2012 Time: 10.30 am – 01.00 pm Total Marks: 70	
Insti	ruct	ions:	
		Attempt all questions.	
		Make suitable assumptions wherever necessary.	
		Figures to the right indicate full marks.	
Q.1	(a)	State the principle on which Micrometer screw works and explain every part of	07
		micrometer screw with neat sketch.	
	(b)	Explain construction and working of Vernier Height gauge.	07
Q.2	(a)		07
		importance of metrology.	
	(b)	How do you classify fit? Explain basis of Fit system. OR	07
	(b)	What is function of Mechanical comparators? Explain Dial indicator with neat sketch.	07
Q.3	(a)	Explain the following	07
		(i)Vernier Bevel protector and	
		(ii)Optical Bevel protector.	
	(b)	<u> </u>	07
		(i) Vapour pressure thermometer.	
		(ii) Gas filled thermometer.	
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Q.3	(a)	Explain measurement of the minor diameter of screw thread with neat sketch.	07
	(b)	What is screw thread? Explain the following types of screw threads. (i) Square thread.	07
		(i) Acme thread	
		(iii)British standard whitworth thread.	
		(III) Bittish standard wintworth thread.	
Q.4	(a)	Explain the following method for the measurement of the surface roughness. (i) Cross section method. (ii) Light section method	07
	(b)	(ii) Light section method What is surface Texture? Explain primary and secondary textures.	07
	(D)	OR	U1
Q.4	(a)	Write different methods of measurement of Straightness. Explain The Wedge method.	07
	(b)	List different Torque measurement methods and explain the Mechanical Torsion meter.	07
Q.5	(a)	Explain constant chord method to measure the gear tooth thickness and write its advantages.	07
	(b)	Explain the alignment test for the Radial drilling machine. OR	07
Q.5	(a)	Draw and explain U-tube differential manometer.	07
-	(b)	Explain McLeod gauge with neat sketch.	07