nt No.
9

GUJARAT TECHNOLOGICAL UNIVERSITY PDDC - SEMESTER-II • EXAMINATION – SUMMER • 2014

Subject Code: X21903

Subject Name: Mechanical Measurement and Metrology

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)	Describe with neat sketch International Prototype Meter (Material Length Standard) stating material composition and Limitations.	07
	(b)	Explain principle of vernier caliper and its calibration.	07
Q.2	(a)	Explain Construction and use of (i) Slip gauges, (ii) Dial indicator.	07
	(b)	Describe with sketch (i) Sinebar (ii) Sine center. OR	07
	(b)	Describe with sketch the construction and working of sigma comparator.	07
Q.3	(a)	Explain Parkinson gear tester with neat sketch.	07
	(b)	Explain Surface texture and element of Surface roughness.	07
		OR	
Q.3	(a)	Explain following terms used in surface finish: (i)Roughness, (ii) Waviness, (iii) Effective profile, (iv) Centreline of profile,	07
	(b)	Write short notes on Tool maker's microscope.	07
Q.4	(a)	Explain various alignment tests to be performed on Lathe machine.	07
	(b)	What are primary, secondary and tertiary measurements? Explain it.	07
		OR	
Q.4	(a)	Explain (i) Precision and Accuray (ii) Threshold and Resolution	07
	(b)	Describe with sketch bimetal strip thermometer stating sailent features.	07
Q.5	(a)	Describe with sketch a liquid-in-glass thermometer. Explain its application.	07
	(b)	Write short note on following (i) Thermistors. (ii) Thermocouples.	07
		OR	
Q.5	(a)	Explain the construction and working of Bourdon tube pressure gauge.	07
	(b)	What is 'Slip' in relation to flashing stroboscope? Explain stroboscope.	07
