

GUJARAT TECHNOLOGICAL UNIVERSITY**B.E. 7th SEMESTER – EXAMINATION - 2015****Subject code: 170204****Date: 04/05/2015****Subject Name: Automotive Mechanical Measurements****Time: 02.30PM-05.00PM****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)	Differentiate between unilateral and bilateral tolerances. Explain the following fits with neat sketch: 1) Clearance Fit 2) Interference Fit 3) Transition Fit.	07
	(b)	Differentiate between line standard and End Standard stating examples.	07
Q.2	(a)	Describe with sketch the construction and working of a Vernier Depth Gauge.	07
	(b)	Explain briefly: 1) Dial Bore Gauge 2) Slip Gauge	07
		OR	
	(b)	Name the different types of the Comparators and explain Solex pneumatic Comparators with neat sketch.	07
Q.3	(a)	Draw neat sketch of “Taly-surf” and explain its working principle.	07
	(b)	Derive the expression for Best wire size.	07
		OR	
Q.3	(a)	Explain the construction and working of Vernier bevel protractor.	07
	(b)	Explain with the help of neat sketches the principle and construction of an auto-Collimator.	07
Q.4	(a)	What are the different types of manometers? Explain working of any one of them with neat sketch.	07
	(b)	Explain with neat sketch optical pyrometers. What are the characteristics of an optical pyrometer.	07
		OR	
Q.4	(a)	Describe with neat sketch a liquid-in-glass thermometer. Explain its limitations.	07
	(b)	Sketch and describe the construction and working of pirani range.	07
Q.5	(a)	Explain the followings: i) Optical strain gauges ii) Gauge factor	07
	(b)	Explain the construction and working principle of Rotameter.	07
		OR	
Q.5	(a)	Give the detail classification of Tachometer and explain briefly photoelectric generator.	07
	(b)	Explain the working principle of Ionization gauge with advantages and disadvantages	07
