Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII EXAMINATION – SUMMER 2016

Subject Code:170204 **Date:18/05/2016**

Subject Name:Automobile Mechanical Measurements

Time:02:30 PM to 05:00 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)**	Name the various methods of measurements an explain any two of them .	**07**
	(b)	State various sources of errors. What are the difference between systematic error and random error.	**07**
Q.2	**(a)**	What is least count? How it can be calculated in micrometer?	**07**
	(b)	Explain briefly: 1) Angle gauges 2) Slip Gauges	**07**
		OR	
	(b)	Explain the construction and working of Vernier Caliper.	**07**
Q.3	**(a)**	Explain the working principle of Optical bevel protractor.	**07**
	(b)	Briefly classify screw threads.	**07**
		OR	
Q.3	**(a)**	Explain with the help of neat sketches the principle and construction of an Angle Dekkor.	**07**
	(b)	Give the comparison between involute and cycloidal gears.	**07**
Q.4	**(a)**	Explain the principles and types of thermocouples.	**07**
	(b)	Sketch and explain diaphragm gauges stating advantages, limitations and operating range.	**07**
		OR	
Q.4	**(a)**	Explain surface texture and elements of surface roughness.	**07**
	(b)	Describe the various types of fit.	**07**
Q.5	**(a)**	How are tachometers classified? Explain briefly drag cup tachometer.	**07**
	(b)	Describe strain gauge. Define gauge factor of a strain gauge. What are rosette gauges?	**07**
		OR	
Q.5	**(a)**	Explain with neat sketch piezo-electric accelerometer stating advantages, limitations and applications.	**07**
	(b)	Explain the working principle of Pitot gauge with advantages and disadvantages.	**07**

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