Seat No.: Enrolment No	
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Subject Code: 170204

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII EXAMINATION - WINTER 2015

Date: 16/12/2015

Ti	ime: structi	t Name: Automobile Mechanical Measurements 10:30am to 1:00pm Total Marks: 70 ions: 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks.	
Q.1	(a) (b)	What is the meaning of "Metrology"? Explain objectives of Metrology. Describe with sketch the construction & working of a micrometer. Explain how least count is found?	07 07
Q.2	(a) (b)	What is a sine bar? Briefly describe its use and limitations. Define the following with reference to surface texture: (i) C.L.A. (ii) R.M.S. (iii) Peak to valley height. OR	07 07
	(b)	Define Straightness. State the methods for measurement of Straightness.	07
Q.3	(a) (b)	Explain all the Elements of Generalized measurement systems? Differentiate between RTD & Thermocouples.	07 07
Q.3	(a) (b)	OR Describe LVDT giving its advantages, limitations & field of applications. Explain mercury in glass thermometer with neat sketch.	07 07
Q.4	(a) (b)	Explain with neat sketch Knudson Pressure Gauge. Describe with sketch Eddy current dynamometer.	07 07
Q.4	(a) (b)	OR Explain the calibration process of a dial pressure gauge using dead weight pressure instrument. Write a short note on Rope brake dynamometer.	07 07
Q.5	(a) (b)	Explain Optical Pyrometer. Describe with sketch the construction, working, advantages & disadvantages of a Pneumatic Load Cell.	07 07
Q.5	(a)	OR Explain the principle, working & method of speed measurement using	07
¥	(b)	stroboscope. Describe with neat sketch working of piezoelectric accelerometer.	07
