Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC– SEMESTER II– • EXAMINATION –WINTER- 2016

Subject Code: X21903 **Date:04/01/2017**

Subject Name: Mechanical Measurement & Metrology

Time:02:30 PM to 5:00 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)**	Explain with neat sketch construction & working of inside micrometer.	**07**
	(b)	What are the application, advantages & limitations of angular measuring instruments?	**07**
Q.2	**(a)**	What are the necessity and objectives of Metrology? -Explain.	**07**
	(b)	Explain with neat sketch construction & working of vernier caliper.	**07**
		OR	
	(b)	Explain with neat sketch construction & working of gear tooth terminology.	**07**
Q.3	**(a)**	Explain the following giving suitable example- (I) Range and span (II) Accuracy and precision (III) Calibration (IV) Threshold resolution	**07**
	(b)	Explain construction & working of standard gear tooth tester with neat sketch.	**07**
		OR	
Q.3	**(a)**	Explain with neat sketch construction & working of burden tube pressure gauge.	**07**
	(b)	Draw a block diagram of a generalized measurement system(G.M.S.) and Explain the various elements in details.	**07**
Q.4	**(a)**	Explain method for measuring elements of external screw thread with three wire method.	**07**
	(b)	Explain with neat sketch construction & working of sine bar & angle gauge.	**07**
		OR	
Q.4	**(a)**	Explain construction & working of following with neat sketch- (I) Telescopic gauge (II) Universal bevel protector	**07**
	(b)	Explain thermoelectric pyrometer in detail.	**07**
Q.5	**(a)**	Explain the bimetallic thermometer in detail.	**07**
	(b)	Explain construction & working of mcleod gauge with neat sketch.	**07**
		OR	

Q.5	**(a)**	(I) Explain the flash light stroboscope. (II) Explain the Diaphram gauge in brief.	**07**
	(b)	Explain the importance of alignment test for machine tools. Briefly explin the alignment test for machine tools.(Any one)	**07**

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