DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Mid Semester Examination – Sep. 2019

Course: B. Tech in Mechanical Engineering **Sem: V**

Subject Name: Metrology & Quality Control **Subject Code: BTMEC505**

Max Marks: 20 **Date: 21/9/2019** **Duration: 1 Hr.**

Instructions to the Students:

1. **Assume suitable data wherever required.**
2. **Draw figure wherever necessary.**
3. **Figure to right indicates full marks.**

		(Level/CO)	Marks
Q. 1	**Solve all the Multiple Choice Questions**		1 X 6=6
	1. What characteristic of light makes it a standard? a) It is easily sensed by the human eye. b) Its colour can be selected as per the user's choice. c) The length of waves is known and unvarying. d) It is easily refracted.	1/CO1	
	2. The tooth profile of mating gears is kept uniformly thinned, which results in a small play between mating tooth surfaces. This is called a) backlash c) lead correction b) pitch correction d) none of these	1/CO2	
	3. An LVDT works on the principle of a) mutual inductance c) mutual capacitance b) mutual resistance d) magnetic induction	1/CO2	
	4. The purpose of providing relief holes in sine bars is to a) improve accuracy c) reduce weight b) improve precision d) reduce wear	1/CO2	
	5. Least count of Micrometer is -------- a. 0.01 b. 0.002 c. 0.001 d. 0.003	1/CO2	
	6. Bright fringe pattern is observed under ------ a. Constructive interference b. Destructive interference c. Both a & b.	1/CO2	
Q.2	**Solve Any Two of the following.**		3 X 2=6
(A)	Explain the use of sine center in measurement with neat sketch.	2/CO2	
(B)	Define any three a) limit b) Tolerance c) MML d) LML	2/CO2	
(C)	Define least count of vernier caliper & explain its significance.	2/CO2	
Q. 3	**Solve Any One of the following.**		1X 8=8
(A)	List down various types of comparators. Explain working principle and construction of any one type of mechanical comparators with neat sketch.	3/CO2	
(B)	Describe working of gear tooth vernier used in measurement of gear tooth thickness and depth. List down various types of gear error.	3/CO2	
	***** End *****		