O.P.Code: 20ME0321	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech III Year II Semester Regular Examinations August-2023

METROLOGY AND MEASUREMENTS
(Mechnaical Engineering)

Time: 3 Hours **Max. Marks: 60**

(Answer all Five Units **5 x 12** = **60** Marks)

		UNIT-I			
1		Construct the conventional diagram of limits and fits and explain all terms	**CO1**	**L2**	**12M**
		OR			
2		What are the different types of limit gauge? Explain any five limit gauges.	**CO1**	**L1**	**12M**
		UNIT-II			
3	**a**	State the principle of a micrometer. Explain with neat Sketch an outside micrometer.	**CO2**	**L2**	**6M**
	b	Estimate possible sources of errors in micrometers.	**CO2**	**L3**	**6M**
		OR			
4	**a**	How do you classify dial indicators?	**CO2**	**L2**	**6M**
	b	With neat sketch explain the working mechanism of a dial indicator.	**CO2**	**L2**	**6M**
		UNIT-III			
5	**a**	What are the factors affecting surface roughness?	**CO3**	**L2**	**6M**
	b	Discuss the principal reasons for controlling the surface texture.	**CO3**	**L2**	**6M**
		OR			
6		Sketch and explain working and application of versatile instrument of toolmakers microscope.	**CO4**	**L2**	**12M**
		UNIT-IV			
7		List out Displacement transducers? Explain inductive transducer with suitable sketch.	**CO5**	**L2**	**12M**
		OR			
8		What is the principle of strain gauge? Explain the method of usage for measurement of strains.	**CO5**	**L1**	**12M**
		UNIT-V			
9		Discuss in detail about the principle and working of thermo couple with neat sketch.	**CO6**	**L2**	**12M**
		OR			
10		Discuss about Differential U-Tube Manometer in details and Derive the expression for pressure difference.	**CO6**	**L2**	**12M**

***** END *****