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

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech. III Year II Semester Regular & Supplementary Examinations June-2025
METROLOGY AND MEASUREMENTS
(Mechanical 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		Describe briefly the principal features of the Indian standard System of limits and fits.	CO1	L2	12M

UNIT-II

3		Enumerate the requirements of a good dial indicator and its advantages.	CO2	L2	12M

OR

4	a	Give the limitations of sine bar.	CO2	L2	6M
	b	Discuss about the sources of error in sine bars.	CO2	L2	6M

UNIT-III

5		Express the following methods of qualifying surface roughness: (i) Ra value. (ii) RMS value. (iii) Rz value.	CO3	L2	12M

OR

6	a	Explain the elements of gear tooth profile with neat sketch.	CO3	L1	6M
	b	Classify the various sources of errors in manufacturing of gears.	CO3	L2	6M

UNIT-IV

7		List out Displacement transducers? Explain inductive transducer with suitable sketch.	CO4	L2	12M

OR

8		What do you understand about measurement of torque? Discuss about strain gauge torque meter.	CO4	L2	12M

UNIT-V

9		Discuss in detail about the principle and working of thermo couple with neat sketch.	CO5	L2	12M

OR

10		List out very high pressure measuring instruments and draw with neat sketch C-type Bourdon tube.	CO5	L1	12M

*** END ***