

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year II Semester Regular Examinations August-2023

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 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 ***

THE UNIVERSITY OF CHICAGO
 DEPARTMENT OF CHEMISTRY
 LABORATORY OF ORGANIC CHEMISTRY
 5700 SOUTH CAMPUS DRIVE, CHICAGO, ILLINOIS 60637

Run	Time	Temp	Flow	Pressure	Detector	Response
1	1.00	100	1.00	1.00	1.00	1.00
2	1.10	100	1.00	1.00	1.00	1.00
3	1.20	100	1.00	1.00	1.00	1.00
4	1.30	100	1.00	1.00	1.00	1.00
5	1.40	100	1.00	1.00	1.00	1.00
6	1.50	100	1.00	1.00	1.00	1.00
7	1.60	100	1.00	1.00	1.00	1.00
8	1.70	100	1.00	1.00	1.00	1.00
9	1.80	100	1.00	1.00	1.00	1.00
10	1.90	100	1.00	1.00	1.00	1.00
11	2.00	100	1.00	1.00	1.00	1.00
12	2.10	100	1.00	1.00	1.00	1.00
13	2.20	100	1.00	1.00	1.00	1.00
14	2.30	100	1.00	1.00	1.00	1.00
15	2.40	100	1.00	1.00	1.00	1.00
16	2.50	100	1.00	1.00	1.00	1.00
17	2.60	100	1.00	1.00	1.00	1.00
18	2.70	100	1.00	1.00	1.00	1.00
19	2.80	100	1.00	1.00	1.00	1.00
20	2.90	100	1.00	1.00	1.00	1.00
21	3.00	100	1.00	1.00	1.00	1.00
22	3.10	100	1.00	1.00	1.00	1.00
23	3.20	100	1.00	1.00	1.00	1.00
24	3.30	100	1.00	1.00	1.00	1.00
25	3.40	100	1.00	1.00	1.00	1.00
26	3.50	100	1.00	1.00	1.00	1.00
27	3.60	100	1.00	1.00	1.00	1.00
28	3.70	100	1.00	1.00	1.00	1.00
29	3.80	100	1.00	1.00	1.00	1.00
30	3.90	100	1.00	1.00	1.00	1.00
31	4.00	100	1.00	1.00	1.00	1.00
32	4.10	100	1.00	1.00	1.00	1.00
33	4.20	100	1.00	1.00	1.00	1.00
34	4.30	100	1.00	1.00	1.00	1.00
35	4.40	100	1.00	1.00	1.00	1.00
36	4.50	100	1.00	1.00	1.00	1.00
37	4.60	100	1.00	1.00	1.00	1.00
38	4.70	100	1.00	1.00	1.00	1.00
39	4.80	100	1.00	1.00	1.00	1.00
40	4.90	100	1.00	1.00	1.00	1.00
41	5.00	100	1.00	1.00	1.00	1.00
42	5.10	100	1.00	1.00	1.00	1.00
43	5.20	100	1.00	1.00	1.00	1.00
44	5.30	100	1.00	1.00	1.00	1.00
45	5.40	100	1.00	1.00	1.00	1.00
46	5.50	100	1.00	1.00	1.00	1.00
47	5.60	100	1.00	1.00	1.00	1.00
48	5.70	100	1.00	1.00	1.00	1.00
49	5.80	100	1.00	1.00	1.00	1.00
50	5.90	100	1.00	1.00	1.00	1.00
51	6.00	100	1.00	1.00	1.00	1.00
52	6.10	100	1.00	1.00	1.00	1.00
53	6.20	100	1.00	1.00	1.00	1.00
54	6.30	100	1.00	1.00	1.00	1.00
55	6.40	100	1.00	1.00	1.00	1.00
56	6.50	100	1.00	1.00	1.00	1.00
57	6.60	100	1.00	1.00	1.00	1.00
58	6.70	100	1.00	1.00	1.00	1.00
59	6.80	100	1.00	1.00	1.00	1.00
60	6.90	100	1.00	1.00	1.00	1.00
61	7.00	100	1.00	1.00	1.00	1.00
62	7.10	100	1.00	1.00	1.00	1.00
63	7.20	100	1.00	1.00	1.00	1.00
64	7.30	100	1.00	1.00	1.00	1.00
65	7.40	100	1.00	1.00	1.00	1.00
66	7.50	100	1.00	1.00	1.00	1.00
67	7.60	100	1.00	1.00	1.00	1.00
68	7.70	100	1.00	1.00	1.00	1.00
69	7.80	100	1.00	1.00	1.00	1.00
70	7.90	100	1.00	1.00	1.00	1.00
71	8.00	100	1.00	1.00	1.00	1.00
72	8.10	100	1.00	1.00	1.00	1.00
73	8.20	100	1.00	1.00	1.00	1.00
74	8.30	100	1.00	1.00	1.00	1.00
75	8.40	100	1.00	1.00	1.00	1.00
76	8.50	100	1.00	1.00	1.00	1.00
77	8.60	100	1.00	1.00	1.00	1.00
78	8.70	100	1.00	1.00	1.00	1.00
79	8.80	100	1.00	1.00	1.00	1.00
80	8.90	100	1.00	1.00	1.00	1.00
81	9.00	100	1.00	1.00	1.00	1.00
82	9.10	100	1.00	1.00	1.00	1.00
83	9.20	100	1.00	1.00	1.00	1.00
84	9.30	100	1.00	1.00	1.00	1.00
85	9.40	100	1.00	1.00	1.00	1.00
86	9.50	100	1.00	1.00	1.00	1.00
87	9.60	100	1.00	1.00	1.00	1.00
88	9.70	100	1.00	1.00	1.00	1.00
89	9.80	100	1.00	1.00	1.00	1.00
90	9.90	100	1.00	1.00	1.00	1.00
91	10.00	100	1.00	1.00	1.00	1.00