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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech IV Year I Semester Supplementary Examinations February-2022
METROLOGY & MEASUREMENTS
(Mechanical Engineering)

Time: 3 hours

Max. Marks: 60

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

UNIT-I

- 1 a Define Maximum, Minimum Metal limits and Maximum, Minimum clearances with the help of neat sketches. 6M
- b Distinguish unilateral and bilateral tolerance system. 6M

OR

- 2 a What is Taylor's principle of gauge design? 6M
- b Distinguish between the GO and NO-GO gauges. 6M

UNIT-II

- 3 a Elaborate the construction and uses of a Vernier height gauge. 8M
- b What is procedure for buildup slip gauge blocks for required dimension? 4M

OR

- 4 a Describe the principle involved in Michelson interferometer with a line diagram. 7M
- b Discuss about care of Snap Gauge, Screw Pitch Gauge, Feller Gauge. 5M

UNIT-III

- 5 a Give details about three wire method of measuring effective diameter of screw threads. 6M
- b What are the errors and its causes in screw threads? 6M

OR

- 6 a With the help of an illustration, explain any four alignment tests on lathe. 5M
- b Discuss the factors influenced working accuracy of the machine tool. 7M

UNIT-IV

- 7 a Define transducer? List and explain two important and closely related parts. 6M
- b Classify transducers? Discuss active and passive transducers with examples. 6M

OR

- 8 a Define strain rosette? Depending on the arrangement of strain gauges, list out strain rosettes. 6M
- b Elaborate Rectangular strain gauge rosette 6M

UNIT-V

- 9 a Define pyrometer? With neat sketch elaborate total radiation pyrometer 6M
- b What is formula for dead weight tester? Discuss the Dead Weight gauge in detail. 6M

OR

- 10 a Explain the principle and working of dynamometer with neat sketch. 6M
- b List out the dynamometers classification and explain any one with neat sketch. 6M

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