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

B.Tech IV Year I Semester Supplementary Examinations August-2021

METROLOGY & 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. 12M

OR

2 Between two mating parts of 100 mm basic size, the actual interference fit is to be from 0.05mm to 0.12mm. The tolerance for hole is the same as the tolerance for the shaft. solve the size of the shaft and the hole on (i) hole basis unilateral system ii) Shaft basis unilateral system. 12M

UNIT-II

3 Illustrate in detail the working of the Sine Bar to measure unknown angle. 12M

OR

4 Explain with the help of neat sketches the principle and construction of an auto collimator. 12M

UNIT-III

5 a Evaluate (i) Outer diameter. (ii) Effective diameter. (iii) Core diameter. (iv) Pitch diameter 6M

b Explain the elements of gear tooth profile with neat sketch. 6M

OR

6 With the help of an illustration, list out any four radial drilling machine test. 12M

UNIT-IV

7 Classify digital transducers. Elaborate piezoelectric effect and sketch with neat Piezo-electric transducer. 12M

OR

8 Explain working of Electrical Strain Gauge. 12M

UNIT-V

9 Explain in detail about the principle and advantages of thermo couple. 12M

OR

10 List out the dynamometers classification and explain any one with neat sketch. 12M

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