

Reg. No:

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|

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

B.Tech IV Year I Semester Regular Examinations Nov/Dec 2019

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 Define unilateral and bilateral tolerance system. **6M**
- OR**
- 2 a What is Taylor's principle of gauge design? **6M**
 b Explain about Snap Gauge, Screw Pitch Gauge, and Feller Gauge. **6M**

UNIT-II

- 3 a What is mean by wringing process? Describe briefly the manufacture of slip gauges. **6M**
 b Define least count of vernier instrument. How is it determined? Explain. **6M**
- OR**
- 4 a Explain BIS symbols for indication of surface finish. **6M**
 b Explain the working of Dial indicator. **6M**

UNIT-III

- 5 a Explain Base Tangent Method. **6M**
 b Explain Constant Chord Method. **6M**
- OR**
- 6 With the help of a neat sketch explain the construction, working and application of tool maker's microscope. **12M**

UNIT-IV

- 7 a Explain working of pickup tachometer. **6M**
 b Explain working of Photo-electric tachometer. **6M**
- OR**
- 8 Explain working of Electrical Strain Gauge. **12M**

UNIT-V

- 9 Sketch a McLeod gauge and explain working principles. Describe applications and limitations. **12M**
- OR**
- 10 a Discuss the U- tube Manometer in detail. **6M**
 b Explain Piezometer in detail. **6M**

*** END ***