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1051

Code : 15ME33T

Register
Number

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III Semester Diploma Examination, Oct./Nov.-2019

MECHANICAL MEASUREMENTS

Time : 3 Hours]

[Max. Marks : 100

- Note :** (i) Answer any **six** questions from Part – A.
(ii) Answer any **seven** questions from Part – B.

PART – A

1. Define measurement and mention its requirements. 5
2. Define : 5
 - (a) Precision
 - (b) Repeatability
3. Explain with a neat sketch Piezo electric transducer. 5
4. Explain Strain Gauge Rosettes. 5
5. Define force and list any three force measuring instruments. 5
6. State the advantages and disadvantages of Resistance thermometer. 5
7. Explain the working Principle of Thermocouple. 5
8. List the various types of testing equipments used for machine tool alignment test. 5
9. Differentiate between uni-lateral and bi-lateral tolerance. 5

PART – B

10. (a) Explain calibration procedure of measuring instrument. 5
(b) Explain with neat sketch thread gauge micrometer. 5
11. (a) Explain with a neat sketch measurement of thread by Bench Micrometer. 5
(b) Explain with a neat sketch plain plug gauge. 5
12. (a) Explain the working of optical strain gauge. 5
(b) Draw a neat sketch of Berry-type strain gauge and label the parts. 5
13. (a) Classify the strain gauges. 5
(b) Sketch the schematic diagram of the following transducer actuating mechanisms : 5
(i) Capsules
(ii) Bellows
14. Explain with a neat sketch the working of Mcloed Gauge and its use. 10
15. (a) Explain the working of Spring balance. 5
(b) State the advantages and disadvantages of the LVDT. 5
16. (a) Explain with a neat sketch the working of Rotameter. 5
(b) Explain with a neat sketch resistance thermometer. 5
17. (a) Explain the terms : 5
(i) Humidity
(ii) Density
(b) Compare hole basis system with shaft basis system. 5
18. (a) Explain with a neat sketch Hair Hygrometer. 5
(b) Explain with a neat sketch liquid level measurement by sight glass. 5
19. (a) Explain with a neat sketch clearance fit and interference fit. 5
(b) Explain with a neat sketch checking of run-out of axis of centre in lathe. 5
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