

1276**Code : 15ME33T**Register
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III Semester Diploma Examination, Nov./Dec. 2017**MECHANICAL MEASUREMENTS****Time : 3 Hours]****[Max. Marks : 100****Note :** Answer any **six** from Part – A and any **seven** from Part – B.**PART – A**1. Define : **5**

(i) Sensitivity

(ii) Accuracy

(iii) Precision

2. Explain with a neat sketch Bevel protractor.

3. Explain Berry type mechanical strain gauge with neat sketch.

4. Write short notes on Gauge factor.

5. Explain with neat sketch the working of Bourdon tube pressure gauge.

6. Define torque and list various torque measuring devices.

7. Describe tachometer and list types of mechanical tachometers and Electrical tachometers.

8. Explain the terms :

(i) Humidity

(ii) Density

9. Define interchangeability and state its importance.

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PART – B

10. (a) Explain the various methods of measurements with suitable examples. 5
(b) Explain with a neat sketch thread gauge micrometer. 5
11. (a) State the advantages of CMM. 5
(b) Explain Tay surf roughness tester. 5
12. (a) Explain the mounting of strain gauge. 5
(b) Explain the various classification of transducers. 5
13. Sketch the schematic diagram of the following transducer actuating mechanisms : 10
(a) Capsule
(b) Corrugated diaphragm
14. (a) Explain with a neat sketch working of Hydraulic Dynamometer. 5
(b) Explain with neat sketch Prony brake. 5
15. (a) Explain with a neat sketch LVDT. 5
(b) Explain working of Resistance thermometers. 5
16. (a) Explain with neat sketch optical pyrometer. 5
(b) Explain thermocouples. 5
17. (a) Explain the measurement of Density using hydrometer. 5
(b) Write short notes on sphygmomanometer. 5
18. (a) Explain with a neat sketch Interference fit. 5
(b) Differentiate Hole basis system and Shaft basis system. 5
19. Explain with a neat sketch the procedure for checking parallelism. 10

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