

No. of Printed Pages : 3

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BME-062

**DIPLOMA IN MECHANICAL
ENGINEERING (DME)
Term-End Examination
June, 2019**

**BME-062 : METROLOGY AND
INDUSTRIAL INSTRUMENTATION**

Time : 2 Hours

Maximum Marks : 70

*Note : Attempt any ten questions. All questions
carry equal marks. Use of scientific
calculator is permitted.*

1. Define any *two* of the following terms : 7
 - (a) Measuring gauge
 - (b) Tolerance
 - (c) Interference fit
2. Describe the working principle of vernier bevel protector with suitable diagram. 7
3. Explain the working principle of sine bar for angle measurement with the help of suitable. 7

(A-46) P. T. O.

4. What is screw thread micrometer ? Discuss its specific uses. 7
5. Explain working of a straight edge with the help of a suitable diagram. 7
6. Discuss the procedure of taper measurement with the help of rollers and derive the formula used. 7
7. List and explain important three parameters used in case of measurement of gears. 7
8. Discuss the meaning of CLA value and RMS value of surface roughness. Also explain their differences. 7
9. Explain the working principle of a profile projector and also explain its exclusive applications. 7
10. Describe the procedure of any *one* method of surface roughness measurement in terms of CLA or RMS value in details. 7
11. Explain any *two* applications of Co-ordinate Measuring Machine (CMM) in mechanical measurements. 7

[3]

12. What is pitch of a screw thread ? Describe any *one* method of pitch measurement. 7
13. What are transducers ? Give *two* examples. Explain their advantages. 7
14. Explain the following : 7
- (i) Comparators, give one example
 - (ii) Any *one* method of measurement of vibrations