

01253

**DIPLOMA IN MECHANICAL ENGINEERING  
(DME)**

**Term-End Examination**

**December, 2012**

**BME-062 : METROLOGY AND  
INSTRUMENTATION**

*Time : 2 Hours.*

*Maximum Marks : 70*

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

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1. Write about systems of 'fit' with suitable diagrams. 7
  
2. Describe the working of Universal Bevel protractor with diagram. 7
  
3. Define the following terms : 7
  - (a) Clinometer
  - (b) Sine Bar
  - (c) Protractor
  - (d) Angle gauge
  - (e) Transducer
  - (f) Spirit level
  - (g) Autocollimator.

4. What are the various types of projectors ? Explain any one of them. 7
5. Discuss the applications of CMM in Computer aided manufacturing. 7
6. Explain the working of a potentiometer. 7
7. Describe the working of an electric comparator. 7
8. What do you understand by a gauge? Explain the classification of gauges. 7
9. Describe screw pitch gauges, Radius, and Fillet gauges. 7
10. Explain characteristics of various light sources. 7
11. Explain the various requirements of a sensor or transducer. 7
12. Differentiate between thermocouple and a thermistor. 7
13. Discuss about unilateral and bilateral tolerances with example. 7
14. Write about photoelectric sensors and its applications. 7