

**DIPLOMA IN MECHANICAL ENGINEERING
(DME)**

Term-End Examination

December, 2016

00693

BME-062 : METROLOGY AND INSTRUMENTATION

Time : 2 hours

Maximum Marks : 70

Note : Attempt any seven questions. All questions carry equal marks. Use of calculator is permitted.

1. Describe the errors in measurement. Compare Systematic error and Random error. 10
2. Explain the construction and working of an outside micrometer. Name its parts. 10
3. What is meant by "least count" of a measuring instrument ? Draw a neat sketch of vernier caliper and label its parts. 10
4. Write the classification of comparators. Explain optical comparators with a neat sketch. 10
5. Write the elements of a limit system. Differentiate between unilateral system and bilateral system of tolerancing. 10

6. Write four important characteristics essential for gauge material. List the materials commonly used for gauges. 10
 7. How is the inclination estimated with the help of a spirit level ? 10
 8. Explain screw thread terminology with neat sketch. 10
 9. What is the importance of calibration ? Write the basic calibration procedures. 10
 10. Explain the vernier height gauge with neat sketch. What are the uses of vernier height gauges ? 10
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