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BME-062

DIPLOMA IN MECHANICAL ENGINEERING (DME)

Term-End Examination

00043

December, 2018

BME-062 : METROLOGY AND 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 : $2 \times 3\frac{1}{2} = 7$

(a) Precision

(b) Accuracy

(c) Interchangeability

2. Describe the working of radius gauge with suitable diagram. 7

3. Explain any two methods of angular measurement. 7

4. What are slip gauges ? Discuss their uses and advantages. 7

5. Explain the working of Try square and Straight edge with the help of suitable diagrams. 7

6. What are limit gauges ? Explain their uses. 7

7. List and explain three important parameters used in case of external screw thread measurement. 7

8. Describe roughness and waviness of a surface. Also explain their differences. 7

9. Explain the working principle of any one instrument used for surface roughness measurement. 7

10. Define the following terms of a gear : 7

    (a) Module

    (b) Pitch circle diameter

    (c) Involute profile of gear tooth

11. Explain the working of Tool-maker's microscope. 7

12. Discuss the advantages of coordinate measuring machines. 7

13. Explain any two different methods of displacement measurement. 7

14. What are transducers ? Explain the working of capacitive transducer. 7