Reg. No. : | | | | | | | | | | |

Question Paper Code: 36703

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2019

Sixth Semester

Mechanical Engineering

01UME603 - ENGINEERING METROLOGY AND MEASUREMENTS

(Regulation 2013)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Define the term reliability.
2. List any two types of absolute error.
3. Define the term eccentricity.
4. Define sine center.
5. What is meant by drunken error in screw threads?
6. Mention the methods of roundness measurement.
7. List the different types of interferometer.
8. State the differences between crest and trough.
9. What is meant by thermocouple?
10. Explain the usage of pitot tube.

PART - B (5 x 16 = 80 Marks)

11. (a) Explain the need of precision and accuracy in metrology. (16)

Or

(b) Explain the dimensional and geometric tolerances. (16)

12. (a) Explain with a neat sketch the construction and working of tool makers microscope. (16)

Or

(b) Explain with a neat sketch the pneumatic and hydraulic comparators with neat sketches. (16)

13. (a) Describe the constant chord method and base tangent method for measuring gear teeth with neat sketches. (16)

Or

(b) Explain the concept of straightness, flatness and roundness measurements. (16)

14. (a) Explain the LASER interferometer in detail. (16)

Or

(b) Explain the coordinate measuring machine in detail. (16)

15. (a) Compare the flow measurement techniques in orifice, venture and rotameter. (16)

Or

(b) Explain the construction and working of thermocouple and pyrometer. (16)

———————