

**CERTIFICATE IN CONDITION
MONITORING (CCOMO)
Term-End Examination**

June, 2025

**MET-001 : METROLOGY, INSTRUMENTATION
AND TRIBOLOGY**

Time : 3 Hours

Maximum Marks : 70

Note : Attempt any **seven** questions. All questions carry equal marks.

1. (a) What is measurement ? What is its purpose ? List out its advantages. 5
- (b) What are the tolerances provided on dimensions of the components ? Explain briefly. 5
2. Explain the working of optical comparator with a neat sketch. List out its applications. 10

3. (a) What are the differences between standard gauges and limit gauges ? 5
(b) Distinguish between 'Controllable Errors' and 'Random Errors'. 5
4. (a) List the various steps to care and handle measuring instruments. 5
(b) Discuss any *two* types of limit gauges with their applications. 5
5. Define the following terms : 5×2=10
(a) Primary Standards
(b) Resistance
(c) Metrology
(d) Accuracy
(e) Sensitivity
6. Describe the working principle of an autocollimator with suitable sketch. 10
7. Explain the working of micrometer with neat sketch. 10
8. (a) What is a protractor ? Describe the functions of universal protractor with a neat sketch. 5

- (b) List out the various applications of projector. 5

9. Write short notes on any *two* of the following : 2×5=10

- (a) Electroplating
- (b) Errors
- (c) Co-ordinate Measuring Machine (CMM)
- (d) Angle gauges

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