

**CERTIFICATE IN CONDITION
MONITORING (CCOMO)
Term-End Examination
June, 2026**

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

Time : 3 Hours

Maximum Marks : 70

Note : (i) Answer any **seven** questions.

(ii) All questions carry equal marks.

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1. (a) What are the standards of measurement and their classification ? 5
- (b) Explain hole basis and shaft basis system of fit with the help of neat diagrams. 5

2. (a) What is the difference between fixed error and random error ? How do you minimize the error during measurement ? 5
- (b) Sketch and describe the following : 5
- (i) Taper gauges
 - (ii) Shape gauges
3. Define the following terms : 5×2=10
- (i) Mean
 - (ii) Median
 - (iii) Mode
 - (iv) Accuracy
 - (v) Precision
4. Describe the working principle of an autocollimator with suitable sketches. 10
5. (a) What is error in measurement ? Classify errors and describe each class. 5
- (b) How is the inclination estimated with the help of spirit level ? 5

6. List the essential parts of a micrometer and explain its working with the help of a neat sketch. 10
7. (a) Define Metrology. What is the necessity and importance of metrology ? 5
- (b) What is the difference between constructive and destructive interference ? 5
8. List the essential parts of a micrometer and explain its working with a neat sketch. 10
9. Write short notes on any *two* of the following : 5+5
- (a) Electroplating
- (b) Lubricants
- (c) Galvanizing
- (d) Co-ordinate Measuring Machine (CMM)

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