

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

June, 2026

**MET-003 : CONDITION MONITORING AND
MAINTENANCE**

Time : 3 Hours

Maximum Marks : 70

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

(ii) All questions carry equal marks.

1. Explain the functions of plant engineering and management with a block diagram. 10
2. (a) What do you understand by the term “Maintenance Planning” ? What are the different phases involved in maintenance planning ? 5

- (b) Distinguish between the centralized and decentralized systems of plant engineering. 5
3. (a) Explain the importance of scheduling in Plant Engineering and Management. 5
- (b) What is Maintenance Policy ? What are the various maintenance policies ? Explain any *one* briefly. 5
4. (a) What is Hardness Test ? What are its applications in maintenance engineering ? 5
- (b) What is A-B-C Analysis ? Explain step-by-step method to conduct the A-B-C analysis. 5
5. (a) Define term 'Spare Part'. Enumerate the features of spare parts inventory. 5
- (b) What is Non-Destructive Testing (NDT) ? List out the various NDT techniques to estimate the condition of the equipment. 5

6. (a) Discuss various techniques employed for monitoring the conditions of the equipment. 5
- (b) Explain the significance of Maintenance Information Systems with reference to the implementation of CBM. 5
7. (a) Explain the working of accelerometer. 5
- (b) Define vibration and discuss the various types of vibration. 5
8. (a) Explain the different costs involved in machine failure analysis. 5
- (b) What are the basic information required for FMEA/FMECA ? 5
9. (a) What is meant by Data Inconsistencies? Give some examples. 5
- (b) What are the methods of trend analysis ? Explain any *one* method briefly. 5

10. Write short notes on any *four* of the following : $4 \times 2.5 = 10$

- (a) Factors affecting maintainability
- (b) Total productive maintenance
- (c) Zero Breakdown
- (d) TTT Plotting
- (e) Operating time and Down time
- (f) Performance efficiency

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