

**CERTIFICATE IN CONDITION MONITORING
(CCOMO)**

Term-End Examination

December, 2022

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

Time : 3 hours

Maximum Marks : 70

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

1. Explain the objectives of maintenance and plant engineering with block diagram. 10

2. (a) Briefly explain the different types of preventive maintenance techniques. 5
(b) Distinguish between Scheduled maintenance and Shutdown maintenance. 5

3. (a) Explain the importance of scheduling in Plant Engineering and Management. 5
(b) Explain overtime work or compensatory off policy with reference to the maintenance departmental jobs. 5

4. (a) Explain the functions of spare parts. 5
(b) What is A-B-C Analysis ? Explain step-by-step method to conduct the A-B-C Analysis. 5
5. (a) Explain the approaches to implement condition-based monitoring. 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 Condition checking and Trend monitoring. 5
(b) Explain the significance of Maintenance Information Systems with reference to the implementation of CBM. 5
7. (a) How do you differentiate between linear, transverse and torsional vibration ? 5
(b) Explain the working of accelerometer. 5
8. (a) Explain the different costs involved in machine failure analysis. 5
(b) What is meant by Trend ? Discuss the different methods of trend analysis. 5
9. (a) What is meant by Data Inconsistencies ? Give some examples. 5
(b) What is Goodness of Fit ? Explain any two methods of goodness of fit tests most used in reliability oriented maintenance planning. 5

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

- (a) Modularization
 - (b) Quality and Reliability
 - (c) Total Productive Maintenance (TPM)
 - (d) Zero Breakdown
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