

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/  
MANAGEMENT/COMMERCIAL PRACTICE — APRIL, 2018

**MAINTENANCE ENGINEERING**

[Time : 3 hours

(Maximum marks : 100)

**PART — A**

(Maximum marks : 10)

Marks

I Answer *all* questions in one or two sentences. Each question carries 2 marks.

1. What is total productive maintenance ?
2. Define maintainability.
3. What is meant by vibration signature ?
4. What is the purpose of wear debris analysis ?
5. What is the use of equipment records ?

(5 × 2 = 10)

**PART — B**

(Maximum marks : 30)

II Answer any *five* of the following questions. Each question carries 6 marks.

1. Name any three methods of lubrication.
2. Write the name of any three TPM objectives.
3. List any three benefits of implementing preventive maintenance.
4. Explain series reliability model.
5. Explain on vibration analysis.
6. Explain subjective condition monitoring & objective condition monitoring.
7. Explain the role of computers in maintenance.

(5 × 6 = 30)

## PART — C

(Maximum marks : 60)

(Answer *one* full question from each unit. Each full question carries 15 marks.)

## UNIT — I

- III (a) Explain breakdown maintenance with any two limitations. 8  
 (b) Explain boundary lubrication. 7

OR

- IV (a) Explain maintenance scheduling. 8  
 (b) Explain what is Total productive maintenance. 7

## UNIT — II

- V (a) Explain the terms Inherent availability and operational availability. 8  
 (b) Write the factors to be considered for the evaluation of maintenance cost. 7

OR

- VI (a) Illustrate bath tub curve related to reliability. 8  
 (b) What are the steps to be taken for minimizing the maintenance cost. 7

## UNIT — III

- VII (a) Illustrate the vibration severity chart with reference to displacement and frequency. 8  
 (b) Write the procedure adopted for vibration analysis. 7

OR

- VIII (a) Explain on any two types method and their application of condition monitoring. 8  
 (b) What is unbalance ? Write the effects of unbalance. 7

## UNIT — IV

- IX (a) What is ferrography ? Briefly explain Direct Reading Ferrography (DRF) method. 8  
 (b) Discuss the maintenance strategies for conveyors. 7

OR

- X (a) Explain Liquid penetrant test. 8  
 (b) Explain the maintenance strategies for forklifts. 7