

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/  
MANAGEMENT/COMMERCIAL PRACTICE, NOVEMBER – 2022**

**MAINTENANCE ENGINEERING**

[Maximum Marks: 100]

[Time: 3 Hours]

**PART-A**

[Maximum Marks: 10]

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

1. Define Reliability.
2. What is condition monitoring?
3. What are the possible causes for a failure?
4. Define Repair cycle.
5. What is MTTR?

(5 x 2 = 10)

**PART-B**

[Maximum Marks: 30]

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

1. What are the types of maintenance-categorize?
2. Explain failure analysis.
3. What are the benefits of lubrication?
4. Explain the method of vibration analysis.
5. Explain wear debris analysis.
6. Explain Break down maintenance.
7. Illustrate repair method of material handling equipment.

(5 x 6 = 30)

**PART-C**

[Maximum Marks: 60]

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

**UNIT – I**

- III. (a) What are the benefits of sound maintenance management system? (7)
- (b) What is maintenance schedule? State about Repair cycle? (8)

**OR**

- IV. (a) Explain Break down maintenance. (7)  
(b) State the principle and method of Hydrostatic and Hydrodynamic lubrication. (8)

**UNIT – II**

- V. (a) Illustrate Bath Tub curve. (7)  
(b) Write short notes on Reliability and availability. (8)

**OR**

- VI. (a) Differentiate MTBF and MTTR. (7)  
(b) What are the methods for cost minimization in maintenance? (8)

**UNIT- III**

- VII. (a) Explain the working of Pistol Thermometer. (7)  
(b) Explain the vibration phenomenon with a simple spring mass system. (8)

**OR**

- VIII. (a) What are the mechanical causes of vibration? (7)  
(b) Explain the process of condition monitoring. (8)

**UNIT - IV**

- IX. (a) State the advantages of computerized maintenance management system. (7)  
(b) What are the causes of Gear tooth surface deterioration and maintenance procedure of each fault?. (8)

**OR**

- X. (a) Explain Liquid Penetrant Test. (7)  
(b) State various methods of corrosion monitoring techniques. (8)

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