TED (15) -6026
(Revision- 2015)

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DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE –APRIL -2022.

MAINTENANCE ENGINEERING

(Maximum Marks : 100) [Time : 3 hours]

PART–A

(Max. Marks:10) Marks

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

1. List four types of maintenance categories.
2. Define condition monitoring.
3. Define MTBF.
4. List four types of instruments used for the temperature monitoring.
5. Define ferrography.

(5x2=10)

PART - B

(Max. Marks: 30)

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

1. Explain the functions of lubrication in maintenance.
2. Write six principles of successful maintenance planning.
3. A certain type of electric component has a uniform failure rate of 0.00001 per hour. What is the reliability for a specified period of service of 10000 hours?
4. List the six corrosion monitoring techniques.
5. State six techniques or components in wear debris analysis.
6. State and explain about the need for a reliable product.
7. Explain the working of infrared thermometers.

(5x6 =30)

PART - C

(Max. Marks: 60)

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

UNIT I

III a) Explain the characteristics of predictive maintenance. List its advantages and disadvantages. (8)

b) List the steps in condition based maintenance (CBM) (7)

OR

IV a) List the seven techniques in condition monitoring and explain about vibration analysis, Lubricant analysis. (8)

b) Discuss various steps of maintenance planning. (7)

UNIT- II

V a) Draw the bath tub curve and explain. (8)

b) Describe system reliability. When components are connected in series, explain how the system reliability is calculated. (7)

OR

VI a) With the figure explain about the cost of reliability. (8)

b) Write short notes about,

1. Maintainability
2. MTTR
3. Availability (7)

UNIT- III

VII a) Describe types of misalignment and list out different causes of misalignment and its effects. (8)

b) State the advantages of thermography. (7)

OR

VIII a) Explain about three types of unbalance generally occur in the machine components. (8)

b) State the characteristics of visual monitoring. (7)

UNIT – IV

IX a) Describe the radiographic testing with figure and state its advantages. (8)

b) State the need for corrosion monitoring. (7)

OR

X a) Explain the electric resistance method of corrosion monitoring and draw E/R monitor Reading Vs Time graph. (8)

b) State the basic factors to be considered for selection of computers in maintenance. (7)

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