

[Total No. of Questions - 8] [Total No. of Printed Pages - 2]  
(2063)

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**M.Tech 2nd Semester Examination**  
**Diagnostic Maintenance & Monitoring**  
**PE-513**

**Time : 3 Hours**

**Max. Marks : 100**

*The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary continuation sheet will be issued.*

**Note :** Attempt any five questions. All questions carry equal marks.

1. Give a brief overview of the term "Diagnostic Maintenance is used in various types of industries. How it can be classified? Give a detailed explanation of the various maintenance philosophies.
2. Discuss in detail the basic ingredients and the various steps involved in the implementation of maintenance planning by taking the example of an industry of your choice.
3. Explain the importance of Non destructive Techniques (NDTs) in the diagnostic maintenance. Discuss the NDTs of radiography and magnetic particles testing for steel elements.
4. Discuss the describe in detail the application of diagnostic maintenance in Thermal power plants.

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5. Differentiate between predictive and preventive maintenance with the help of suitable examples. Also discuss the importance of training and safety aspects in implementing maintenance activity.
6. Give a detailed account of the various observational techniques of testing industry.
7. Discuss in detail the various elements of good maintenance economics. Discuss their importance in maintenance management.
8. Write short notes on any two of the followings:
  - (a) Condition Monitoring.
  - (b) Wear analysis through ferrography.
  - (c) Comparison of various maintenance programmes.