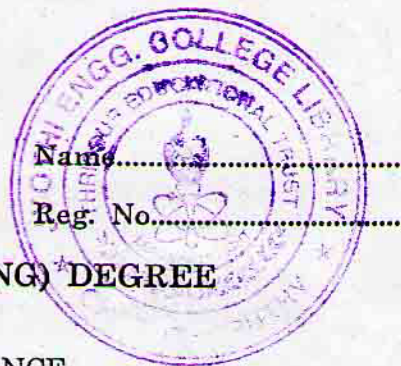


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Name.....

Reg. No.....

**SIXTH SEMESTER B.TECH. (ENGINEERING) DEGREE  
EXAMINATION, MAY 2012**

**ME 09 L03—INDUSTRIAL MAINTENANCE**

(2009 admissions)

Time : Three Hours

Maximum : 70 Marks

**Part A**

*Answer all questions.  
Each question carries 2 marks.*

1. Discuss the elements of preventive maintenance.
2. Briefly discuss the RAM concept.
3. Enumerate and define the various types of maintenance.
4. What are the various methods or techniques employed for corrosion monitoring ?
5. Define proximity analysis with reference to vibration monitoring.

(5 × 2 = 10 marks)

**Part B**

*Answer any four questions.  
Each question carries 5 marks.*

6. Describe the spectral oil analysis procedure. How is it different from Ferrography ?
7. Differentiate between the concepts of reliability and quality.
8. Explain the various transducers used for vibration monitoring.
9. Explain the concept of condition monitoring. What are the techniques involved ?
10. What is a shock pulse monitor ? How is shock pulse analysis helpful in condition monitoring of bearings ?
11. Define the following :—
  - (i) Maintainability.
  - (ii) Failure rate.
  - (iii) Mean time between failures.
  - (iv) Availability.

(4 × 5 = 20 marks)

**Part C**

*Answer all questions.  
Each question carries 10 marks.*

12. (a) Explain the concept of preventive maintenance. Also describe the principles, purpose and functions of preventive maintenance.

Or

Turn over

- (b) What do you mean by condition based maintenance ? Explain the objectives, methodology and advantages fo condition based maintenance system.

13. (a) Discuss the importance of vibration analysis in Industrial maintenance. What are the various techniques adopted for vibration analysis ?

*Or*

- (b) Explain, in detail, the concept and procedure of vibration signature analysis.

14. (a) Compare the various techniques used for Non-destructive testing of materials ? List the merits and demerits of each.

*Or*

- (b) What do you mean by Ferrography ? How can it be classified ? Also describe the different methods adopted in Ferrography.

15. (a) Explain the concept of reliability. How can reliability be estimated using exponential distribution functions.

*Or*

- (b) Explain the various methods for reliability testing.

(4 × 10 = 40 marks)