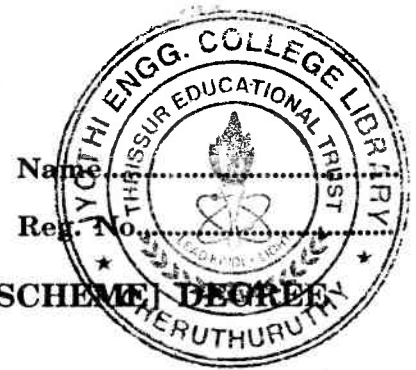


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**SIXTH SEMESTER B.TECH. (ENGINEERING) [09 SCHEME] DEGREE
EXAMINATION, APRIL 2016**

ME/AM/AN 09 L03—INDUSTRIAL MAINTENANCE

Time : Three Hours

Maximum : 70 Marks

Part A

Answer all questions.

Each question carries 2 marks.

1. What are the consequences of insufficient maintenance ?
2. What is breakdown maintenance ?
3. List the common forms of misalignment.
4. What is ferrography ?
5. Define Maintainability.

(5 × 2 = 10 marks)

Part B

Answer any four questions.

Each question carries 5 marks.

6. Describe the responsibilities of the maintenance department in a well-established organization.
7. Discuss vibration monitoring and analysis.
8. Explain vibration signature analysis.
9. What is liquid penetrant testing ? Describe its procedure and applications.
10. A system consists of four components connected in series with failure rates of 0.75, 1.0, 0.1 and 0.1. Compute the probability of their failure after six months.
11. Why does the failure pattern of equipment not remain uniform throughout its life ? Explain.

(4 × 5 = 20 marks)

Part C

Answer all questions.

Each question carries 10 marks.

12. (a) Describe the types of maintenance being practiced in the present day industrial set ups.

Or

- (b) What is condition monitoring ? Discuss various methods of condition monitoring.

Turn over

13. (a) Explain the following :—

- (i) Frequency analysis.
- (ii) Vibration severity criteria.

Or

(b) Discuss the condition monitoring of ball and roller bearings using shock pulse analysis.

14. (a) Describe the radio graphic inspection techniques in detail.

Or

(b) Write short note on the following :—

- (i) Non-destructive testing.
- (ii) Spectral oil analysis.

15. (a) What is reliability ? Discuss various reliability models used in practice for maintenance of equipment.

Or

(b) Discuss the evaluation of reliability in series and parallel configurations with examples.

(4 × 10 = 40 marks)