

[Total No. of Questions - 9] [Total No. of Printed Pages - 3]
(2125)

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B. Tech 8th Semester Examination
Maintenance Engineering (OS)
ME-8010

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 five questions in all selecting one question from each of the sections A, B, C and D of the question paper and section-E is compulsory.

SECTION - A

1. What are the different maintenance objectives? Describe and evaluate concept maintenance and technology. State the important characteristics w.r.t. phases in maintenance evolution. (20)
2. Define and compare the relative merits and demerits of preventive, predictive and corrective maintenance with examples. (20)

SECTION - B

3. What are the various monitoring steps in implementation of condition based maintenance (CBM)? Explain in detail the principle of CBN and their monitoring techniques. (20)
- 4 (a) What is TPM? Explain in detail the methodology of TPM and its key supporting elements. (10)
- (b) How TPM differ from RCM? Explain with an example. (10)

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SECTION - C

5. What is different Non-destructive testing (NDT)? Explain in detail the purposes and challenges of Non-destructive testing (NDT). What are the relative merits and demerits of liquid penetrants and magnetic particles inspection? (20)
6. Define reliability, maintainability and availability. What are various important tools and techniques used for analyzing and improving reliability, safety and availability of machines in a production system? (20)

SECTION - D

7. (a) Describe maintenance information and reporting system. How they help to reduce the maintenance cost of an auto industry? (10)
- (b) Write short note on the following:
 - (i) Ishikawa diagram.
 - (ii) Pareto principle (10)
8. Discuss the need and importance of safety and availability of machines and production system. And explain in detail the checklist that assesses the maintainability improvement program. (20)

SECTION - E

9. Explain the following:
 - (a) Economics of maintenance.
 - (b) Steps in maintenance managements.
 - (c) Predictive maintenance.

- (d) What are the elements of good maintenance?
- (e) Define horoscopes and endoscopes.
- (f) TPM Benefits.
- (g) Common error effecting maintainability.
- (h) Explain business strategies.
- (i) RCM logic.
- (j) Write three selection steps of NTD techniques.

(10×2=20)