CBCS SCHEME

06-1-08

USN | | | | | | | | | | |

(14)

21MT61

Sixth Semester B.E. Degree Examination, June/July 2024
Condition Monitoring and Maintenance Management

Time: 3 hrs. Max. Marks: 100

Note: ***Answer any FIVE full questions, choosing ONE full question from each module.***

Module-1

1 a. Explain maintenance, list objectives and importance of maintenance system. **(10 Marks)**

b. Explain steps involved in maintenance planning. **(10 Marks)**

OR

2 a. Explain predictive maintenance, list the uses and scope of preventive maintenance. **(10 Marks)**

b. Explain Fault Tree Analysis (FTA) as a modeling and analysis technique in Preventive maintenance. **(10 Marks)**

Module-2

3 a. Explain work order system and plant register maintenance system. **(10 Marks)**

b. List the application and benefits of computerized maintenance and management system. **(10 Marks)**

OR

4 a. Explain reliability, derive an expression of failure probability, reliability. **(10 Marks)**

b. Derive on expression for hazard rate function. **(10 Marks)**

Module-3

5 a. Explain principles of Reliability Centered Maintenance (RCM) list the benefits and application of RCM. **(10 Marks)**

b. Explain steps involved in conducting RCM analysis. **(10 Marks)**

OR

6 a. Explain Failure Mode and Effect Analysis (FMEA) and failure consequences. **(10 Marks)**

b. Explain briefly the nature of failure and Technical history. **(10 Marks)**

Module-4

7 a. Explain Total Productive Maintenance (TPM), mention any five uses and applications of TPM. **(10 Marks)**

b. Explain Total Productive Maintenance (TPM) Improvement through productive maintenance. **(10 Marks)**

OR

8 a. Explain modern role of care and asset management through TPM. **(10 Marks)**

b. Explain Pareto ABC analysis. **(10 Marks)**

Module-5

9 a. Explain the measurable phenomena associated with degradation of plant item including motors. **(10 Marks)**

b. Explain fault diagnosis of rotational machine of bent shaft and gear. **(10 Marks)**

OR

10 a. Explain fiber optic techniques with suitable examples. **(10 Marks)**

b. Explain digital signal processing and computational techniques. **(10 Marks)**

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