CBCS SCHEME

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

21MT61

Sixth Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025
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 concepts and procedure. **(10 Marks)**

b. Explain preventive maintenance strategy. **(10 Marks)**

OR

2 a. Write a note on maintenance planning and scheduling. **(10 Marks)**

b. Explain fault tree analysis as one of the modeling and analysis techniques in preventive maintenance. **(10 Marks)**

Module-2

3 a. What are the benefit and applications of computerized maintenance management systems? **(10 Marks)**

b. Explain the concept of work order system and plant register. **(10 Marks)**

OR

4 a. Define : i) MTTF ii) Hazard rate function iii) MTTR iv) MTBF. **(10 Marks)**

b. Explain system reliability in series and parallel. **(10 Marks)**

Module-3

5 a. Explain benefits and applications of Reliability Centered Maintenance (RCM). **(10 Marks)**

b. Explain step by step procedure in conducting RCM analysis. **(10 Marks)**

OR

6 a. Explain the concept of Failure Mode and Effect Analysis (FMEA) **(10 Marks)**

b. Explain optimizing maintenance and replacement decisions through RCM. **(10 Marks)**

Module-4

7 a. Explain objectives and methodologies of total Productive Maintenance (TPM). **(10 Marks)**

b. Explain barriers to implement TPM. **(10 Marks)**

OR

8 a. Explain Pareto analysis with suitable example. **(10 Marks)**

b. Explain the concept of ABC analysis in brief. **(10 Marks)**

Module-5

9 a. Explain unbalance detection in rotating machinery. **(10 Marks)**

b. Explain degradation analysis. **(10 Marks)**

OR

10 a. Explain Thermography measurement technique. **(10 Marks)**

b. Describe signal analysis based on frequency and time domain. **(10 Marks)**

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