

22679

M. Tech (Mechanical Engg.) 3rd Semester
(CBCS Scheme) Examination, December-2022

TRIBOLOGY AND MAINTENANCE
ENGINEERING

Paper-16MME23C1

Time allowed : 3 hours] [Maximum marks : 100

Note : Question No. 1 is compulsory and attempt one question from each unit. Attempt any five questions in total. All questions carry equal marks.

1. Explain the following :
 - (a) Nano Tribology 5
 - (b) Lubricant additives 5
 - (c) Quality circle in maintenance 5
 - (d) NDT concepts 5

Unit-I

2. Define "Tribology". Explain each element of tribological system and their characteristic features with neat sketch. 20
3. What are the theories of friction ? Briefly explain stick-slip theory of friction with neat sketch. 20

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Unit-II

4. What are synthetic lubricants ? Explain objective, properties and industrial application of various lubricants. 20
5. What is the classification of a Bearing ? Explain each type with its application. Compare hydrostatic bearings, hydrodynamic bearings. 20

Unit-III

6. Explain with sketch various types of maintenance approach ? Briefly explain the objective benefit and application of CBM. 20
7. Discuss on maintenance costs and its classification. Explain maintenance objectives. 20

Unit-IV

8. Explain any three-condition monitoring technique. What are the advantages of condition monitoring ? 20
9. Define crack monitoring and list out some crack monitoring techniques. Explain working principle and application of ferrography with neat sketch. 20