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B.Tech.(ME) (2011 Onwards E-II) (Sem.-7,8) INDUSTRIAL TRIBOLOGY

Subject Code: DE/ME-3.6 Paper ID: [A3090]

Time: 3 Hrs. Max. Marks: 60

## **INSTRUCTION TO CANDIDATES:**

- SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
- 2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
- 3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

### **SECTION-A**

# Q1 Answer briefly:

- a) What do you mean by the term "Tribology"?
- b) What is a rough surface?
- c) What is the role of friction in Tribology?
- d) What is the function of grease lubricants?
- e) For what reasons bearing maintenance is done?
- f) What is elasto hydrodynamic lubrication?
- g) Discuss the properties of the liquid lubricants.
- h) Give the laws of static friction.
- i) What do you mean by diagnostic maintenance of tribological components?
- i) Give the concept of boundary friction.



### **SECTION-B**

- Q2 Discuss in detail the mechanical properties of surface layers.
- Q3 Explain how wear occurs in Metals and Non-metals.
- Q4 Explain the concept of corrosive wear.
- Q5 Explain the laws of rolling friction.
- Q6 Discuss in brief wear measurement.

# **SECTION-C**

- Q7 Explain with suitable examples why additives are used in lubricants.
- Q8 Discuss the methods of studying the various surfaces.
- Q9 Explain the factors for selecting bearing and lubricants.

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