

National Institute of Technology, Srinagar (J & K)

Assignment No-1

Subject: Fundamentals of Tribology

March 2020 to June 2020

Unit: 1 Introduction of Tribology & Basics of Friction

Date of Submission: 01-05-2020

1. Show the historical development of tribology from 1880 BC to till now.
2. With the help of neat sketches explain nature of surface? Why are the properties of a solid surface important?
3. Explain the role of tribology in industry. Discuss the various losses encountered in industry due to friction and wear.
4. Show the development of engineering surface and measurement of surface roughness. How do we classify surface roughness?
5. a) Write short notes on: a) Static and Kinetic Friction; b) Mechanism of Rolling Friction.
6. Explain Bowden and Tabor theory of adhesive friction.

*******END*******

- Note:** 1. *Students are advised to submit the assignment online by scanning the handwritten assignment on or before the date of submission at mukund.sharma@nitsri.net*
2. *Please ensure that the Roll No along with name should be written in the front page of Assignment*

National Institute of Technology, Srinagar (J & K)

Assignment No-2

Subject: Fundamentals of Tribology
Unit: II Wear and Types of Wear

March 2020 to June 2020
Date of Submission: 25-05-2020

1. Discuss the various losses encountered in industry due to friction and wear. Explain the effect of these losses on the efficiency of the system
2. What are the various types of wear mechanism found in machine components like gear and bearing? Explain in detail any two wear mechanism found in these components with the help of neat sketch.
3. What are similarities and differences between adhesive, abrasive and junction growth friction theories?
4. Explain with the help of neat sketch Pin-on-disc tribometer to measure wear. Name ASTM standard on which Pin-on-disc tribometer is designed.

*******END*******

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Assignment No-3

Subject: Fundamentals of Tribology

March 2020 to June 2020

Unit: III Lubricants and Types of Lubricants

Date of Submission: 11-06-2020

1. Compare boundary, mixed and hydrodynamic lubrication with the help of examples.
2. What are solid lubricants? What are their application areas and advantages over liquid lubricants?
3. Classify the lubricants. Also discuss the function and requirements of lubricants.
4. What kind of lubricant is there in human joints? Can this lubricant be used as a substitute to the other lubricant used in various applications?

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