

# *National Institute of Technology, Srinagar (J & K)*

## **Assignment No-1**

**Subject: Wear Analysis and Control (MSD-204)**

**March 2020 to June 2020**

**Unit: 1 Introduction of Tribology, Basics of Friction & Wear    Date of Submission: 01-05-2020**

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1. With the help of neat sketches explain nature of surface? Why are the properties of a solid surface important?
2. Explain the role of tribology in industry. Discuss the various losses encountered in industry due to friction and wear.
3. Show the development of engineering surface and measurement of surface roughness. How do we classify surface roughness?
4. Name some different types of wear mechanism found in machine components like gear couplings and rolling bearing. Explain any two wear mechanism found in these components with the help of neat sketch.
5. What are similarities and differences between adhesive, abrasive and junction growth friction theories?

\*\*\*\*\***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](mailto: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: Wear Analysis and Control (MSD-204)**

**March 2020 to June 2020**

**Unit: II Diagnosis of Wear Mechanisms**

**Date of Submission: 25-05-2020**

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1. List out the different techniques to examine the surface chemistry.
2. What is the concept of electron interaction while diagnosis of wear mechanisms?
3. Explain the concept of SEM optics with the help of well labeled diagram.
4. List some wear resistance materials.
5. Name some eco friendly coatings.
6. What is the concept of filtration for controlling wear?
7. List the various optical microscopy methods to diagnosis wear.

\*\*\*\*\***END**\*\*\*\*\*

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## **Assignment No-3**

**Subject: Wear Analysis and Control (MSD-204)**

**March 2020 to June 2020**

**Unit: III Component Wear & Lubrication**

**Date of Submission: 11-06-2020**

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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?
5. Discuss the environmental and health issues from the wear debris materials comes from the brake system.
6. Explain the wear mechanism and formation of wear fragments in braking pad-disc system.

\*\*\*\*\***END**\*\*\*\*\*

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