

TRIBOLOGY LAB

About the Laboratory

The Tribology Laboratory in the Department of Mechanical Engineering at the National Institute of Technology (NIT) Kurukshetra is dedicated to academic research projects, dissertations, consultancy, and sponsored industrial projects to solve problems in friction, wear, lubrication, and surface engineering. The laboratory supports undergraduate, postgraduate, and doctoral research projects by providing facilities for the characterization of tribological behavior of engineering materials, coatings, and lubricants under various operating conditions. It also serves as a platform for collaborative research with industries and academic institutions to develop wear-resistant materials and improve the reliability and service life of mechanical components. The major facilities of the lab include Automatic Four Ball Tester, Pin-on-Disc Tribometer, Multi-Function Tribometer, Nano-Indentation Tester, High-Temperature Reciprocating Wear Test Setup, Dry Sand Rubber Wheel Abrasion Tester, Shear Stability Tester, Journal Bearing Apparatus, Full-Automatic Micro-Hardness Tester, etc.

Faculty In-Charge

Dr. Lalit Thakur

Staff

- Er. Naveen Singh

Laboratory Courses

S. No.	Course Code	Course Name	Programme (B.Tech./M.Tech./Ph.D.)
1	MEIC-314	Internship/Industrial Training	B.Tech.
2	MEIC415	Internship/Industrial Training	B.Tech.
3	MEPE408	Project	B.Tech.

List of Major Equipment/Software

S. No.	Name of Major Equipment/Software	Quantity	Utilization (B.Tech./M.Tech.)
1	Automatic Four Ball Tester	01	M.Tech, PhD
2	Pin-on-Disc Tribometer	01	B.Tech, M.Tech, PhD
3	Multi-Function Tribometer	01	M.Tech, PhD
4	Nano-Indentation Tester	01	M.Tech, PhD
5	Dry Sand Rubber Wheel Abrasion Tester	01	M.Tech, PhD
6	Shear Stability Tester	01	M.Tech, PhD
7	Fully-Automatic Micro-Hardness Tester	01	B.Tech, M.Tech, PhD
8	Journal Bearing Apparatus	01	B.Tech
9	Low Speed Diamond Precision Saw	01	M.Tech, PhD
10	Automatic Hot Mounting Machine	01	M.Tech, PhD
11	Automatic Jar Milling Machine	01	M.Tech, PhD
12	High Temperature Vacuum Sintering Furnace	01	M.Tech, PhD
13	Ultrasonic Stir Casting Machine	01	M.Tech, PhD
14	3-Axis CNC TIG Weld Cladding Machine	01	M.Tech, PhD

Laboratory Photographs



Automatic Four Ball Tester



Pin-on-Disc Tribometer



Multi-Function Tribometer



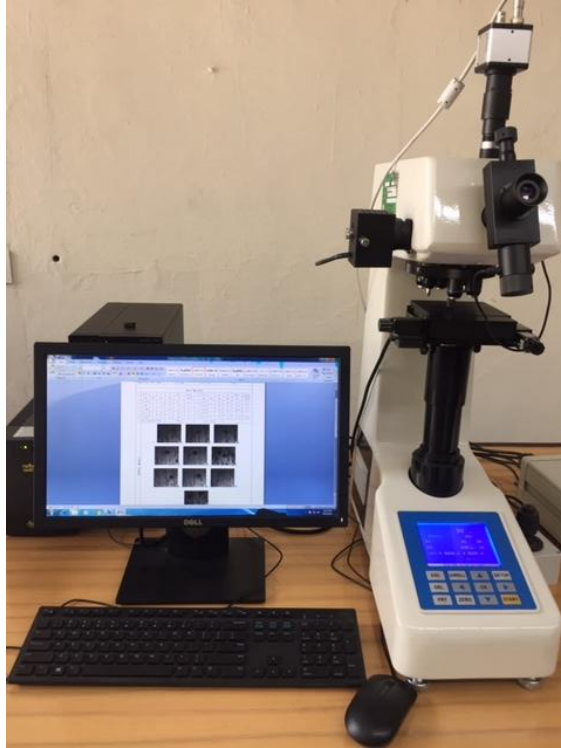
Nano-Indentation Tester



Dry Sand Rubber Wheel Abrasion Tester



Shear Stability Tester



Full-Automatic Micro-Hardness Tester



Low Speed Diamond Precision Saw



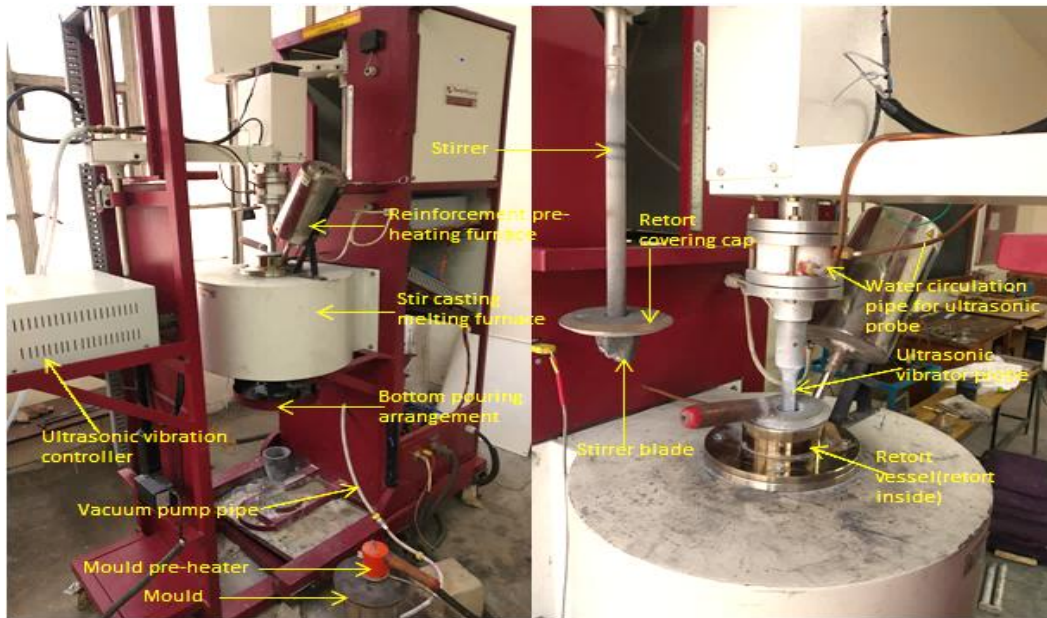
Automatic Hot Mounting Machine



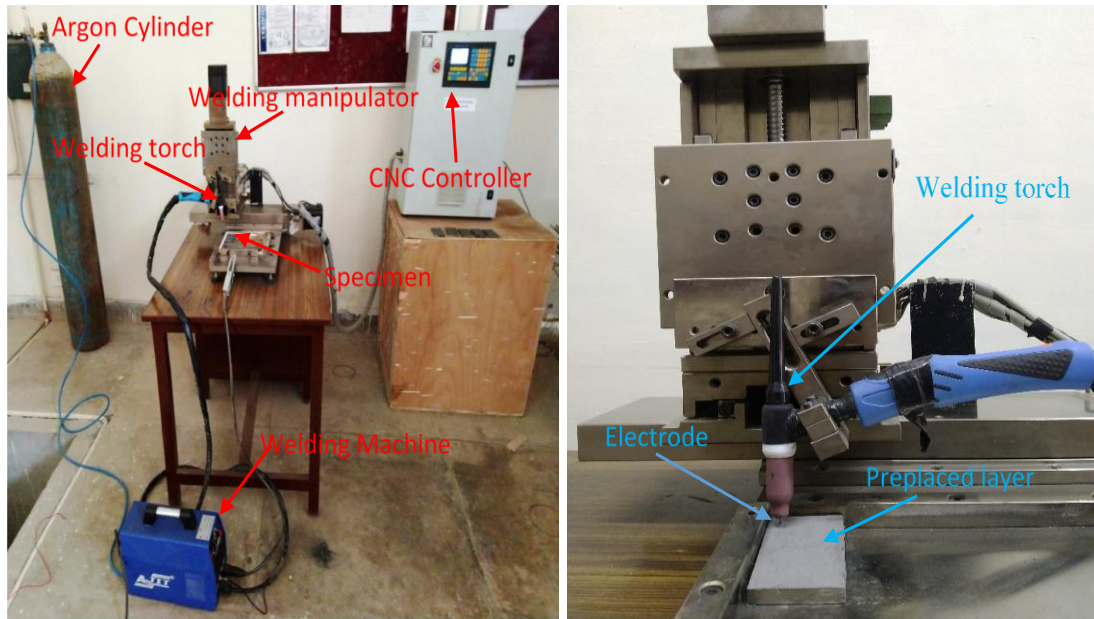
Automatic Jar Milling Machine



High Temperature Vacuum Sintering Furnace



Ultrasonic Stir Casting Machine



3-Axis CNC TIG Weld Cladding Machine