Research Labs in the Department

For students who take up projects, both as part of the curriculum or as a co-curricular activity, support is provided by the Department in terms of provision of facilities. Based on the type of research and project work (i.e. Design or Manufacturing or Thermal or Simulation or Modeling) department provides the facilities for students (Under Graduate, Post Graduate, and Ph.D) as well as for faculty research with well-equipped laboratories, analytical instruments and space.

We recognize that the quality and accuracy of student project results are of the highest significance in research. We therefore strive to ensure that all the equipments in our laboratory are in fine shape always and they are calibrated periodically by using traceable standards. Students utilize the facilities for their mini projects as well as major projects. These facilities are also used by other branch of engineering students from our institute as well by other institutions. We also network with other department laboratories to enhance the quality of the project.

Centre for Advanced Material Processing

Student projects completed:

- Investigation on optimization, mechanical, metallurgical and tribological characteristics of titanium using electric discharge coating toward dental implement
- An exploration on coating through compacted and semi sintered nickel tungsten electrode for wear resistance
- Experimental investigation on tribological behavior of high Mn steel
- Thermal and wear characteristics of nano filled composite
- Investigations on wear resistance of AA5083 aluminium alloy under cryogenic condition
- Analysis of surface morphology and material removal rate of high Mn steel machined by EDM
- Effect of Double aging heat treatment on Electrical Discharge Machining characteristics of AA7075-TiC composites
- EDM metal matrix composite coating on duplex stainless steel and wear behavior under different environmental conditions
- Mechanical and tribological behavior of LLDPE/Nano clay composites
- Fabrication and mechanical properties of Al-SiC metal matrix composites by powder metallurgy route
- Fabrication and mechanical properties of Al-Al_2O_3 metal matrix composites powder metallurgy route

Electrical Discharge Machining

Specifications
Sparkonix ZNC 50A
Power supply: 3 phase AC, 415 V, 50Hz
Connected load 5kVA
Double door work tank
Work tank: 800x500x325 mm

Centre for Advanced Material Processing

Salt spray corrosion tester

Specifications

Presto KORROX-III corrosion chamber
Tank capacity 60 lit
Temp. Range: Ambient to 45°C
Size: 1000x700x750 mm

Pin-on-disc Tribometer

Specifications

Tribometer TR20LE -PHM400 - CHM600
Load Range: Up to 200 N
Rotational Speed: 200 to 2000 rpm
Frictional Force Measurement: 0 to 200 N
Compound Wear Measurement: 0 to 1200 µm

Metallurgical Microscope

Specifications

OLYMBUS BX53M
Vertical stage movement: 25 mm
Optical system: UIS2
Min adjustment gradations 1 µm
Servo stabilizer 7.5 kVA
Illuminator 12 V, 100 W halogen bulb

Digital Weighing Machine

Specifications

Shimadzu ATY 224
Capacity: 0.22kg
Accuracy: 0.1gm

Centre for Advanced Material Processing

Hot Mounting Press

Specifications

Master mounting press SSA
Size: 410x575x650 mm
Mould assembly 1.5”x2.5”
Heating Unit 1500W

Belt Grinder

Specifications

Chennai Metro
Table Top Model
Speed 1440 rpm