

Our Resources

Computer Centre

The Institute is equipped with modern state of the art facilities for computation works, which is equipped with centralized Internet. It has a number of terminals for the use of students during their studies and project works. A large number of personal computers are also available, apart from the full-fledged graphics workstations.



CAD-CAM Lab

The CAD-CAM lab has 50 terminals. These are used for designing and simulation purposes. These systems have packages like CATIA, PRO-E, AUTOCAD, PROCAST, ANSYS, Deform, NASTRAN, Hyper Mesh etc. installed and are used by the students for their projects as well as for learning purposes.

Moreover, various other software available are - C, C++, Visual C++, C++ Developer, Turbo PASCAL, FORTRAN 77, ORACLE 8i, NISA packages, Quest, Micro Station Modular, etc. In all, the institute has got 4 computer labs which are used by the students for learning various software packages as well as for the practical and project works.

Laboratories

NIFFT is well resourced with state-of-the-art laboratories for the study of various manufacturing and metallurgical processes. The different labs are –

Rapid Prototyping Lab

NIFFT is one of the very few organizations in the country to possess rapid prototyping technique. The rapid prototyping machine in NIFFT uses Fused Deposition Modelling for preparation of prototypes. It is an additive fabrication process (such as 3D printing and stereo lithography) which works on an 'additive' principle by laying down material in layers. A plastic filament or metal wire is unwound from a coil and supplies material to an extrusion nozzle which can turn on and off the flow. The nozzle is heated to melt the material and can be moved in both horizontal and vertical after extrusion from the nozzle. This technique has brought a revolutionary change in the prototype manufacturing directions by a numerically controlled mechanism, directly controlled by a computer-aided manufacturing (CAM) software package. The model or part is produced by extruding small beads of thermoplastic material to form layers as the material hardens immediately.



CNC Lab

*4-Axis CNC milling machine
CNC Trainer lathe*



Pilot Foundry

*Pit Type Resistance Furnace
Centrifugal Casting machine
Crucible Melting Furnace
Heat Treatment Furnace*



Mechanical Testing Lab

*Universal Testing machine (50 & 10 Tons)
Tensile Testing machine
Hardness testing machine (Brinell & Rockwell)
Fatigue testing machine
Impact testing machine*

Metrology Lab

*Autocollimator
Profile Projector Electronic & pneumatic
Comparator
Roundness Tester Layout measuring
machine
Laser Micrometer Profilometer.*



***Classical and Instrumental
Analysis Lab***

*Spectrophotometer
TDS Meter
AAS (Atomic Absorption Spectrometer)
Spectrographic Analyzer
BOD Incubator
Silicon Tester
UV Spectrograph*



Electrical Lab

*5 H.P. DC Motor
Induction Motor
Alternator
Generator
Synchronous machine
Transformer sets*

Quantovac Lab

*Optical Emission
Spectrometer*

Electronics Lab

*Oscilloscope
Function Generator Logical Gate Trainer Board
RC Couple Transistor Trainer Board
Basic Theorem Demonstrator
8085 Microprocessor
Logical Gate Trainer Board
RC Couple Transistor Trainer Board*



*Basic Theorem Demonstrator
8085 Microprocessor*

Sand Lab

*Gas Determinator
Mouldability measuring machine
Sand Strength Tester
Hot Strength Measuring machine*

FMS & Robotics Lab

*CNC Trainer lathe
IR 52 C ROBOTS
Linear slide base*

***Non-Destructive Testing
Lab***

Cathode Ray Oscilloscope

***Specimen preparation
And
Metallography
Lab***

*Induction Hardening
Equipment
Metallographic
Microscope*

X-ray Diffractometry Lab

*X-Ray Diffractometer
X-ray Diffraction Lab
Thin Film Recorder*



ALLIED LABS

Environmental Pollution Lab

Refractory, fuel and furnaces Lab

Static and Dynamic Testing Lab

Pollution Control & Monitoring Lab

Carbon and Sulphur Lab and Chemical Lab

Workshop

The department of Foundry Technology has well equipped sand laboratory with the facilities for testing of sands & binders, foundry workshop for melting, moulding and casting shop. The department of Forge Technology houses well equipped Forge laboratories, heat treating facilities that includes Treating Furnace, Muffle Furnace, and Glow Bar Furnace, Induction furnaces, Cupola.

The workshop also includes well equipped –

Metal Machining Shop

Welding Shop

Carpentry Shop

Forge Shop

Foundry Shop

Melting Shop

Drawing Hall

Moulding & Casting Shop



