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 а 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

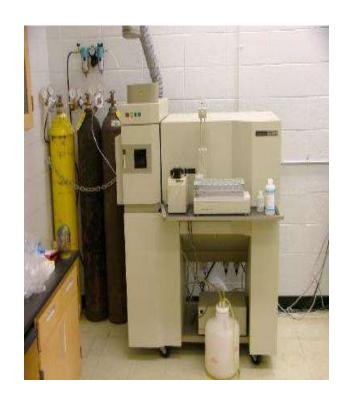
4-Axis CNC milling machine CNC Trainer lathe



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

Non-Destructive Testing Lab Cathode Ray Oscilloscope

FMS & Robotics Lab CNC Trainer lathe IR 52 C ROBOTS Linear slide base



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











