

INSTRUMENT FACILITIES AVAILABLE AT THE INDIVIDUAL SAIFs

Sophisticated Analytical Instrument Facility, Nagpur University, Nagpur

Sl. No.	Instrument	Make/ Model	Major Specifications/ Accessories available	Type of measurement/analysis available
1.	FT-IR Spectrometer	Nicolet Magna 550II	Range: 400 to 4000 cm^{-1} ; Attenuated total reflectance accessory	IR Spectra of liquid/solid samples.
2.	Atomic Absorption Spectrometer	GBC 932	Detection limit: ppm/ppb; Graphite furnace; Hydride generator for As & Hg	Trace element analysis of elements including Al, As, Ca, Cd, Co, Cr, Fe, Mg, Mn, Ni, Pb, Si, Sn, Zn etc. in rock/ore, soil, water, biological samples etc.
3.	TGA/SDTA	Mettler Toledo	Temp. range: Ambient to 1000 ⁰ C	Thermal analysis studies/testing including melting points, crystallization behavior, glass transition, phase transition, thermal stability etc.
4.	DTA	AIMIL 1600 DTA	Temp. range: 400 ⁰ C to 1600 ⁰ C	
5.	DSC	Mettler DSC 30S	Temp. range: -150 ⁰ C to 600 ⁰ C	
6.	X-ray Diffractometer (powder)	Philips PW 1710	Range (2 θ): 5 ⁰ to 135 ⁰ ; X-ray tubes: Cu, Fe; ICCD data base	2 θ vs intensity plots/X-ray diffractograms.
7.	Transmission Electron Microscope	Jeol 1200 EX II	Resolution: upto 4.5 ⁰ A Acc. voltage: upto 120 kV; Magnification: upto 10,00,000 x Ultramicrotome; Glass/diamond knife maker	Study of ultrastructures of materials; Photomicrographs of ultrathin sections of biological samples.