

## Central Research Facility (CRF) Category - I Equipment (Above 50 Lakhs)

Sl. No.	EQUIPMENT	DEPARTMENT	PROF. IN CHARGE
1	Electro spinning Machine	Biotechnology and Medical Engineering	Prof. Krishna Pramanik
2	Universal Testing Machine	Biotechnology and Medical Engineering	Prof. Krishna Pramanik
3	Confocal Microscope	Biotechnology and Medical Engineering	Prof. Krishna Pramanik
4	Environmental Scanning Electron Microscope	Biotechnology and Medical Engineering	Prof. Krishna Pramanik
5	Flow Cytometer	Biotechnology and Medical Engineering	Prof. Krishna Pramanik
6	Bio-Atomic Force Microscope	Biotechnology and Medical Engineering	Prof. Devendra Verma
7	Digital Servo Electric Universal Testing Machine	Civil Engineering	Prof. Shishir Kumar Sahu
8	Transmission Electron Microscope	Chemical Engineering	Prof. Santanu Paria
9	Table top SEM	Chemical Engineering	Prof. Santanu Paria
10	Gas Chromatograph Mass Spectroscope	Chemical Engineering	Prof. Sujit Sen
11	Inductively coupled plasma optical emission spectrometer (ICP-OES)	Chemical Engineering	Prof. Santanu Paria
12	Nuclear Magnetic Resonance (NMR) Spectrometer	Chemistry	Prof. G. Sahoo
13	Circular Dichroism (CD) Spectrophotometer	Chemistry	Prof. Harekrushna Sahoo
14	Single crystal X-ray diffractometer	Chemistry	Prof. Rupam Dinda
15	High Resolution Mass Spectrometer	Chemistry	Prof. D. Sarkar
16	Dynamic Rock Testing Machine	Mining Engineering	Prof. H.B.Sahu
17	Multipurpose X-Ray Diffraction System	Physics and Astronomy	Prof. J.P.Kar
18	PL Micro Raman Spectrometer	Physics and Astronomy	Prof. P. Mahanandia
19	Vibrating Sample Magnetometer (VSM)	Physics and Astronomy	Prof. P.N. Viswakarma
20	Atomic Force Microscope	Metallurgical and Materials Engineering	Prof. A. Mallik
21	UTM with Environmental Chamber	Metallurgical and Materials Engineering	Prof. B.C. Ray
22	Dynamic UTM	Metallurgical and Materials Engineering	Prof. K. Dutta
23	XRD (Texture)	Metallurgical and Materials Engineering	Prof. S.K. Sahoo
24	Scanning Electron Microscope	Metallurgical and Materials Engineering	Prof. D. Chaira
25	FESEM	Ceramic Engineering	Prof. S.K. Pratihari
26	DSC-TG	Ceramic Engineering	Prof. B.B. Nayak
27	XRD	Ceramic Engineering	Prof. R. Mazumdar
28	BET Analyser	Ceramic Engineering	Prof. S.K. Pratihari
29	Universal Testing Machine-600kN	Mechanical Engineering	Prof. Manoj Masanta
30	Rapid Prototyping Machine	Mechanical Engineering	Prof. Balaji PS
31	ITC( Isothermal Titration Calorimetry)	Life Science	Prof. Suman Jha
32	DSC(Differential Scanning Calorimeter)	Life Science	Prof. Suman Jha
33	Laser Scanning Confocal Microscope	Life Science	Prof. Rohan Dhiman
34	Wavelength Dispersive X-Ray Fluorescence Spectrometer	Earth and Atmospheric Sciences	Prof. Md. Equeenuddin
35	Liquid Nitrogen Plant	Central Research Facility	Prof. Suman Ghosh

# Central Research facility (CRF) Category-II Equipment (Cost 25-50 lakhs)

Sl. No.	EQUIPMENT	DEPARTMENT	PROF. IN CHARGE
1	Differential Scanning Calorimeter (Low Temperature)	Metallurgical and Materials Engineering	Prof. R.K. Prusty
2	Fourier Transform Infrared Spectrometer (FTIR)	Metallurgical and Materials Engineering	Prof. R.K. Prusty
3	Differential Scanning Calorimeter (DSC)	Metallurgical and Materials Engineering	Prof. Ajit Behera
4	Dynamic Mechanical Analyzer (DMA)	Metallurgical and Materials Engineering	Prof. B.C. Ray
5	Profilometer	Metallurgical and Materials Engineering	Prof. A. Mallick
6	Computer Controlled Constant temperature Anemometer	Civil Engineering	Prof. Kishanjit Kumar Khatua
7	Atomic Absorption Spectrometer	Civil Engineering	Prof. K. K. Paul
8	Cyclic Triaxial Shear Test With Bender Element	Civil Engineering	Prof. Chittaranjan Patra
9	Fermentor & Bioreactor	Biotechnology and Medical Engineering	Prof. Krishna Pramanik
10	High Performance Liquid Chromatography-HPLC	Biotechnology and Medical Engineering	Prof. A.Thirugnanam
11	Interfacial Tensiometer	Biotechnology and Medical Engineering	Prof. Krishna Pramanik
12	Real-time Polymerase Chain reaction-RTPCR	Biotechnology and Medical Engineering	Prof. B.P. Nayak
13	3D Motion Analysis System with 4 Cameras(Coupled with Multi Axial Force Platform)	Biotechnology and Medical Engineering	Prof. A.Thirugnanam
14	DSP, Microcontroller ,Smart Camera, Biopotential Amplifier	Biotechnology and Medical Engineering	Prof. K. Pal
15	Metimen Patient Simulators	Biotechnology and Medical Engineering	Prof. K. Pal
16	Interfacial Tensiometer	Biotechnology and Medical Engineering	Prof. Krishna Pramanik
17	Differential Scanning Calorimeter	Biotechnology and Medical Engineering	Prof. K. PAL
18	Cooling Centrifuge	Biotechnology and Medical Engineering	Prof. Amit Biswas
19	Cell Culture Facility	Biotechnology and Medical Engineering	Prof. Krishna Pramanik
20	Biomedical Instrumentation & Signal processing System	Biotechnology and Medical Engineering	Prof. Kunal Pal
21	Benchtop Flow cytometer	Chemistry	Prof. G. Sahoo
22	High-Performance Liquid Chromatography (HPLC)	Chemistry	Prof. G. Sahoo
23	Fluorescence Spectrometer	Chemistry	Prof. Usharani Subuddhi
24	Fluorescence Spectrometer	Chemistry	Prof. Usharani Subuddhi
25	Fluorescence Spectrometer	Chemistry	Prof. Sabita Patel
26	BET surface area analyzer	Chemistry	Prof. Garudadhwaaja Hota
27	CHNS Analyzer	Chemistry	Prof. Priayabrat Dash
28	Wire Electro Discharge Machine	Mechanical Engineering	Prof. Manoj Masanta
29	EDS Bruker System(Quantax)	Ceramic Engineering	Prof.S. K. Pratihar
30	Malvern Zeta Sizer	Life Science	Prof. B. Nayak
31	Table Top Flow Cytometer	Life Science	Prof. Sujit Kumar Bhutia
32	Ultra Microtone	Life Science	Prof. Monalisa Mishra
33	Hall Effect Measurement System	Physics and Astronomy	Prof. J. Kar
34	Laser Light Scattering	Physics and Astronomy	Prof. S. Jena
35	Precision Ferroelectric Characterization System	Physics and Astronomy	Prof. P. Kumar
36	Mercury Porosimeter	Mining Engineering	Prof. M.K.Mishra
37	Triaxial Setup	Mining Engineering	Prof. M.K.Mishra

# Central Research facility (CRF) Category-III Equipment

**(COST 10 - 25 LAKHS)**

Sl. No.	EQUIPMENT	DEPARTMENT
1	High Temperature Microscope	Metallurgical and Materials Engineering
2	Double beam UV-Visible Spector-Photometer	Earth and Atmospheric Sciences
3	Research Grade polarising microscope for thin section & ore petrology with digital scientific camera and image software	Earth and Atmospheric Sciences
4	Microwave Digestion System	Earth and Atmospheric Sciences
5	Ion Chromatography	Earth and Atmospheric Sciences
6	Triaxial Shear Test Apparatus	Civil Engineering
7	Large Direct Shear Testing Equipment	Civil Engineering
8	Plate Load Testing Equipment	Civil Engineering
9	Load Frame (Electrical cum manual) 500 KN	Civil Engineering
10	Nuclear Moisture Meter	Civil Engineering
11	Vibrometer	Civil Engineering
12	Block Vibration Testing Equipment	Civil Engineering
13	Ultraviolet-visible spectroscopy	Civil Engineering
14	Remote Sensing and GIS Facility	Civil Engineering
15	START D Microwave Digestion System	Civil Engineering
16	Accelerated Solvent Extractor	Civil Engineering
17	Electromagnetic excitor/shaker with vibration controller	Civil Engineering
18	Rolling Thin Film Oven	Civil Engineering
19	Pressure Ageing Vessel	Civil Engineering
20	Rheometer for Asphalt	Civil Engineering
21	Large Hydraulic Tilting Flume	Civil Engineering
22	Micro-Acoustic Doppler Velocity Meter	Civil Engineering
23	UV-Vis Spectrophotometer	Chemistry
24	PC-controlled Electrochemical Analyzer	Chemistry
25	Autoclave	Chemistry
26	Multiparameter water analysis kit	Chemistry
27	Glove box system for handling air-sensitive samples.	Chemistry
28	Gas Chromatography	Chemistry
29	UV-Vis Spectrophotometer	Chemistry
30	UV-Vis Spectrophotometer	Chemistry
31	UV-Vis spectrophotometer	Chemistry
33	Infra-Red Spectrometer	Chemistry
34	UV-Vis spectrophotometer	Chemistry
35	UV-Vis spectrophotometer	Chemistry
36	Ultra-centrifuge	Chemistry
37	Freeze Dryer	Chemistry
38	Polymerase Chain Reaction (PCR)	Chemistry
39	FT-Infrared spectrometer	Chemistry
40	UV-Vis Spectrophotometer	Chemistry
41	Polarimeter	Chemistry

42	<b>Optical Microscope</b>	<b>Chemistry</b>
43	<b>Protein Purification System</b>	<b>Chemistry</b>
44	<b>Shimadzu, UV-1900</b>	<b>Chemistry</b>
45	<b>EG&amp;G PAR - VERSASTAT4-200</b>	<b>Chemistry</b>
46	<b>Biorad, BioLogic</b>	<b>Chemistry</b>
47	<b>FaroArm Fusion</b>	<b>Industrial Design</b>
48	<b>CNC – FlexMill</b>	<b>Industrial Design</b>
49	<b>CNC – FlexTurn</b>	<b>Industrial Design</b>
50	<b>Ultrasonic Welding Machine</b>	<b>Mechanical Engineering</b>
51	<b>Heavy Duty Lathe</b>	<b>Mechanical Engineering</b>
52	<b>Micro-hardness Tester</b>	<b>Mechanical Engineering</b>
53	<b>Universal Testing Machine-1000kN</b>	<b>Mechanical Engineering</b>
54	<b>CARL ZEISS TOOL MAKERS MICROSCOPE</b>	<b>Mechanical Engineering</b>
55	<b>Laser engraving and micro-machine</b>	<b>Mechanical Engineering</b>
56	<b>Dilatometer (DIL402C)</b>	<b>Ceramic Engineering</b>
57	<b>Rheometer (Rheolab QC)</b>	<b>Ceramic Engineering</b>
58	<b>UTM (H10KS)</b>	<b>Ceramic Engineering</b>
59	<b>Carver Press Auto Four 15P</b>	<b>Ceramic Engineering</b>
60	<b>UV-Visible Spec</b>	<b>Ceramic Engineering</b>
61	<b>Zeta Sizer (Malvern Nano ZS)</b>	<b>Ceramic Engineering</b>
62	<b>Abbe Refractometer</b>	<b>Ceramic Engineering</b>
64	<b>Fluorescence Microscope</b>	<b>Life Science</b>
65	<b>AKTA Prime Plus</b>	<b>Life Science</b>
66	<b>Two Dimensional Gel Electrophoresis</b>	<b>Life Science</b>
67	<b>Floortop high speed centrifuge</b>	<b>Life Science</b>
68	<b>Horizontal autoclave</b>	<b>Life Science</b>
69	<b>Mutation Detection System</b>	<b>Life Science</b>
70	<b>Fermenter</b>	<b>Life Science</b>
71	<b>Imagequant</b>	<b>Life Science</b>
72	<b>Rotary Vacuum Evaporator</b>	<b>Life Science</b>
73	<b>Miliq Water purification system</b>	<b>Life Science</b>
74	<b>ATR-FTIR (Bruker)</b>	<b>Life Science</b>
75	<b>UV-Visible Spectrophotometer (Agilent)</b>	<b>Life Science</b>
76	<b>Multi-mode Plate Reader (BioTek)</b>	<b>Life Science</b>
77	<b>Millipore Water Purify System (Direct Q3, Millipore)</b>	<b>Life Science</b>
78	<b>Real-time Polymerase Chain Reaction Machine</b>	<b>Life Science</b>
79	<b>Quantitative Real Time PCR</b>	<b>Life Science</b>
80	<b>Spectro fluorometer</b>	<b>Life Science</b>
81	<b>UV-Visible Spectrophotometer</b>	<b>Life Science</b>
82	<b>Inverted Microscope</b>	<b>Life Science</b>
83	<b>Wear and Friction Monitor</b>	<b>Biotechnology and Medical Engineering</b>
84	<b>Viscometer</b>	<b>Biotechnology and Medical Engineering</b>
85	<b>UV-Visible Spectrophotometer</b>	<b>Biotechnology and Medical Engineering</b>

86	UV-Visible Spectrophotometer	Biotechnology and Medical Engineering
87	Texture Analyser	Biotechnology and Medical Engineering
88	Real-time Polymerase Chain Reaction Machine	Biotechnology and Medical Engineering
89	Programmable Controlled Rate Freezer	Biotechnology and Medical Engineering
90	Orbital Shaking Incubator	Biotechnology and Medical Engineering
91	Multi Axial Force Platform	Biotechnology and Medical Engineering
92	Microplate Absorbance Reader	Biotechnology and Medical Engineering
93	Microplate Absorbance Reader	Biotechnology and Medical Engineering
94	Metallurgical Microscope	Biotechnology and Medical Engineering
95	Lyophilizer	Biotechnology and Medical Engineering
96	FTIR Spectroscope	Biotechnology and Medical Engineering
97	Fluorescence Microscope	Biotechnology and Medical Engineering
98	Fluorescence Spectrometer	Biotechnology and Medical Engineering
99	Fermenter & Bioreactor	Biotechnology and Medical Engineering
100	Drop Shape Analyser (Contact Angle Measurement)	Biotechnology and Medical Engineering
101	Reflective Spectrocolorimeter (IINBM0263)	Biotechnology and Medical Engineering
102	Centrifuge (BM0264)	Biotechnology and Medical Engineering
103	Polymerase Chain reaction (PCR) machine (BM0265)	Biotechnology and Medical Engineering
104	Gel Documentation System (BM0266)	Biotechnology and Medical Engineering
105	DTA-Thermo Gravimetric Analyzer	Chemical Engineering
106	Surface Tensiometer	Chemical Engineering
107	Total Organic Carbon Analyzer	Chemical Engineering
108	Potentiostat-2 Nos. one functional	Chemical Engineering
109	Thermo-Gravimetric/Differential Thermal Analyzer	Mining Engineering
110	Fourier-Transform Infrared Spectroscopy	Mining Engineering
111	Digital Bomb Calorimeter	Mining Engineering
112	Atomic Absorption Spectrophotometer	Mining Engineering