List of Equipments/Instruments (Reference: EOI - 02/2020-21)					
Item No.	Ref. No.	Indentor	Department	Item Description	
1	1	Prof. S. Mahapatra	Physics	A precision diamond scriber for wafer scribing	
2	2	Prof. S. Mahapatra	Physics	A 8-channel arbitrary waveform generator, with sampling rate of minimum 1 Gsa/s	
3	3	Prof. Swatantra Pratap Singh	Environmental Science & Engg.	Fourier transform infrared spectroscope	Revised
4	4	Prof. Swatantra Pratap Singh	Environmental Science & Engg.	Contact angle meter/Optical tensiometer	Revised
5	5	Prof. Swatantra Pratap Singh	Environmental Science & Engg.	Potentiostat/ Electrochemical system with EQCM	Revised
6	6	Prof. Guruswamy Kumaraswamy	Chemical Engg.	Thermal analysis of materials TGA and DSC	Revised
7	7	Prof. Apurba Laha	Electrical Engg.	N2 plasma cells and its accessories	
8	8	Prof. S. Mahapatra	Physics	Cryogen-free dilution refrigerator	
9	9	Prof. Munish Chandel	Environmental Science & Engg.	Aerobic/Anaerobic Respirometer System	
10	10	Prof . Rashmi Gupta	Humanities & Social Sciences	Combined wireless fNIRS and wireless EEG system	
11	12	Prof. B. G. Fernandes	Electrical Engg.	T2SL EPI wafer - MWIR	
12	13	Prof. Dipanshu Bansal	Mechanical Engg.	Ultrafast Ti:Sapphire Amplifier	
13	14	Prof. Swaroop Ganguly	Electrical Engg.	Mixed Signal Oscilloscope	
14	15	Prof. Swaroop Ganguly	Electrical Engg.	Optical Table, Hybrid Damped SmartTable	Revised
15	16	Prof. Deepak marla	Mechanical Engg.	Solid state Femtosecond laser with DPSS pump laser	
16	17	Prof. M. Ramaswamy	Chemistry	Gas Chromatography Mass Spectrometr GCMS	
17	18	Prof. Anindya Dutta	Chemistry	Stopped-Flow Fluorescence Spectrometer	
18	19	Prof. Anindya Dutta	Chemistry	Fully automated Robotic workstation	
19	20	Prof. Anindya Dutta	Chemistry	Magnetic Property Measuring System (MPMS	
20	21	Prof. Anindya Dutta	Chemistry	Atomic Force Microscopy (AFM)	
21	22	Prof. Anindya Dutta	Chemistry	Microwave Synthesizer 1.5	
22	23	Prof. Manoranjan Sahu	Environmental Science & Engg.	Scanning mobility particle sizer	
23	24	Prof. Manoranjan Sahu	Environmental Science & Engg.	Optical Particle Sizer, DUSTTRAK DRX AEROSOL MONITOR and Aerosol Neutralizer for SMPS	
24	25	Prof. Manoranjan Sahu	Environmental Science & Engg.	Beta Attenuation Monitor: Portable BAM	
25	26	Prof. Sushil Mishra	Mechanical Engg.	Cross beam / dual beam with laser attachment	
26	27	Prof. S. Mahapatra	Physics	Vector Signal Generator	
27	29	Prof. Ashish Juneja	Civil Engg.	High-pressure temperature-controlled direct shear and triaxial system	
28	30	Prof. Anshuman Kumar	Physics	Optical Spectrum Analyser	
29	31	Prof. Suvarn S. Kulkarni	Chemistry	Rotary Evaporator System	
30	32	Prof. Santanu K. Ghosh	Biosciences & Bio Engg.	Next Generation Sequencing (NGS) platform	
31	33	Prof. Arnab Dutta	Chemistry	Highly sensitive Potentiostat/ Galvanostat	Revised
32	34	Prof. Anindya Dutta	Chemistry	Glyconeer 2.1 Automated Oligosaccharide Synthesizer	
33	35	Prof. Rochish M Thaokar	Chemical Engg.	High voltage nanosecond pulse electric field generator	
34	36	Prof. Rochish M Thaokar	Chemical Engg.	sCMOS sensor based monochrome camera	
35	37	Prof. Soham Mujumdar	Mechanical Engg.	Non-contact metrology system	
36	38	Prof. Soham Mujumdar	Mechanical Engg.	Optical 3D Coordinate Measurement Machine (CMM)	
37	39	Prof. Soham Mujumdar	Mechanical Engg.	Contact-type Profilometer	

38	40	Prof. Deepoo Kumar	Metallurgical Engg. & Materials Science	FactSage thermodynamic software	
39	41	Prof. V.S.Raja	Metallurgical Engg. & Materials Science	Glow Discharge Optical Emission Spectroscope	
40	42	Prof. S. Chandramouli	Chemistry	Integrated Infra-red based nanoscale Atomic Force Microscope	
41	43	Prof. Atul Srivastava	Mechanical Engg.	ECVT Multiphase flow system	
42	45	Prof. A. K. Sridharan	Civil Engg.	XRD-Mill McCrone	Revised
43	46	Prof. Varun Bhalerao	Physics	CdTe X-ray soft and hard detector	
44	47	Prof. Ashutosh Kumar	Biosciences & Bio Engg.	Analytical Ultra Centrifuge	
45	48	Prof. Pramod Wangikar	Chemical Engg.	Multi-cultivator for cultivation of photosynthetic organisms	
46	49	Prof. Sudarshan Kumar	Aerospace Engg.	Particle Size Analyzer	
47	50	Prof. Indradev Samajdar	Metallurgical Engg. & Materials Science	Single Tilt Heating Holder	
48	51	Prof. Indradev Samajdar	Metallurgical Engg. & Materials Science	TEM based Local Orientation and Strain	
49	52	Prof. Abhishek Chakraborty	Environmental Science & Engg.	Carbonaceous Aerosol Speciation System (CASS)	Revised
50	53	Prof. Rahul Purwar	Biosciences & Bio Engg.	Micro CT and optical imaging for animal imaging facility	
51	54	Prof. Prakriti Tayalia	Biosciences & Bio Engg.	Multiphoton imaging equipment for live animal imaging"	
52	55	Prof. A. V. Mahajan	Physics	Cryofree 9 tesla superconducting magnet	
53	56	Prof. A. V. Mahajan	Physics	NMR spectrometer for solids	
54	57	Prof. Anirban Banerjee	Biosciences & Bio Engg.	High-throughput Imaging system	Revised
55	58	Prof. Anirban Banerjee	Biosciences & Bio Engg.	Ultramicrotome	
56	59	Prof. Anirban Banerjee	Biosciences & Bio Engg.	Lattice Light sheet Microscope	
57	60	Prof. R. Srivastava.	Biosciences & Bio Engg.	Multi Angle Dynamic Light Scattering (MALS) System	
58	61	Prof. Amit Singh	Mechanical Engg.	Thermal Conductivity Measurement	
59	62	Prof. Jayesh Bellare	Chemical Engg.	Aberration corrected TEM system for soft materials with Cryo capability.	
60	63	Prof. Jayesh Bellare	Chemical Engg.	Polymer processing facility consisting of Bench top lab-scale twin screw extruder with mini injection moulding machine and accessories	
61	64	Prof. Dipanshu Bansal	Mechanical Engg.	Raman spectrometer	
62	65	Prof. Dipanshu Bansal	Mechanical Engg.	Close-cycle cryostat	
63	66	Prof. Kantimay Das Gupta	Physics	Field-emission Scanning Electron Microscope	
64	67	Prof. Kantimay Das Gupta	Physics	Differential Interference Contrast (DIC) reflected light optical microscope.	
65	68	Prof. Kantimay Das Gupta	Physics	Benchtop Stylus Profilometer	
66	69	Prof. S. Mahapatra	Physics	External pattern generating system	
67	70	Prof. Anindya Datta	Chemistry	Preparative HPLC	Revised
68	71	Prof. Anindya Datta	Chemistry	GPC HPLC	Revised
69	72	Prof. Pradeep Kumar P. I.	Chemistry	Gel Scanner	
70	73	Prof Ambarish Kunwar	Biosciences & Bio Engg.	Optical Tweezers	
71	74	Prof. Anindya Datta	Chemistry	Spectrofluorimeter	
72	75	Prof. R. MURUGAVEL	Chemistry	Cryogen-free Physical property Measurement System (PPMS)	Revised
73	76	Prof. Santosh J. Gharpure	Chemistry	TLC-MASSS bench-top equipment	
74	77	Prof. Goutam kumar	Chemistry	React IR In situ FT-IR Spectroscopy instrument	
75	78	Prof. Anindya Datta	Chemistry	ATR-FTIR spectrophotometer	Revised

76	79	Prof. Abhijit Majumder	Biosciences & Bio Engg.	Benchtop 3D Bioprinters	Revised
77	80	Prof. Sharad Bhartiya	Computer Center	HighPerformanceComputingCluster(HPCC) Space time3	Deleted
78	81	Prof. Swaroop Ganguly	Electrical Engg.	Ferroelectric characterization unit	Revised
79	82	Prof. Soham Mujumdar	Mechanical Engg.	Contact-type Profilometer	
80	83	Prof. Ruchi Anand	Chemistry	Gel Scanner with fluorescence	Revised
81	84	Prof. Anindya Datta	Chemistry	Solid state NMR (SS-NMR) spectrometer operating at 400 MHz	Revised
82	85	Prof. Anindya Datta	Chemistry	Semi-preparative liquid chromatography system (HPLC) for Automated Purification equipped with a photo diode array detector, automated injection and fraction collection and columns	Revised
83	86	Prof. Anindya Datta	Chemistry	Microbalance system for weighing the samples accurately	
84	87	Prof. Anindya Datta	Chemistry	Microwave synthesis system with magnetic stirring at both low and high temperatures at high pressures.	Revised
85	88	Prof. Anindya Datta	Chemistry	Spectrofluorometer with capabilities of a continuous 150W ozone-free xenon source delivering excitation light from 230nm to the NIR, NIR Detector (800nm-1550nm), Liquid Cuvette, Solid Sample Holder, Peltier Accessory, Bandpass filters and adapter and Stopped Flow Accessory.	Revised
86	89	Prof. Anindya Datta	Chemistry	Dynamic Light Scattering with Zeta Potential Set-Up	
87	90	Prof. Anindya Datta	Chemistry	Gas-chromatography equipped with mass-spectrometry with autoinjector	
88	91	Prof. Anindya Datta	Chemistry	Melting point apparatus for parallel boiling point detection system	
89	92	Prof. Anindya Datta	Chemistry	UV-Visible Spectrophotometers with capabilities: Wavelength Range : 185 nm – 3300 nm; 0.1 nm resolution, Double beam Photometric system, double monochromator grating and Integrating Sphere Attachment. Super Micro Black Cell, Film Holder and Powdered Sample Holder for Integrating Shpere.	Revised
90	93	Prof. Anindya Datta	Chemistry	Solution state NMR spectrometer operating at 600 MHz frequency having minimum three channels with capabilities of recoding multiple nuclei SS-NMR (Broadband probe), and multi-dimensional 2D and 3D NMR measurements with operating temperature range of -20 oC - +80 oC (3-channel probe for proton detection and 15N/13C decoupling).	
91	94	Prof. Anindya Datta	Chemistry	TG-DTA/Photoionization mass spectrometer and DSC with capabilities	Revised
92	95		Electrical Engg.	High purity ingots of Aluminium, Arsenic, Beryllium, Gallium, Indium, Antimonide – source materials for the Molecular Beam Epitaxy system	
93	96	Prof Saurabh Lodha	Electrical Engg.	"Power Device Characterization System (PDCS	
94	97	Prof. Kasturi Saha	Electrical Engg.	Arbitrary Waveform Generator	
95	98	Prof. Kasturi Saha	Electrical Engg.	Time correlation counter for single photons	
96	99	Prof. Swaroop Ganguly	Electrical Engg.	Time corelated single photon counter (TCSPC) system is an upgradation of an existing photoluminescence spectroscopy system which is capable of steady state measurements only. With TCSPC system, fluorescence lifetime can be measured with the temporal resolution of 50-100ps. Measurement time window is 65ns- 250ms. TCSPC UV/VIS detector has a spectral range of 220-650nm. Source wavelength range is 300-800 nm. Count depth is 106 counts per readout.	Revised
97	100	Prof. Saurabh Lodha	Electrical Engg.	Deep reactive Ion etching (DRIE) system for etching Silicon carbide substrate used in the fabrication of high electron mobility transistors (HEMTs). The system comes with gas lines and MFCs (Cl2, Ar, O2, SF6, BCl3 and CF4), separate reaction and load lock chamber (RC & LL) with highly efficient separate vacuum systems for each, plasma generator power/bias rating of 1 KW/300 W with a max. power upgrade of 600 W delivering a significantly high etch rates for SiC providing sharp edge contours.	
98	101	Prof. Kamendra Sharma	Chemistry	Gas and Solvent (Vapour) Sorption Analyser	
99	102	Prof. Anindya Datta	Chemistry	High Purity Nitrogen Gas Generator, (99.9995% purity, CO2/CO <1 ppm) with flow rate of 10L/mi	
100	103	Prof . Deepoo Kumar	Metallurgical Engg. & Materials Science	Digital processing confocal scanning violet laser microscope with ultra-high temperature infrared heating furnace system.	
101	104	Prof. Ranjith Padinhateeri	Biosciences & Bio Engg.	A network-attached storage facility with high storage space, server to host, necessary backup/RAID tools, and UPS.	Revised
102	105	Prof. Ranjith Padinhateeri	Biosciences & Bio Engg.	High-performance computing (HPC) facility with online UPS, networking switch, and software.	Revised
103	106	Prof. Ashutosh Kumar	Biosciences & Bio Engg.	Isothermal Titration MicroCalorimeter	Revised II
104	110	Prof. Vivek Sangwan	Mechanical Engineering	Cameras and Accessories for Motion Capture System	Revised
105	111	Prof. Prakash Nanthagopalan	Civil Engg.	3-D printer for cement concrete	
106	112	Prof. Saurabh Lodha	Electrical Engg.	X-ray Photoelectron Spectroscopy (XPS) upgrades of existing Versaprobe II system from Physical Electronics USA consisting of LEIPS (low energy inverse photoelectron spectroscopy) with filters, scanning Auger spectroscopy, various sample holders capable of high temperature and sample bias, pressure gauge, vacuum transfer vessel and new analysis software.	Revised
107	113	Prof. Abhijit Mujumdar	Chemical Engg.	1) Basic plasma cleaner capable of bonding glass-PDMS or PDMS-PDMS for fabrication of microfluidic application. It should also be able to activate and sterile PDMS	
108	114	Prof. Supreet Saini	Chemical Engg.	Refrigerated incubator shaker	Revised
109	115	Prof. Supreet Saini	Chemical Engg.	Multi Mode Reader with Accessories	
110	116	Prof. Supreet Saini	Chemical Engg.	Tetrad Dissection Microscope	

111	117	Prof. Saurabh Lodha	Electrical Engg.	A multi-material 200 mm atomic layer deposition system capable of depositing various oxides, nitrides, and metals using thermal as well as plasma-assisted processes, low vapour pressure (0.01 Torr) precursors, ozone, at temperatures upto 500 C, with load-lock, in-situ thin film analysis capability, software and vacuum pump.	
112	118	Prof. Saurabh Lodha	Electrical Engg.	A 200 mm surface profilometer with motorized X/Y stage, 4 A step-height repeatability, as well as stitching, 3D mapping and 2D stress measurement capabilities in automated fashion.	
113	119	Prof. Saurabh Lodha	Electrical Engg.	High Performance Electron Beam Lithography system for advanced Nanolithography.	
114	120	Prof. Saurabh Lodha	Electrical Engg.	Table top precision lithography tool with raster scan and vector scanning capabilities. The system must have the capability of lithographic writing as well as maskless or direct writing of patterns on samples	Revised
115	121	Prof. Saurabh Lodha	Electrical Engg.	dual chamber sputtering system	Revised
116	122	Prof. Saurabh Lodha	Electrical Engg.	It is a high power high heat based plasma system for photoresist ashing. Strong ashing rate of 24nm / s is needed.	Revised
117	123	Prof. Saurabh Lodha	Electrical Engg.	Standalone rapid thermal processing (RTP) system with vertical configuration for reduced foot-print, cold wall process chamber with at-least 100 mm wafer capability,	Revised
118	124	Prof. Saurabh Lodha	Electrical Engg.	Reactive Ion Etching (RIE) based Inductively Coupled Plasma (ICP) source system is required.	Revised
119	125	Prof. Saurabh Lodha	Electrical Engg.	Plasma Processing System	Revised
120	126	Prof. Manish M. Pande	Metallurgical Engg. & Materials Science	Oxygen/Nitrogen Elemental Analyzer.	Revised
121	127	Prof. Prasanna Gandhi	Mechanical Engg.	Laser for single and two photon ceramic microstereolithography	Revised
122	128	Prof. Prasenjit Basu	Civil Engg.	Constant-rate-strain (CRS) Thermal Consolidation Apparatus	
123	129	Prof. Jayanta Mukherjee	Electrical Engg.	Fully Automated Anechoic Chamber till 110 GHz for 5G and higher standards	
124	130	Prof. Vikram Vishal	Earth Sciences	Core saturator is used to saturate completely vacuumed solid core samples by injecting CO2/N2/CH4 gases and oil/water/brine liquid phases at variable pressure as per requirement.	
125	131	Prof. Vikram Vishal	Earth Sciences	Multi-Phase Realative Permeability Rig	
126	132	Prof. Vikram Vishal	Earth Sciences	Helium porosimeter can measure the porosity and density of solid core samples by saturating the cores with helium through isothermal expansion.	
127	133	Prof.Vikram Vishal	Earth Sciences	Drill press is used to cut core samples of variable length and diameter from blocks of geomaterials/building materials. Core samples are extracted using diamond mounted motorized drill bits with hand operated lifting mechanism.	
128	134	Prof.Vikram Vishal	Earth Sciences	Trim saw with end face grinder is used forprecision cutting and smooth, parallel face preparation of rock samples and concrete using motorized low vibration diamond mounted blades.	
129	135	Prof. Anirban Banerjee	Biosciences & Bio Engg.	Multimode Microplate Reader (with Absorbance, fluorescence and luminescence measurement capability)	
130	136	Prof. Prasanna Gandhi	Mechanical Engg.	Ceramic 3D printer system	
131	137	Prof. Mithun Chowdhury	Metallurgical Engg. & Materials Science	The Flash differential scanning calorimetry (Flash DSC chip nanocalorimetry) revolutionizes rapid-scanning DSC. The instrument can analyse reorganization processes that were previously impossible to measure. The Flash DSC is way superior to conventional DSC with heating and cooling rates (K/s) that cover a range of more than 7 decades. Moreover, to the best of our knowledge this unique instrument is going to be the first of its kind in the country till date.	Revised
132	138	Prof. Santanu K. Ghosh	Biosciences & Bio Engg.	Super Resolution (SR) Microscope Imaging Platform.	
133	139	Prof. P. Vedgiri	Civil Engg.	Cubic Immersive Virtual Reality System	
134	141	Prof. Ishita Sengupta	Chemistry	-80 ULT freezer	
135	143	Prof. Ishita Sengupta	Chemistry	FPLC (Fast protein liquid chromatography) system for separation of biomolecules	Revised
136	144	Prof. Ishita Sengupta	Chemistry	Refrigerated centrifuge	
137	145	Prof. Ishita Sengupta	Chemistry	Refrigerated orbital shaker	
138	146	Prof. Dasaka S. Murty	Civil Engg.	Digital Slope Inclinometer System	
139	147	Prof. Dasaka S. Murty	Civil Engg.	Vibrating Wire Transducer Based Contact type Earth Pressure Sensors	
140	148	Prof. Abhishek Chakraborty	Environmental Science & Engg.	Lab OC-EC Aerosol Analyzer	Revised
141	150	Prof. Arnab Maity	Aerospace Engg.	Flight Simulator	Revised II
142	151	Prof. Arnab Maity	Aerospace Engg.	Software In-Loop Simulation (SILS) facility	
143	152	Prof. Arnab Maity	Aerospace Engg.	Gas Turbine Engine with Instrumentation	Deleted
144	153	Prof. Ravi Gudi	Chemical Engg.	Nanoparticle Tracking Analyzer	Deleted
145	154	Prof. Ravi Gudi	Chemical Engg.	Atomic Emission Spectrometer (ICP-AES)	
146	155	Prof. Ravi Gudi	Chemical Engg.	TAP-KPC (Temporal Analysis of Products – Kinetic Processing and Characterisation) Multi-experiment system	

147	156	Prof. Ravi Gudi	Chemical Engg.	Wide angle X-ray diffractometer with high temperature and electrochemical	
148	157	Prof. Abhishek Chakraborty	Environmental Science & Engg.	MiniVol TAS PM2.5 and PM10 sampler,	Revised
149	158	Prof. Subhananda Chakrabarti	Electrical Engg.	Test electronics power, analog, digital cards for the mainframe, upto 8 slots compatible to automated data acquisition and test software	
150	159	Prof. Subhananda Chakrabarti	Electrical Engg.	Test electronics mainframe, upto 8 slots, Automated data acquisition and test software	
151	160	Prof. Subhananda Chakrabarti	Electrical Engg.	Test Dewar, 2stage closed cycle water cooled compressor, with 100 pin chip carrier and filter assembly kit and controller	
152	161	Prof. Titas Dasgupta	Metallurgical Engg. & Materials Science	Thermal Conductivity/Diffusivity Measurement Apparatus	Revised
153	162	Prof. Asish K. Sarangi	Energy Science & Engg.	Gravimetric fuel flow meter	
154	163	Prof. Suparna Mukherji	Environmental Science & Engg.	ReactiThermm with Accessories	Revised
155	164	Prof. Suparna Mukherji	Environmental Science & Engg.	HPLC with Diode Array Detector and Fluorescence Detector	Revised
156	165	Prof. Soumyo Mukherji	Biosciences and Bioengineering.	Portable Raman Spectrometer	
157	166	Prof. Rakesh G. Mote	Mechanical Engg.	Ultra Precision Machining (UPM) System	Revised
158	167	Prof. Asim Tiwari	Mechanical Engg.	Additive subtractive (hybrid) manufacturing system for metals and accessories.	Revised
159	168	Prof. Asim Tiwari	Mechanical Engg.	Electron Beam Additive Machine	Revised
160	169	Prof. Sushil Mishra	Mechanical Engg.	High-frequency Fatigue system and accessories.	
161	170	Prof. Anindya Datta	Chemistry	Transient Absorption Spectrometer System	
162	171	Prof. Ruchi Anand	Chemistry	Stopped Flow Spectrometer	
163	172	Prof. Ruchi Anand	Chemistry	Multi Mode Microplate Reader	
164	173	Prof. C. S. Yerramalli	Aerospace Engg.	Wedge Type Heat Sealing Machine	Revised
165	174	Prof. Asim Tiwari	Mechanical Engg.	Direct-energy metal deposition system	new
166	175	Prof. Arindrajit Chowdhury	Mechanical	FTIR based gas analyser system using ZnSe optics and transmission and ATR facility.	new
167	176	Prof. Ashutosh S. Gandhi	MEMS	SPARK PLASMA SINTERING FURNACE	new
168	177	Prof. Arindam Chowdhury	Chemistry	Single photon detection module in visible region (400 nm to 900 nm) with USB remote control and GUI Software.	new
169	178	Prof. Anshuman Shrivastava	Physics	Integrated characterization system for 2D materials and nanocavities	new
170	179	Dr.Ing.-Smrutiranjan Parida	MEMS	RF generator with impedance matching network,	new
171	180	Prof. Sudipta Dasgupta,	Earth	Advanced Fully Automated Scanning Upright Research Microscope for Earth & Material Science Application under Reflected Light and Transmitted Light with Scientific Digital Camera dedicated for Polarization, and with Digital Imaging software for both 2D and 3D imaging, analysis and measurement	new
172	181	Prof. Vikram Vishal	Earth	Framework design and techno-commercial analysis services for assessment for sub-surface gas storage. The services work package shall involve details of data collection, sampling and coalbed methane reservoir model development and simulation, the possible design of a pilot test program, specification and analysis of potential coalbed methane development scenarios, the development of proposed full field development strategy along with economic feasibility analysis	new
173	182	Prof. P S Gandhi	Mechanical	Solid Laser	new
174	183	Prof Ravi Gudi	Chemical Engg.	Programmable Supercritical dryer capable of drying delicate samples avoiding structural collapse by employing Liquid CO2 + alcohol supercritical liquid.	new
175	184	Prof. Santanu Ghosh	Bio- Sci	Super Resolution (SR) Microscope with STORM system.	new
176	185	Prof. Santanu Ghosh	Bio- Sci	Super Resolution (SR) SIM or Multipoint Array scanning system	new