

TATA INSTITUTE OF FUNDAMENTAL RESEARCH

Annual Procurement Plan for Financial Year 2021-2022

Sl. No	Item Description	Unit	Quantity
1	Peta Byte RAID storage	No	1
2	Computer servers & HPC	No	1
3	Communication /network hardware	Set	2
4	LIGO India 3-m prototype detector and accessories	Set	2
5	Matter-wave interferometer and accessories	Set	1
6	Aerotech 1x1 m gantry system	Set	1
7	Hesse BJ820 automatic wedge bonder	No	1
8	Optical measurement device	No	1
9	Optics and optical accessories	Set	2
10	Electronics and vacuum pump accessories	Set	2
11	Power supplies and pulse generators	Set	2
12	Setup of internally cold bio-molecular ion beam source	Set	1
13	X-ray & electron detectors, crystals, gratings etc.	Set	1
14	Vacuum pumps, gauges etc.	Set	1
15	Optomechanics and optoelectronics equipment	No	1
16	Large volume LaBr3:CE detectors	No	1
17	Optics and laser spares for the O&M of 20 TW and 100 TW laser systems	Set	1
18	Detectors, imaging systems for experiments with ultra-high contrast pulses	Set	1
19	BGO	No	3
20	Low temperature measurement accessories	Set	2
21	Low beta Nb cavity accessories, high purity Nb, Cu etc.	Set	1
22	Beam transport system components (magnets, power supplies, beam diagnostic devices, control devices, etc.)	Set	1

Sl. No	Item Description	Unit	Quantity
23	Vacuum system components	Set	2
24	Cryogenic system components	Set	2
25	RF devices (amplifiers, control crates, etc.)	Set	2
26	Point-contact planar HPGe detector	No	1
27	Position sensitive scintillator detectors	No	2
28	Electronics (preamplifiers, HV and DAQ) and scanning setup	Set	2
29	Science grade HIRG detector array, H2RG mux, astronomy filters, array controller, collectors – hermetic, hermetic connector fanout, connectors – non hermetic, cryogenic ribbon, detector cryo flex cable, cold feedthrough connectors, warm array cables, detector cryo connection/filter board, extra video board for software test station, PCI express boards, test station	Set	1
30	Cryogenic environmental vacuum chamber, cryo-cooler stations, closed cycle cooler lines, closed cycle cooler head, compressor	Set	1
31	MS and UPLC	Set	1
32	Small Laboratory Equipments	No	-
33	Computational cluster, Augmentation of the existing centralized storage system	Set	1
34	Lattice Light Sheet Microscope/ AFM/ Femto-Second Laser/ Fluoresce microscope	Set	1
35	Autoclave and Sterilizer	Set	1
36	1500 KVA transformer	Set	1
37	Up-gradation and replacement of old instruments	Set	1
38	AV upgradation of Lecture hall / seminar halls	Set	1
39	900MHz NMR Spectrometer	No	1
40	800 MHz WB NMR Spectrometer	No	1
41	Transmission electron Microscopy (TEM/HRTEM)	No	1
42	Field emission scanning electron microscope	No	1
43	Optics/Lasers	No	1
44	AFMs	No	1
45	Maldi-TOF	No	1
46	Circular Dichroism	No	1
47	Small Angle X-ray Scattering (SAXS)	No	1

Sl. No	Item Description	Unit	Quantity
48	Image plate Facility	No	1
49	TR Fluorescence Spectrometer	No	1
50	GC/LC/ESI-MS	No	1
51	HPLC	No	1
52	He.Liquifier/N2 Plant/Recovery Compressor/He Storage/Dewars	No	1
53	Fumehoods	No	10
54	Peta Watt Laser	No	1
55	Transmission electron Microscopy (TEM/HRTEM)	No	1
56	TIRM/STORM, STED, PALM	No	1
57	Rheometers	No	1
58	Optical Tweezers setups	No	1
59	Image plate Facility	No	1
60	ESI Mass Spectrometer	No	1
61	Infrared Spectrophotometer	No	1
62	High End computing systems	No	1
63	Computers and Peripherals, Networking	No	10
64	High speed imaging: one high end and two mid-end cameras	No	1
65	Workshop Machinery	No	2
66	He.Liquifier/N2 Plant/Recovery Compressor/He Storage/Dewars	No	2
67	Mosquito Robot	No	1
68	Vacuum evaporator for metal electrode and oxide interlayers	No	1
69	UV-Vis NIR spectrometer	No	1
70	Solar simulator, solar cell measurement systems, Opto-electronic device measurement set up	No	1
71	Time resolved and steady state photoluminescence measurement set up with PL quantum yield measurement facility	No	1
72	Temperature controlled probe station and Kelvin probe with surface photovoltage measurement facility	No	1
73	Gel imager	No	1
74	Incubator	No	2
75	AHU	No	3
76	Autoclave	No	2
77	Dynamic nuclear polarisation set up (with 600 MHz NMR)	No	1
78	Spinning disc confocal microscope	No	1
79	Tape autoloader for servers	Lot	1
80	Clustered Centralized Parallel Storage System	Lot	1

Sl. No	Item Description	Unit	Quantity
81	Desktops	No	20
82	Laptops	No	20
83	Printers	No	4
84	Computer Software and Data	Set	1
85	Molecular biology reagents	Set	1
86	Tissue culture consumables	Set	1
87	Protein Biochemistry reagents	Set	1
88	Reagents for Cell Biology	Set	1
89	Laboratory chemicals	Set	1
90	Consumables/re-agents	Set	1
91	Animal feed and culture material for insect work	Set	1
92	Plastic and glass ware for laboratory work	Set	1
93	AMC of High Value Equipment/ Facility Equipment	Set	1
94	Laboratory Safety equipment	Set	1
95	CO2, N2 and other Gases, Liquid Nitrogen Dry Ice & Alcohol, Liquid helium	Set	1
96	Equipment Spares	Set	1
97	Facility Consumables	Set	1
98	Scientific Information Resources and Data link Charges	Set	1
99	Fine chemicals	Set	1
100	Biochemicals	Set	1
101	Labeled chemicals	Set	1
102	Chemicals for synthesis of materials and other compounds	Set	1
103	Chemicals & Biochemicals for molecular biology experiments	Set	1
104	Enzymes, peptides and nucleotides	Set	1
105	Vacuum equipment & chambers, Power supplies, Meters, Spares and accessories for existing equipments, Sputtering targets, High purity chemicals and gases	Set	1
106	E-Books, Journals and software	Set	1
107	Vacuum accessories, compressor oils, adsorbing materials, filters, computer peripherals	Set	1
108	AMC charges for Power Plant, Chilling Plant, Computing Systems, Software renewal, etc.	Set	1
109	Audio Video system upgarde & refresh	Lot	1
110	Electrical , STP and HVAC system Upgrade	Lot	1
111	Catalyst Analyzer	No	1
112	Computer and video conferencing and accessories	Set	1

Sl. No	Item Description	Unit	Quantity
113	Centralised computing facility (HPC)	No	2
114	HPLC, FPLC high throughput sonicators	No	2
115	Spinning disc confocal microscope	No	1
116	qPCR machines, bioanalyzer spares	No	1
117	Plate readers/spectro photo meters, ultra/centrifuges, Gel doc system, Typhoon, cryostat, microtome, X-ray developer etc.	No	1
118	Multiphoton imaging system and EM-upgrade	No	1
119	Fish tanks and water circulation systems and spares	No	1
120	Culture hoods, pumps, CO2-incubators, fly and microbial incubators	No	1
121	IVC units for animal house, construction of temporary structure, AC units	No	2
122	Lasers, computers, sequencing systems and accessories for Biology	No	1
123	Microscopes and imaging systems for biology spares	No	1
124	Confocal microscope	No	1
125	Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)	No	1
126	Differential Scanning Calorimetry (DSC), Isothermal Calorimetry (ITC)	No	1
127	FACS – fluorescence activated cell sorter	No	1
128	EPR upgrade	No	1
129	FPLC Chromatograph	No	1
130	High resolution mass spectrometer	No	1
131	Spares/upkeep of biochemistry and synthetic chemistry facility	No	1
132	Nuclear Magnetic Resonance (NMR) facility upgrade and maintenance	No	1
133	Fluorescence microscope for single-molecule time-resolved FRET measurements	No	1

Sl. No	Item Description	Unit	Quantity
134	AFM spares (lasers, cantilevers, electronics, maintenance)	No	1
135	Piezo-actuators	No	2
136	Femtosecond laser upgrade	No	1
137	Quantum efficiency measurement setup	No	1
138	High performance computer cluster	No	1
139	Lasers, computers and accessories for chemistry	No	1
140	SQUID magnetometer	No	1
141	Magnetometers: maintenance, spares and accessories	No	1
142	X-ray diffractometers: maintenance, spares and accessories	No	1
143	Small angle X-ray scattering accessory for XRD	No	1
144	Transmission Electron Microscope: maintenance, spares and accessories	No	1
145	MEMS-based in-situ precision sample heater for TEM	No	1
146	Scanning Electron Microscope (SEM) maintenance	No	1
147	Focused ion beam microscopy facility for nanoscale patterning and fabrication	No	1
148	Nanofabrication facility: maintenance, spares, accessories	No	1
149	Upgrade and maintenance of electron detection system in ARPES systems	No	1
150	Maintenance of SRPES and HREELs spectrometers	No	1
151	UHV transfer chambers with accessories	No	1
152	Maintenance and upgrade of crystal growth facility, furnaces, X-ray diffractometers, vacuum pumps, etc.	No	1
153	Upgrade of low temperature STM chamber to UHV with effusion cell	No	1
154	Direct laser writing for maskless lithography	No	1
155	Fabrication of pulsed laser deposition chamber with high pressure RHEED	No	1

Sl. No	Item Description	Unit	Quantity
156	Close cycle upgrade for a probe that used liquid helium	No	1
157	Operation and maintenance of semiconductor growth system	No	1
158	Nanoscope for THz spectroscopy	No	1
159	Optical network analyzer	No	1
160	Computers and accessories	Set	1
161	Maintenance and upgrade of low temperature facility and accessories	No	1
162	Communication /network hardware	Set	1
163	Computer servers	No	1
164	Replacement of distribution and access layer switches	Set	1
165	Audio & Video Equipment for lecture theatres	No	1
166	Equipment for refurbishment of Laboratories and Offices in over 5 decades old, lab and office blocks	No	1
167	Replacement of old AHUs and FCUs, and new piping at various locations	Lot	2
168	Workshop Machinery and Equipment	No	2
169	Replacement of old transformers and switchgear in sub-station, including associated cabling, etc.	No	1
170	Fire Fighting Equipment,	No	2
171	Surveillance and security Equipment	No	1
172	Miscellaneous hardware	No	1
173	HAGAR O&M	Lot	1
174	Spares and supplies for high energy physics	Lot	1
175	Maintenance and spares for lasers, gases and chemicals	Lot	1
176	Maintenance and upgrade of ECR facility	Lot	1
177	Electronic modules, spares, materials, gases, etc.	Set	1
178	Spares and consumables for optics and lasers	Set	1

Sl. No	Item Description	Unit	Quantity
179	Electronics modules, beam line components, target materials	Set	1
180	Optics, electronics and vacuum spares	Set	1
181	Detector spares, target, shipment	Set	1
182	Tin enrichment feasibility study	Set	1
183	Special shielding materials, He3 gas, high purity tin, sensors, etc.	Set	1
184	Electronics, detectors, target materials etc.	Set	1
185	Helium gas	Cubic Meter	10000
186	Liquid Nitrogen	Liter	200000
187	Spares for Pelletron-LINAC	Set	1
188	Maintenance of computer cluster	Set	1
189	Windows with coatings, discharge lamps, continuum lamps, ethernet switch with fiber input, motor power supply, computers, software, mechanical & thermal components, optical elements	Set	1
190	Optical, mechanical and electronics components and spares	Set	1
191	Miscellaneous spares for balloon facility	Set	1
192	Maintenance of high performance computing facility	Set	1
193	Upkeep of equipment and auxiliary services	Set	1
194	Maintenance of Pelletron facility, Infrared instrumentations and GMRT Antennas	Set	1
195	Reagents and consumables for Biology	Set	1
196	Chemicals, enzymes and small equipments for Chemistry	Set	1
197	Miscellaneous items for spectroscopies	Set	1
198	High purity metals	Set	1
199	Spares for PPMS, NMR set-up	Set	1
200	Furnaces and accessories	Set	1

Sl. No	Item Description	Unit	Quantity
201	High purity oxides, chemicals for single crystal growth facility, crucibles, squid sensors and control units, etc.	Set	1
202	Targets, substrates, photoresist and high purity chemicals, spares and miscellaneous components	Set	1
203	Miscellaneous lab equipment, spares, accessories, chemicals, substrates	Set	1
204	Laser and optics spares and accessories	Set	1
205	Signal generator and other electronics accessories	Set	1
206	RF generators, microwave instruments and accessories	Set	1
207	Civil Works (Repairs, maintenance & upgrades)	Set	1
208	Civil Works (Refurbishment and upkeep of Hostels and Guest House)	Set	2
209	Public Health & Services	Set	1
210	Electrical Equipment's, substation, DG set	Set	1
211	Replacement of Lifts	No.	1

EMG Grants Items

Sl. No	Item Description	Centre	Unit	Quantity
1	Cryogen free dilution refrigerator	TIFR, Mumbai	No.	1
2	High Performance computing Cluster (HPC)	TIFR, Hyderabad	No.	1
3	Behaviour Setup	NCBS, Bangalore	No.	1
4	Neuron Tracing Software	NCBS, Bangalore	No.	1
5	Computing Clusters	NCBS, Bangalore	No.	1
6	General Workstation server	NCBS, Bangalore	No.	1
7	Storage server	NCBS, Bangalore	No.	1
8	Laptop	NCBS, Bangalore	No.	1
9	Part of Major Super Resolution Microscopy or Mass Spec	NCBS, Bangalore	No.	1
10	Servers	NCBS, Bangalore	No.	1
11	Computer and Associated software	NCBS, Bangalore	No.	1
12	4 degree C refrigerator	NCBS, Bangalore	No.	1
13	Anaerobic growth chamber	NCBS, Bangalore	No.	1
14	Desktop gas burners	NCBS, Bangalore	No.	1
15	63X objective	NCBS, Bangalore	No.	1
16	Amplifier and Data Acquisition board	NCBS, Bangalore	No.	1
17	Computers	NCBS, Bangalore	No.	1
18	Eye-piece head	NCBS, Bangalore	No.	1
19	Manipulator stand	NCBS, Bangalore	No.	1
20	Manipulators	NCBS, Bangalore	No.	1
21	Osmometer	NCBS, Bangalore	No.	1
22	Pressure Injector	NCBS, Bangalore	No.	1
23	Stereo Microscope with epifluorescence	NCBS, Bangalore	No.	1
24	Stimulator, waveform generator	NCBS, Bangalore	No.	1

25	Zebrafish Housing System	NCBS, Bangalore	No.	1
26	Computer Workstation	NCBS, Bangalore	No.	1
27	Inverted Fluorescence Microscope	NCBS, Bangalore	No.	1
28	Laptop	NCBS, Bangalore	No.	1
29	Nanodrop	NCBS, Bangalore	No.	1
30	Semi-automated tissue dissociator	NCBS, Bangalore	No.	1
31	WiTec alpha300 Ri Raman imaging Microscope	NCBS, Bangalore	No.	1
32	Workstation	NCBS, Bangalore	No.	1
33	Bioconatinement cages	NCBS, Bangalore	No.	100
34	Autoclave	NCBS, Bangalore	No.	1
35	PCR machine	NCBS, Bangalore	No.	1
36	Multimodal imaging system	NCBS, Bangalore	No.	1
37	Plate reader	NCBS, Bangalore	No.	1
38	Flow cytometry	NCBS, Bangalore	No.	1
39	Minor equipment	NCBS, Bangalore	No.	1
40	10 X machine	NCBS, Bangalore	No.	1
41	High Performance Computing System	NCBS, Bangalore	No.	1
42	Nano Calorimeter	NCBS, Bangalore	No.	1