

## NPL Project Procurement List 2022-23 as on 12th August 2022

S.No.	Instrument Name	Project No.	Qty.
1	Data Server	OLP225332	1
2	Workstation	OLP225332	1
3	Digital Multimeter	OLP225332	1
4	Computer Monitor	OLP225332	2
5	FPGA development boards	OLP225332	As Per Req.
6	Rubidium frequency std modules	OLP225332	2
7	GNSS Receiver chipset type -I, boards, chips	OLP225332	As Per Req.
8	GNSS Receiver chipset type -II, boards, chips	OLP225332	As Per Req.
9	NTP & PTP cards & accessories	OLP225332	As Per Req.
10	Computer accessories, Electronic accessories & components	OLP225332	As Per Req.
11	RF cable, connectors, and accessories	OLP225332	As Per Req.
12	GNSS signal splitter	OLP225332	1
13	Minicomputer boards & accessories	OLP225332	As Per Req.
14	Machining the box or casing for the instrument and accessories	OLP225332	2
15	Aluminium/Silver/Gold	GAP 190932	As Per Req.
16	Chromium/Tin /copper/Nickle	GAP 190932	As Per Req.
17	Mo boats/spiral boat	GAP 190932	As Per Req.
18	tungstun wire/Al sheet	GAP 190932	1kg
19	ITO/FTO/PET coated glass slides	GAP 190932	As Per Req.
20	CH3NH3PbI3	GAP 190932	As Per Req.
21	CH3NH3PbCl3	GAP 190932	As Per Req.
22	CH3NH3PbBr3	GAP 190932	As Per Req.
23	CH3NH3SnI3/CsPbBr3	GAP 190932	As Per Req.
24	MAI/Lead iodide/MABr/lead bromide/CoBr/lead chloride	GAP 190932	As Per Req.
25	CESIUM IODIDE	GAP 190932	As Per Req.
26	Cesium(I)chloride	GAP 190932	As Per Req.
27	Cesium(I)bromide	GAP 190932	As Per Req.
28	FORMAMIDINIUM IODIDE	GAP 190932	As Per Req.
29	FORMAMIDINIUM Bromide	GAP 190932	As Per Req.
30	FORMAMIDINIUM Chloride	GAP 190932	As Per Req.
31	Organic materials	GAP 190932	As Per Req.
32	Zirconium Oxide/halfnium oxide/Tio2/ZnO/Ca/PEDOT:PSS	GAP 190932	As Per Req.
33	DH6T/P3HT/Penatacene	GAP 190932	As Per Req.
34	NiO/NiBr	GAP 190932	As Per Req.
35	MoO3	GAP 190932	As Per Req.
36	C60	GAP 190932	As Per Req.
37	Vendium Oxide/LiF	GAP 190932	As Per Req.
38	PVDF	GAP 190932	As Per Req.
39	Tungsten Trioxide	GAP 190932	As Per Req.
40	Nitrile glooves /cap	GAP 190932	As Per Req.
41	Surgical Mask	GAP 190932	As Per Req.
42	Plastic ware like Utility Tray,pins etc	GAP 190932	As Per Req.
43	PTFE filter	GAP 190932	50pkts

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44	Micro tips	GAP 190932	200
45	DISPOSABLE SYRINGE	GAP 190932	As Per Req.
46	Tissue	GAP 190932	As Per Req.
47	Anhy. Solvent	GAP 190932	As Per Req.
48	Benzoyl bromide	GAP 190932	As Per Req.
49	DMF/DMSO/GBL/Cyclopentane	GAP 190932	As Per Req.
50	Other Consumable materials	GAP 190932	As Per Req.
51	Acetone	GAP 190932	20ltr
52	Iso-Propanal	GAP 190932	20ltr
53	Soap solution	GAP 190932	10ltr
54	Toluene	GAP 190932	5ltr
55	Pipette	GAP 190932	10
56	Electronic components(LED,diode,resistor,transistor,bread board etc)	GAP 190932	As Per Req.
57	Electronic chip(raspeberry pi with RAM,arduino uno,board,etc)	GAP 190932	As Per Req.
58	Laptop/computer accessories(heating fan,keyboard,mouse,wire etc)	GAP 190932	As Per Req.
59	Pen drive /ear phone/sd card/HDD/SDD/RAM	GAP 190932	50
60	Power bank/DVD writer/extension board/CD	GAP 190932	As Per Req.
61	USB hub/tool kit/screw driver kit	GAP 190932	As Per Req.
62	Cable/connecting wire	GAP 190932	As Per Req.
63	Repairing instruments/printer/laptop/computer	GAP 190932	As Per Req.
64	Scissor/cutting tool	GAP 190932	50
65	Stationary items (pen,Note Pad,paper,ink,envelopetc)	GAP 190932	As Per Req.
66	Register	GAP 190932	50
67	Other unclassified Lab consumables, chemicals, micropepettes , (Glass ware and stationary item- belongs to P4 category etc ) printer	GAP 190932	As Per Req.
68	Electrical Source Measure Unit	MLP211732	1
69	Microscope with camera	MLP211732	1
70	Micromanipulator	MLP211732	4
71	Micromanipulator platform plate and Accessories	MLP211732	1
72	xyz movable sample holder	MLP211732	1
73	Platinized Silicon wafers	MLP211732	2
74	High purity Alumina tube (99.7%)	MLP211732	4
75	Alumina boats (3 ml, 7 ml, 15 ml, 30 ml)	MLP211732	40
76	Quartz boats (3 ml, 7 ml, 15 ml, 30 ml)	MLP211732	40
77	Quartz plates (1x1 inch)	MLP211732	50
78	RF coil	MLP211732	1
79	Sputtering and PLD targets (MoS2, WS2, WSe2,MoSe2, PdSe2, PTSe, HfSe2, Bi2Se8, Bi2Te3, Ga2O3, Pt, Au, Ti etc	MLP211732	1 each
80	Gases (Ar, N2, O2, CH4, etc)	MLP211732	As Per Req.
81	Substrates (GaN template, STO, MoS2, sapphire etc)	MLP211732	As Per Req.
82	Electrical cables and accessories (GPIB, BNC, Triax, Interface, adapters, etc.)	MLP211732	As Per Req.
83	Dessicator, sample boxes (membrane boxes etc)	MLP211732	As Per Req.
84	Office furniture	MLP211732	As Per Req.
85	Office equipment	MLP211732	As Per Req.
86	Symposia/workshop/conference/seminar registration	MLP211732	As Per Req.

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87	miscellaneous	MLP211732	As Per Req.
88	Ring gauges	NWP 100	1 Set
89	Mic Check Set	NWP 100	1 Set
90	Optical Parallel Set	NWP 100	1 Set
91	CCD Camera	NWP 100	1
92	Standards Artefacts                      Magnetic Mounts	NWP 100	1
93	Set of Weights from 1mg to 1kg : F1 Class	NWP 100	1 Set
94	Weighing balance (dual range), capacity 200g.	NWP 100	1
95	Set of Weights from 1mg to 1kg : E2 class	NWP 100	1 Set
96	Weighing balance (dual range), capacity 2kg , LC = 0.01	NWP 100	1
97	Laptop	NWP 100	1
98	Digital Barometer/Pressure Gauge	NWP 100	1
99	Environment monitoring systems, 4 nos. (Temperature sensors/air pressure sensors, humidity sensors with digital /analog display etc.)	NWP 100	4
100	Standards Hydrometers , Standard viscometer, Viscosity Oil	NWP 100	As Per Req.
101	Chemicals and other electrical, electronic and mechanical components , tools , optics (like mirrors, beam splitters, windows ) , mounts and consumables , glassware, plastic wares, filtration systems, dialysis membrane etc.	NWP 100	As Per Req.
102	Miscellaneous- High Current Cables, copper earthing strip, special connectors, high quality connecting leads, adaptors, pipes, fittings, adopters, fitting tools etc.	NWP 100	As Per Req.
103	Microprocessors, PID Controllers, connectors, electronic components and fabrication of electronic circuits and controllers.	NWP 100	As Per Req.
104	FS1000A 433mHz Transmitter Receiver RF Radio Module	NWP 100	4
105	XBEE SHIELD FOR ARDUINO	NWP 100	4
106	Orange 1000mAh 3S 30C/60C Lithium	NWP 100	1
107	polymer battery Pack (LiPo)	NWP 100	1
108	16x2 Character LCD Display	NWP 100	2
109	GPS Module	NWP 100	1
110	Jumper Wires Male to Male, male to female, female to female(120Pcs)	NWP 100	2
111	Raspberry Pi Module	NWP 100	1
112	Walk-in type environmental chamber	GAP 181132	1
113	Multi-Gas Calibrator	GAP 181132	1
114	Ozone Transfer Standard	GAP 181132	1
115	Ozone Analyser	GAP 181132	1
116	Zero Air Genrator	GAP 181132	1
117	Desktop Computer	GAP 181132	7
118	Desktop UPS	GAP 181132	7
119	Router/Switches	GAP 181132	4
120	Wi-Fi access points	GAP 181132	6
121	Network multipurpose printer	GAP 181132	1
122	Workstation	GAP 181132	2
123	Overhead Projector with smart screen	GAP 181132	1
124	Network UPS	GAP 181132	1

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125	Network Rack	GAP 181132	2
126	Digital Multimeter	GAP 181132	2
127	Clamp meter	GAP 181132	2
128	Digital barometer	GAP 181132	2
129	Digital temp. Amd humidity meter	GAP 181132	2
130	Digital flow meter	GAP 181132	4
131	Digital mass flow controller	GAP 181132	3
132	Rotameter	GAP 181132	4
133	Digital Hygrometer And Barometer	GAP 181132	2
134	Variable AC Source	GAP 181132	2
135	5.5 KVA Online UPS with 2.5 hours backup for the secondary ozone standard lab	GAP 181132	1
136	FTIR (including vacuum pump)	GAP 181132	1
137	Customised gas cells of variable optical path length (0.3 to 1 m, 1m to 6m and 40 m optical path length)	GAP 181132	6
138	Auto sampler and accessories	GAP 181132	1
139	pH meter	GAP 181132	2
140	TDS meter	GAP 181132	2
141	LCR meter	GAP 181132	2
142	Furniture	GAP 181132	As Per Req.
143	Customised testing, calibration & certification facility for OCEMS and CAAQMS	GAP 181132	1
144	AMC for CAAMS at palampur	GAP 181132	1
145	45AH/12 Volt UPS Batteries	GAP 181132	15
146	Assorted types of Cartridges	GAP 181132	10
147	Tools (misc)	GAP 181132	4
148	Misc. items	GAP 181132	
149	Ozone scrubber cartridge of the Tanabyte Ozone Analyser (SA2-723)	GAP 181132	1
150	Sample Pump Assembly of the Tanabyte Ozone Analyser (SA2-723)	GAP 181132	1
151	Fan Assembly of the Tanabyte Ozone Analyser (SA2-723)	GAP 181132	1
152	Scrubber Media 2 (Purafil) (1 Lb)	GAP 181132	6
153	Scrubber Media 1 (Charcoal) (1 Lb)	GAP 181132	6
154	Pump of HORIBA APOA-370 ozone analyser	GAP 181132	1.2
155	Sampling line (teflon and cooper tube), manifold and fitting accesories (like pherul, nut , t-joints, press fitting pheruls,Solenoid Valve etc.)	GAP 181132	AS Per Req.
156	Consumable to maitain the instruments ( like tools , data memory cards, communcation cables (RS232&USB) , USB MUX/DEMUX, RS232 MUX/DEMUX, RS232 to USB converter, bananas cable, chrocodile cables and other small spares of analysers like filters, gaskets etc)	GAP 181132	AS Per Req.
157	Computer consumables (like pen drive, portable hard disk and internal hard disk, net cables etc.)	GAP 181132	
158	Rasberry-Pi 128GB with IoT kit and other sensors	GAP 181132	2
159	Arduino with IoT kit and other sensors	GAP 181132	2
160	Soldering /Desoldering Station	GAP 181132	2

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161	Assorted Electronics components	GAP 181132	AS Per Req.
162	Origin Pro (10 years 10 people)	GAP 181132	1
163	LabVIEW Professional Edition (1 User)	GAP 181132	1
164	Matlab 2020 (2 users)	GAP 181132	1
165	IGOR PRO SOFTWARE	GAP 181132	1
166	Charcoal Unit for Charcoal scrubber for ZNV-7 Zero Air Generator	GAP 181132	4
167	Compressor/ pump for PAG 003 ZERO AIR GENERATOR (including service/installation charges)	GAP 181132	1
168	CLD display set for Eco Phycis NOy Analyser (including installation charges)	GAP 181132	1
169	Source UV lamp (254 nm) Part No.81-9022-01 forSRP43	GAP 181132	2
170	1" Ozone Generator UV lamp, 500ppb; Part no.81-1025-01, forSRP43	GAP 181132	2
171	2" Ozone Generator UV lamp, 1000ppb; Part no.81-1057-01, forSRP43	GAP 181132	2
172	O3 conductor software, NI USB 6212 with SCSI output and cable, and updated signal distribution module for SRP 43	GAP 181132	1
173	SMD Soldering Machine	GAP 181132	1
174	Fixtures & Fittings	GAP 181132	
175	He Cylinder	GAP 181132	30
176	Tin foil (0.25mm/ 0.01 inch thick; Puratronic®, 99.998%; metals basis) Size: 100 x 500 mm)	GAP 181132	2
177	Cotton	GAP 181132	10 pack
178	Sulfur Dioxide in Nitrogen (Nominal Amount-of-Substance Fraction 1000 µmol/mol)	GAP 181132	2
179	Carbon Monoxide in Nitrogen (Nominal Amount-of-Substance Fraction 1000 µmol/mol)	GAP 181132	2
180	Carbon Dioxide in Nitrogen (Nominal Amount-of-Substance Fraction 7 % mol/mol)	GAP 181132	2
181	Nitric Oxide in Nitrogen (Nominal Amount-of-Substance Fraction 1000 µmol/mol)	GAP 181132	2
182	Nitrous Oxide in Air (Nominal Amount-of-Substance Fraction 1 µmol/mol)	GAP 181132	2
183	HCl	GAP 181132	2
184	TOC	GAP 181132	2
185	Oxygen in Nitrogen (Nominal Amount-of-Substance Fraction 21 % mol/mol)	GAP 181132	2
186	NH3	GAP 181132	2
187	Propane in Air (Nominal Amount-of-Substance Fraction 500 µmol/mol)	GAP 181132	2
188	BTEX	GAP 181132	2
189	Development Boards & Kits – AVR ARDUINO UNO REV 3	NWP 100	2
190	ArduinoMega2560Rev3DevelopmentBoard	NWP 100	2
191	Real Time Clock (RTC) Module	NWP 100	2
192	Infrared Radiation Pyrometer	MLP 211632	1
193	Hydraulic Screw Pump	MLP 211632	1
194	Vibration Isolation Test Bench	MLP 211632	1
195	Temperature bath for density; 10 to 80 °C	MLP 211632	2
196	Ring gauge, Delay Stage	MLP 211632	1 each
197	Low temperature Dry Block Calibrator (-100 °C to RT).	MLP 211632	1

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198	Temperature-Humidity indicator	MLP 211632	13
199	DMP-41 HBM Indicators	MLP 211632	1
200	Portable Vibration Analyzer, Accelerometer	MLP 211632	1
201	Submersible Pumps of following specifications: Flow rating 250 m <sup>3</sup> /h at 30 m head, 3-phase, 400 V $\pm$ 10 %, 50 Hz $\pm$ 5 % power rating along with associated piping, flanges and fittings etc.	MLP 211632	2
202	Pneumatic Primary Pressure standard up to 100 MPa	MLP 211632	1
203	PZT Actuator	MLP 211632	1
204	Ultrasonicator	MLP 211632	1
205	Bi directional LVDT probe with DRO	MLP 211632	2
206	Magnetic stirrer with hot plate	MLP 211632	1
207	Pressure sensor piezoelectric tester	MLP 211632	1
208	Development of primary vacuum and pressure standard in the range of <150 kPa	MLP 211632	1
209	Precision Digital Thermometer (0.07ppm)with multi channel accessory	MLP 211632	1
210	Spatial Light Modulator	MLP 211632	1
211	Dynamic Pressure Calibration system	MLP 211632	1
212	Sound Level Meter Calibration Facility	MLP 211632	
213	Replacement of malfunctioning hardware in Secondary Vibration Calibration Standard & addition of 1 nF capacitor for calibrations of charge amplifiers	MLP 211632	
214	Mass comparator for density, 200 g, d = 0.001 mg	MLP 211632	1
215	Precision force transfer Standards 3000 kN	MLP 211632	1
216	Dry block calibrator (1200 °C)	MLP 211632	1
217	UV radiometry Setup	MLP 211632	1
218	Electronic level	MLP 211632	1
219	Calliper checker 1000mm	MLP 211632	1
220	Acoustic Emission Measurement Facility	MLP 211632	1
221	Modernization of Viscosity Measurement System	MLP 211632	1
222	Up-gradation of Primary Solid Density Standard	MLP 211632	1
223	Computers	MLP 211632	10
224	Digital Pulser Receiver	MLP 211632	1
225	Low Liquid Flow Measurement System	MLP 211632	1
226	Active Hydrogen Maser	TSP 180932	3
227	High performance atomic frequency standard	TSP 180932	20
228	Phase/Frequency Comparator	TSP 180932	17
229	Phase & Frequency Offset Generator (for RRSL Sites)	TSP 180932	12
230	Low Noise Phase & Frequency Offset Generator (for DRC Site)	TSP 180932	5
231	NavIC Time Transfer Receiver	TSP 180932	19
232	GNSS Time Transfer Receiver	TSP 180932	19
233	Frequency selection and distribution switch (5 MHz, 10 MHz, 1PPS and IRIG B)	TSP 180932	140
234	Frequency distribution unit 100MHz	TSP 180932	22
235	Frequency Multiplier	TSP 180932	18
236	Frequency Distribution Amplifier 5MHz	TSP 180932	6
237	Server	TSP 180932	19
238	Network Switch	TSP 180932	52

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239	RKM	TSP 180932	17
240	KVM	TSP 180932	17
241	Serial to LAN Converter	TSP 180932	74
242	Environmental Monitoring Systems	TSP 180932	16
243	GSM Modem	TSP 180932	16
244	NTP Server	TSP 180932	15
245	PTP Server	TSP 180932	17
246	HF Switch	TSP 180932	10
247	Work Station	TSP 180932	20
248	Firewall	TSP 180932	13
249	Router	TSP 180932	14
250	Laptop	TSP 180932	9
251	Equipment Rack	TSP 180932	29
252	Equipment Rack air filter	TSP 180932	29
253	Digital Oscilloscope	TSP 180932	5
254	Phase Noise Allan deviation Test Set	TSP 180932	2
255	Digital Multimeter	TSP 180932	5
256	Digital Soldering Station with accessories	TSP 180932	6
257	Electronic Work Table	TSP 180932	6
258	Time interval counter	TSP 180932	2
259	PTP tester	TSP 180932	1
260	Smart UPS 10KVA system (1+1)	TSP 180932	1
261	Furniture for traceability Lab	TSP 180932	1
262	Antenna control unit	TSP 180932	1
263	Works and services for IT	TSP 180932	1
264	Furniture for RRSLs and DRC	TSP 180932	6
265	TWSTFT equipment	TSP 180932	1
266	AC systems, UPS and batteries	TSP 180932	5
267	Other time scale equipment	TSP 180932	5
268	Multifunctional Printers	TSP 180932	10
269	Office Computers	TSP 180932	20
270	6 inch Blades for coater	GAP 210132	1
271	IV measurement setup	GAP 210132	1
272	Oscilloscope and spectrum analyzer	GAP 210132	1
273	Substrate holder of blade coater	GAP 210132	1
274	Table top source multimeter with accessories	GAP 210132	1
275	Upgradation of 4200 system	GAP 210132	1
276	LED based lifetime measurement setup	GAP 210132	1
277	Cryogen Free Cryostat (2K -300 K) with variable temperature insert	GAP191032	1
278	Atomic Force Microscope-AFM	GAP191032	1

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