

# NPL's 3 to 5 Year Procurement Plan as on June 19, 2023

NON-CONSUMABLE (Below Rs. 5.00 lakh)		
S.No.	Item Name	Qty.
1	Work station	2
2	KVM	2
3	Managed Switch	2
4	High Speed workstation	1

NON - CONSUMABLE ( Above Rs. 5.00 lakh)		
S.No	Item Name	Qty.
1	1. QHRS System Comprising (1) 12T Superconducting magnet (2) variable Temperature insert having 12 pin TO8 (3) provision for VTI (4) Compatible cryogenic temperature controller (5) DCC resistance bridge (6)DRY scroll pump to achieve (7) QHR Devices (i) GaAs/AlGaAsbased & (ii) Graphene based	1
2	Source measuring Units, Current source & nanovoltmeter	1 Each
3	Thermally Stabilized Travelling Resistance Standards (1-1 Mohm)	1 Each (Total 6)
4	PRT Thermometer with digital readout	2
5	High Precision Dual Channel Thermo-Hygrometer/ logger	2
6	Cryogenic Current Comparator (CCC) Bridge/electronics for the highest precision measurement of resistance ratios at different levels from 1 Ohm to 1 MOhm.	1
7	Turbo molecular pump with backing pump	1
8	Digital Oscilloscope (for initiating SQUID measurements in the CCC)	1
9	Rubidium frequency Standard	3
10	Time Interval Counter	3
11	GNSS receiver with Antenna & cable	2
12	White Rabbit Len Standalone kit	2
13	Active Hydrogen Maser	1
14	Pulse Distribution Amplifier	2
15	Frequency Distribution Amplifier	2
16	Data Server	1
17	Network Storage Device	1
18	5KVA UPS (1+1)	4
19	ECDL Laser Systems (one laser diode and one laser diode with amplifier) with frequency stabilization control electronics and associated accessories for Primary Frequency Standard	1
20	Wavelength meter with switch	1
21	RF spectrum analyzer upto 13.7 GHz	1
22	Turbo molecular pump	1
23	Microwave Cavities	2
24	IR Viewer	1
25	CCD Camera	1
26	Power meter for upto 4 W power	1
27	Mixed domain oscilloscope	1

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28	Tunable microwave synthesizer	1
29	Fabry-Perot Interferometer	1
30	Regulated DC Power Supplies	4
31	Workstations	2
32	Function generator	2
33	Environment monitors	2
34	Data logger	1
35	Data Acquisition Cards with Labview software	2
36	Shutters	6
37	UHV deposition chamber based sputtering system	1
38	Cryogen-free cryostat in the temperature range 2-300 K with superconducting magnet, microwave coupling and quantum transport measurement system	1
39	AC/DC QHE devices	3
40	High Precision Impedance (R /L/C) standards	4
41	Data Acquisition/PXI Cards	4
42	UPS with Isolation Transformer, 30 kVA	1
43	Cryofree magnet (12/14 T) with adequate inserts and connections and the integrated measuring electronics suitable for AC/DC QHR standard	1
44	JAWS chip Standalone 2V	1
45	Compatible Probe	1
46	Liquid Helium Dewar	1
47	Waveform Generator 30 MHz	1
48	High Speed Arbitrary Waveform Generators	1
49	2 Channel Broadband 50 GHz Modulator Driver/RF Amplifier	1
50	High Speed Counter Control AWG 4-channel isolated, prog. amplifier	1
51	Broadband Digitiser with high sampling rate	1
52	Thermal Transfer Standard	1
53	AC voltmeter	1
53	Cryocooler	1
53	Software license	1

<b>CONSUMABLE (Below Rs. 5.00 lakh)</b>		
S.No.	Item Name	Qty.
1	Electronic consumables (components, boards, etc)	1
2	RF cables: RG223, RG174	50m each
3	Connectors: SMA for RG 223, BNC for RG174,	20 nos each
4	Adaptors: SMA F to BNC M, N F to BNC M, N F to SMA M, TNC M to N F	10 nos each
5	Optical fiber & consumables	As per Req
6	GNSS signal splitter 1:4	1
7	SMPS 12V	2
8	Network Switch	2
9	IP address pool	1
10	Other consumables	As per Req
11	Contingency	As per Req

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12	AC Power Module	2
13	DC Power Module	1
14	Oplink Module	1
15	SFP Transceiver	5
16	Repeaters	5
17	NUC	1
18	Receiver Module	5
19	Battery	12
20	Low thermal Cables	Three set
21	Mount Rack	1
22	Soldering station and accessories	One
23	Gold pins, ferrite cores etc.	One set
24	Custom designed OHFC plates	Two sets

<b>CONSUMABLE ( Above Rs. 5.00 lakh)</b>		
<b>S.No</b>	<b>Item Name</b>	<b>Qty.</b>
1	Consumables for optical fiber link (electronic components, Optical components, fiber connectors, SFP etc.,)	As per Req
2	TIC Module	2
3	Other Research Expenditure (ORE)	As per Req
4	RF CABLES	One set
5	Precision Adapters	One set

UPDATED AS ON JUN 19 , 2023

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