

List of items likely to be procured in the next 3-5 years

NOTE:

A. This list may change from time to time depending on project requirements.

B. Detailed specifications will be available at the time of raising the indent.

1. MS and SS chambers with refractory and thermal insulation linings from inside like in a furnace.
2. IGBT based power supply of rating 100kW
3. Process Instrumentation and sensors with PLC based feedback controls integrated in control panel.
4. Steam based medical waste sterilization equipment made of SS material with accessories
5. Heavy duty industrial shredder to shred sterilized red category biomedical waste
6. Effluent treatment plant to treat water from discharge of wet scrubbers and other equipment consisting of sedimentation, dosing tanks and filter press.
7. Diesel generator for emergency backup
8. Oxygen and Nitrogen generators based on swing adsorption technique
9. RF power supply (1KW, single phase along with matching network)
10. Pressure gauges
11. Heaters and heater power supply
12. Mass Flow Controller
13. Water chiller
14. High-Temperature Vacuum Furnace with High-Pressure Gas Quenching
15. Multi-stage roots pumping station
16. Vacuum Chambers of various dimensions
17. Optical Emission Spectrometer
18. Ion Source for Producing ion beam of energy range 50 - 2000 eV
19. UHV system of various dimensions
20. SNOM AFM Scanner,
21. FDTD/SPIP software
22. Portable Raman system
23. Compact e-beam evaporator
24. Turbo Molecular pump of various specifications
25. High Vacuum SS Chamber (Spherical, Diameter: 500 mm with load lock)
26. HIPIMS Power supply (6 KW, 3 phase)
27. Ion energy analyzer
28. Vacuum Chamber and subsystems
29. Power supplies
30. Quantum Efficiency Measurement
31. H₂S detectors and Upgradation of safety system
32. Diesel generator
33. Flue Gas Analyzer,
34. Power supplies,
35. Experimental system + PS for electric and magnetic fields,
36. Turbo pump
37. AFM scanner
38. Cryogen free PPMS/CFMS with magnetic measurement module Vibrating sample magnetometer (VSM)

39. Experimental plasma pyrolysis chamber
40. RF Components such as amplifier, Directional antenna system, and Broad band Antennas and SDR etc.
41. Controlling systems for vacuum and power supplies such as comsole, leak detector, high voltage power supply etc.
42. Radiation measuring systems such as Wein Filter, Spares gamma and neutron detectors, HV feed through, Insulator etc.
43. System for RF applications on seeds or similar etching system such as Water Contact Angle Measurement Instrument, Optical Emission Spectroscopy up gradation, Florescent Microscope etc.
44. High Voltage Probe & Current Transformers (CTs)
45. High speed RF switch 2GHz to 20 GHz (SPDT)
46. ZERO-BIAS SCHOTTKY DIODE DETECTORS 2GHz to 20GHz
47. RF Power Meter with Diode sensors 2GHz to 20GHz
48. Semiconductor devices(100 Ampere, 1.5kV) IGBT, Diodes, MOSFets, Diodes, SCRs
49. Hot Wire Anemometer, 0-30m/s
50. Vector Network Analyser (1MHz to 20 GHz)
51. Combination Vacuum gauge (1500 mbar-10(-8)mbar)
52. Turbo Molecular Pump (80 liter/sec)
53. Bidirectional couplers 2GHz to 20 GHz
54. Voltage controlled oscillator 2GHz to 20GHz
55. Gas dosing valve (high Precision)
56. Circulators 1 GHz to 2 GHz
57. Spectrum Analyser (10kHz to 20 GHz)
58. CW 13.56 MHz RF source with impedance matching network for making of plasma, impedance range=0.1 to 10 ohm
59. Stub tuner for matching impedance in frequency range of 100-500 MHz with power handling capacity 100 watt
60. RF Power meter for (-20dBm to +50 dBm) with frequency range 10-500 MHz
61. Power Amplifiers for 10-500 MHz for 100 watt output
62. Programmable software defined radio SDR (transceiver) for frequency 50 MHz to 3 GHz
63. Tunable RF filters with High power handling of 100 watt in frequency range 10-500 MHz
64. RF Fixed attenuators, high-power attenuators, digital step / programmable attenuators, voltage variable attenuators from DC to 1 GHz with 20dB attenuation
65. Signal generator (2 GHZ/18 GHZ)
66. Radiation measurement meter (frequency up to 20 GHZ)
67. Optical emission spectrometer in 320-1000 nm wavelength range and focal length >300mm, optical resolution of 0.2nm
68. CW Signal generator (9kHz-3GHz) with FM,AM modulation and output power of -120 to 10dBm
69. NF3 gas detector 0-30ppm
70. Mass flow controller (NF3 gas) 0-500 sccm
71. 40 KF FUSED SILICA (QUARTZ) VIEWPORT
72. UHV gate valve with DN 100 CF flange
73. "Wien Filter with a fixed magnetic field (with rare-earth permanent magnet circuit) and a set of electrostatic plates.
74. Fission Chamber/Boron lined proportional counter :1500 mm to 400 mm
75. Neutron and Gamma Area monitor: He3 and GM counter

76. Bending Magnet
77. Linear Induction Motors 0 to 415V, ~1kA (short pulse)
78. 3-phase, 415V, Variable Frequency Drives
79. Alpha detector
80. Workshop machines (CNC VMC, shearing machine with accessories)
81. 12 MW Water Cooling System
82. Wi-Fi Access Points & Controller
83. Containerized Data Center turnkey project with 8 racks
84. High Configuration Server
85. Routers with 10G interface
86. "Multiparty VC End Points,
87. Multi Control Unit (MCU)"
88. 2 Petabyte Storage System solution
89. VDI (Virtual Desktop Infrastructure)
90. Smart Class Room with accessories
91. "Desktop Computers
92. (All-In-One, Desktop Computers)"
93. Multi-Function Printers
94. Network Access Control solution for the campus network
95. High Configuration Server Hardware
96. Data Backup Solution for minimum 500TB storage
97. GPU-CPU cluster (NVlink or equivalent configuration)
98. Position control power supply (Feedback power supply rating 300 V, +/- 3 kA.)
99. Divertor Power Supply (300V, 30 kA)
100. Cryo valves for helium as well as nitrogen services (On-off, control or Hand valve, Electro/pneumatic valve)
101. Impurity detector (Trace Impurity of N₂, O₂, Moisture and THC in Helium gas, Range: 0-100 ppm)
102. PLC Upgradation of Cold-Box (Upgradation PLC module of cold-box Eurotherm T2750 PAC modules, IO: 140 nos. , # 02 CPU with designated 16 modules racks, 08 module AI, 09 AO, 01 DI and 12 nos. of DO)
103. Cryo Temperature Sensors (Range: 4.2 K - 325 K) , Model: Cernox or CCS
104. Cryo compatible Resin Epoxy (10 Kg)
105. Stainless Steel Pipes (SS 316 L, Size: ½ in to 4 in (NB), Length: 10 m)
106. S-Glass Roving (9 micron, 360 tex, S-Glass Yarn)
107. Oil consumables for Rotary and Roots vacuum pumps 50 L container x 02 nos., P3 grade Oil)
108. Breox Oil (B35) and Charcoal (Breox B35 Oil for He compressors 200 L x 3 drums, 200 kg Charcoal)
109. ORS, POS and Purifier Filters for periodic maintenance
110. Filter FC 410 & FC 418 for Helium cold box
111. O-rings / Gaskets / seals (10 kF, 16 kF, 25 kF, 40 kF and 50 kF
112. Material: Viton / Nylon / Teflon PFTE)
113. Cryo Compatible Bellows (SS 316 L, Size: ½ in to 4 in (NB), Length: 0.25 -1 m)
114. Multi-layer Insulation (MLI) (Aluminized Mylar, Fibre Glass Net as spacer material, Punched holes, 100 m L and 1 m width Roll)
115. HTS Tape – BISCO or YBCO (Bi-2223 or Di-BSSCO, YBCO, L : 50 m, Critical Current at self-field at 77 K: > 120 A)
116. MgB₂ wires (L : 500 m, Critical Current at self-field at 77 K: > 50 A)

117. Helium gas (Qty: 2000 M3, Purity: 99.999% (4.6 Grade Helium gas))
118. Liquid Nitrogen (Qty: 24 Lacs Liters (Every Year 8 Lacs x 3 Y), Purity: 99.999%)
119. PLC cards AO/AI for Compressors station
120. Consumables for Pneumatics Utility
121. Sub-components for Current leads
122. Helium Leak Detector (3 nos.) (1. Backing pumps capacity from 15 to 35m³/h. 2. Pumping Speed capacity from 2 to 10 l/s. 3. Vacuum and sniffing leak detection)
123. UHV Gauge Heads (15 nos.) (Replacement gauge heads with CF fitting compatible with M/s. Granville Phillips (MKS) make 356 Micro-Ion Plus modules -P/N: 356006-YG and 274 UHV Nude Gauge Flange - P/N: 274042.)
124. RGA Ion Source (10 nos.) (Replaceable Open Ion Source with Dual Thoria Filaments for MKS022 Series RGA (MKS make) P/N: 842-043)
125. Ionization Gauge (4 nos.)
126. Turbo molecular pump Hi pace 300 bearings (15 nos.)
127. Turbo molecular pump Hi pace 2300 bearings (15 nos.)
128. Oil consumables for Rotary and Turbo molecular vacuum pumps
129. Annual maintenance contracts
130. AMC of Pfeiffer make Pumps and helium leak detectors
131. Divertor Power Supply for Aditya-U
132. PF-6 Power Supply for SST-1
133. Up-gradation of Plasma Control System H/W and S/W Controller, A/D, D/A, Timer and DIO modules along with software drivers
134. Supply and Installation of Turbo Molecular Pumping System with 150 CF Inlet Flange and Nitrogen Pumping Speed \geq 650 l/s
135. Supply and Installation of Turbo Molecular Pumping System with 250 CF Inlet Flange and Nitrogen pumping Speed \geq 1900 l/s
136. Mass Flow Controller (MFC) with Local Display Unit and mass Flow rate 50, 100, 300 SCCM
137. Residual Gas Analyzer with 200 AMU Including Electronics Unit
138. Supply and Installation of Cryo Pumping System with 300 CF Inlet Flange and Water pumping Speed \geq 9000 l/s
139. 140. DCCT for pulsed and continuous operation; a) +/-2 kA; a) +/-5 kA; a) +/-14 kA; a) +/-20 kA
140. Power supplies and DAQ for magnet system
141. Upgradation of 82.6 GHz, 200 kW Gyrotron
142. 35kV Power supply
143. UV-VIS Spectrometer (200 – 700 nanometer)
144. CCD cameras
145. X- ray (0.5 KeV-100 KeV) Imaging systems
146. Fast Optical imaging system in visible spectrum
147. Phase Quadrature (IQ) Analyser (1-42 GHz) + Lab Equipments
148. Heterodyne Interferometer Systems (140 GHz) – 7 nos.
149. Microwave assemblies for 16-channels Radiometer (60 -110 GHz)
150. Millimeter Wave vibration time-series systems (90 GHz) & VCO assemblies (26 – 40 GHz)
151. Closed Loop Detector System for Michelson Interferometer (75 – 1000 GHz)
152. Vacuum pumps and components for Time of Flight System of Neutral Particle Analyzer (NPA).
153. Infrared cameras

154. Compact Charge Exchange- Neutral Particle Analyzer (for 100 eV – 1 KeV ion temperature) System
155. Vacuum, RF components, Electrical component, Power Supply
156. Fabrication and testing of TF coils (12.5 kA, 250 ms flat top Multi-stage Capacitor bank based Power Supply with a ramp rate of 1.5 MA/s)
157. New VF Power Supply
158. Equipment related with LN2 sub cooled system
159. Fabrication of one shaped coil
160. Fabrication of a solenoid coil producing magnetic field up to 3T
161. Procurement of vacuum components
162. Procurement of cryogenic components
163. Procurement of diagnostic equipment
164. Procurement of control equipment
165. Equipment for Characterization facility of different structural & functional materials
166. Equipment for integration of EHCL and HHF Test Facility
167. Cryocooler Assembly with standard accessories having cooling capacity in Vertical Orientation: Minimum 20W @ $\leq 16K$ at 50 Hz, in Horizontal Orientation: Minimum 20W @ $\leq 19K$ at 50 Hz
168. Calorimeter
169. Enhance data acquisition system of existing tokamaks -Aditya-U diagnostic data acquisition system: SST-1 central data storage capacity expansion; Server hardware for various DAC services
170. DAC system for ST
171. Motors + Gearbox + controllers + IPC for Hyper-redundant Inspection System
172. Power supplies, oscilloscope, function generator, Isolation transformers, soldering de soldering stations
173. 70 kV, 42 A HVDC power supply for ECRH and LHCD System
174. 35 kV, 105 A HVDC power supply for ICRH System
175. Tunable Diode Laser
176. RF Generators
177. Visible Spectrometer
178. TMP, Gate Valves & Gauges
179. DAC modules
180. Experimental chambers
181. High current power supplies for different magnet systems
182. Magnets
183. High Power microwave Coupler
184. Microwave components
185. Optical and Opto-Mechanical components
186. Energy Storage Capacitor
187. Thermogravimetric Analyzer, Vickers hardness tester, FTIR Spectrometer
188. W-Cu made segmented plasma torches
189. Electrical & Electronics components
190. Instrumentation feedthrough and view ports
191. Optical and Opto-Mechanical components
192. Graphite electrodes Sod. Hydroxide, etc.
193. Consumables for nano powder production; Consumables for sterilization; Consumables (Ag, Au, wafers, sharp tip, gas, Desiccators, Freezer, maintenance of all systems, AFM tips, TEM grids, thermocouples etc.)

194. Consumables like targets, AFM tips, TEM grids, heaters, thermocouples, H₂S Gas, SS foil, Ar, N₂, O₂ UHP gases and commercial gases
195. Different gases and materials required for etching and neutronics such as deuterium, silicon wafers and Tritium Target
196. Installation and commissioning of hardware for digitization and integration for electrical distribution system of 132 kV Substation
197. Rooftop Solar Power System, LED lightings & spares and maintenance of Utility Power systems
198. Ferrous and non-ferrous metallic and nonmetallic materials for Workshop
199. Pipes, fittings, valves, tanks, pressurizers, cables, PLCs etc. for Water Cooling Plant
200. VFPS Upgradation
201. OTPS and Wave shaping circuit upgradation and new VFPS
202. Procurement of power supply spares and transformer overhauling
203. Liquid nitrogen and helium gas consumables
204. Cryogenic accessories and spares
205. Manufacturing of current leads
206. Cryo-plant maintenance and spares
207. Manufacturing of 4 Nos. of current leads
208. Upgradation of hot N₂ system
209. Delivery of hardware components
210. Delivery and testing of controller
211. Testing and commissioning of rectifier circuit
212. Components for Solid state crowbar Thyristors etc.
213. Components for Solid state Switch (IGBTs), Power supplies, CTs, probes etc.
214. Liquid Helium
215. HVDCPS, Consumables, Ferrite, Ceramic, Magnet, Copper disc, SS disc, etc.
216. Accessories and parts of Hard x-ray and soft ray systems
217. Thomson Scattering System Installation at Aditya-U
218. Prototyping and fabrication work of components
219. Procurement HTS tapes/2G HTS wire and associated consumable
220. Procurement of structural materials for shaped coils
221. Procurement of cryogenic accessories and consumables
222. Procurement of flexible cryostat
223. Professional services required for experiments performed in EHCL and HHF facility
224. Fabrication, Assembly and Testing of Target Handling System for HHFTF
225. RCC-MR double walled bellow of diameter ~2m
226. Elliptic metallic seals 2 m x 0.7 m for UHV boundary
227. CFC Tiles
228. Prototype THE with improved design
229. Fabrication of faraday cage
230. Vacuum vessel and vacuum pumps for xenon pumping, gate valves, gauges, mass flow controllers, water cooler, vacuum feed-through
231. CNC machining of extractor Grid and fixtures
232. Electrodeposition of OFHC copper
233. UPS power for tokamak systems.
234. Gases (Deuterium, helium, argon etc.)
235. Motors + Gearbox + Encoders + controllers + IPC for Single Arm Manipulator and Dual Arm Manipulator System
236. Gripper for Single Arm Manipulator and Dual Arm Manipulator System

237. Vision (Hand and Head Camera) and lighting system for Single Arm Manipulator and Dual Arm Manipulator System
238. Motors + Gearbox + Encoders + controllers for Winch System
239. Force Torque sensors, temperature sensors, electrical feed-throughs for Single Arm Manipulator and Dual Arm Manipulator System
240. Prototype Single Arm Manipulator and Dual Arm Manipulator System
241. Design, Fabrication, Assembly, Installation and Commissioning of Single Arm Manipulator, Winch System and Dual Arm Manipulator System
242. Design, Fabrication, Supply, Installation, Testing and Commissioning of Anechoic chamber of size 5m x 5m x 4 m (lbh) at 2 GHz to 26.5 GHz with shielding effectiveness of -80dB and cylindrical quiet zone with quietness level of -30 dB in the total frequency region
243. Inverted Metallurgical Microscope
244. Stereo Microscope
245. Impression Creep testing Machine
246. AFT Arrow software (network license)
247. Aluminum Extruded T-slot Profile 60 mm X 60 mm (150 meters) along with compatible accessories (90 deg. Al Die cast Corner bracket, Button Head Hex Screw (M8) SS304, Hammer Head T-bolt (M8) SS304, Flat nut slot-block sliding type (M8) CS, Floor Mounting Brackets Al, End Cap Plastic)
248. Continuous Emission Monitoring System (CEMS) to monitor stack gas.
249. Flue gas scrubbing system consisting wet scrubbers, heat exchanger, cyclone separator, Induced Draft fans.
250. Bottom ash collection system to remove residue from the waste disposal chamber.
251. Gate Valves made of SS / MS with cooling jackets to isolate waste processing chamber.
252. Industrial Chimney to exhaust flue gas as per standards stipulated by pollution control board.
253. Conveyor system to handle and feed bulk waste packets in semi continuous mode with full automation and control.
254. Process Calibrator with multifunction to calibrate temperature and pressure transmitters at field.
255. Temperature sensors and transmitters such as thermocouples, RTD
256. Pressure Sensors and Transmitters such as manometers
257. Bulk density Graphite electrodes for plasma arc generation
258. Input Power Cables Three & Half Core for Power Supply
259. Output Cables Single Core for DC Power Supply
260. Turbo Molecular Pump
261. Customized chamber for cylindrical sputtering system with heater, power supplies and other accessories.
262. TF PS for SSST
263. PS for Ohmic Coil of SSST
264. PF-1 PS for SSST
265. PF-2 PS for SSST
266. PF-3 PS for SSST
267. Flow Meter & Flow Switch for Water
268. PLC and LabVIEW SCADA system
269. PXIe based DAQ digitizer cards
270. Servicing & Calibration of PXIe based DAQ modules through OEM/ Supplier
271. Probe Drive Systems

272. Fast Camera Diagnostic system
273. CO2 LASER, optical fibers, high quality lens system, optical benches, refractive materials, ZnSe vacuum windows
274. Microwave source of 22 GHz Diode Oscillator, flexible and fixed wave guides, bends, detectors
275. Electron Gun and power supplies for electron gun system
276. Miscellaneous Items(IC's, Band Pass Filters, Amplifiers, Tungsten, Molybdenum, Ceramic tubes, Bush, Paint & Adhesive, Attenuator Probes, Computer Consumables, Vacuum Connectors, feed-through, Measurement Units, Flow Switches, Temperature sensors, Pump Oil, Clean & Overhauling kits for pumping system, Optical Fibres, Fibre Optic vacuum interface, Pneumatic valves, Gate valves, Coaxial/ Tri-axial Cables & Connectors, Varactor diodes, Surface mountable electronics components, precision high vacuum compatible leak valves, hydraulic clamps).
277. Oxygen Free Electronic (OFE) Copper Plates
278. Rigidax Tolling compound (Special wax)
279. Liquid Crystal Films (LCF) for temperature measurement (application in continuity check of ion extractor grid cooling channels)
280. Vacuum Oven 200oC at 10-4 mbar [size: 600 mm (L) × 600 mm (W) × 500 mm (H)] with several diagnostic ports and temperature recorder.
281. Vacuum chamber [size: 600 mm (L) × 600 mm (W) × 500 mm (H)] @ 10-5 mbar] with several diagnostic ports
282. Turbo Molecular Pump (TMP)
283. Route Pump
284. Pirani, Penning gauges
285. Pressure gauges (17 bar Nitrogen and 16 bar Helium)
286. Precision CNC machining of OFE copper for fabrication of ion extractor grids
287. Electro-deposition of OFE copper of 3 mm thickness for fabrication of ion extractor grids
288. Machine for wax filling in ion extractor grid's water cooling channels and manifolds grooves
289. Machine for wax scrapping from the surface of OFE copper base plate of ion extractor grids
290. Storage box for safely keeping ion extractor grids
291. Instrument of ultrasonic measurement of OFE copper layer thickness.
292. High Power laser optics, Mirror, lens wave plates etc.
293. Opto Mechanical components like mirror mounts, translation stages etc.
294. Laser Power meter
295. Precision actuators
296. Vacuum gauges
297. Pulsed White light sources
298. Accessories to for the Nd:YAG laser system
299. Pulsed Nd:YAG lasers
300. Fiber coupled diode laser
301. Programmable power supplies
302. High speed high sampling digitizers
303. Band pass and notch Filters
304. Digital storage oscilloscopes
305. Electronics components
306. Optical fibers
307. Fabrication of laser transport line

308. Developing the dust free lab and associated components
309. FPGA based DAQ system
310. Digital force gauge
311. Fabrication and supply of TF coils
312. Fabrication and supply of Central solenoid coil
313. Fabrication and supply of TR and PF coils
314. Vacuum contactors
315. Pulse CT
316. Resistive load
317. Voltmeter
318. Optical sensors
319. Impulse tester
320. Hi-pot tester
321. Linear Induction Motor (LIM)
322. Linear guides with bearing
323. Carriage
324. Softcatch
325. Structural components (e.g. Steel plate, aluminum channel, brackets)
326. Container for Control Room
327. Pulsed Alternator system
328. Optical Tachometer
329. Jaw coupling
330. Residual Gas Analyzer
331. Palladium Membrane based Hydrogen Purifier O/P flow rate: 12slpm nominal
332. Mass flow Controller
333. Double stage rotary Vane pump
334. Capacitance menometer
335. Ionisation Gauge and controller
336. Convection gauge
337. UHV compatible view port
338. UHV compatible electro pneumatic and manual gate valve of different size
339. UHV compatible electrical feed through
340. Helium leak detector
341. Temperature scanner
342. Fabrication, Assembly, Testing & Supply of Prototype Central Stack (PCS)
343. Procurement of Water Cooling System, Sensors, I&C, electrical cables for PCS
344. Fabrication of support structure for SSST, and Assembly, Integration and Commissioning of SSST machine
345. Shielded enclosure + Radiation protection + Associated test equipment
346. S-Magnetron
347. VNA + Spectrum Analyzer + Power meter
348. DC Field Probes
349. E-dot, B-dot probes
350. Diode Detectors
351. Terminators
352. Attenuators
353. Adaptors
354. Differential Probes
355. Waveguide coupling

356. Signal Generator (up to ~ 18 GHz)
357. Coaxial High Power RF Stub Tuner
358. Coaxial Phase Shifter High Power RF
359. High Power RF Coaxial Line and Its Components
360. Coaxial High Power RF Switch
361. Antenna system
362. CRO
363. EHV Grade Oil
364. AMC for Fire Fighting
365. Fire Fighting upgrade
366. Copper Earthing Pits
367. O&M of 132kV SS and associated 11&22kV, 415V distribution system
368. Spares for 132KV & 11kV, OC/EF relay, Fire Fighting
369. 11kV / 415 V Distribution Transformer, 2 MVA
370. 415 V LT Panel
371. 11KV VCB Panel
372. 11KV Power Cables of various sizes
373. 132KV Lightning Arrester
374. High speed diesel fuel
375. LT power cables of various sizes & PTFE cable
376. AMC of both 1700KVA DG sets
377. Consumable spares for DG sets
378. Distribution Transformer spares
379. DG BATTERIES
380. ACB SPARES
381. Up-gradation of controllers in 1700KVA DG sets
382. Up-gradation of LT Panels
383. Licensing and conditioning of underground tank for Diesel Generators
384. VF Power Supply for ADITYA-U
385. Electrical Tools and tackles
386. Transformer overhauling
387. DCCT
388. Spares for existing power Supply
389. Control spares for power supplies
390. Manufacturing and supply of VW converter parts
391. CTC conductor
392. Air core reactor
393. Crystal : 100 MHz
394. VCO-1 : 5-10GHz
395. VCO-2 : 13-20GHz
396. Freq Doubler-1 : 6-10GHz (input)
397. Freq Doubler-2 : 13-20GHz (input)
398. Amplifier : 6-20GHz
399. Balanced Mixer : 26-40 GHz
400. Freq. Sources (up to 40 GHz)
401. Signal source (analog)
402. Dry Cryogenic Detection System
403. Exposed Linear Encoder with Grating Scale
404. Wire Grid Polarizers in THz range

405. Silicon carbide based black body hot calibration source
406. Fixed Frequency Gunn Oscillators (E,W- band)
407. Balanced SSB Mixers (E,W- band)
408. Band Pass & Notch Filters (E,W- band)
409. Isolators (E,W- band)
410. Low Noise Amplifiers (1-20 GHz)
411. Noise Source (E,W- band)
412. Passive Waveguide components like directional couplers, Twists, etc.
413. Multi – channel IF Receiver (1 -20 GHz)
414. PLL source - 100 GHz
415. PLL source - 101 GHz
416. Biased balance mixer (100GHz, w-band)
417. Horn antenna (w-band)
418. Directional coupler (w-band)
419. DRO 7 GHz
420. DRO 16 GHz
421. DRO 17 GHz
422. Frequency Multiplier for w-band
423. IQ demodulator (MHz range)
424. Filters and amplifiers (MHz)
425. Waveguides parts in W,F, and D-band
426. Waveguide Filters (W, F, D- Band)
427. Lab furniture
428. Passive Waveguide Components: Directional Couplers, Bends, Twists etc.
429. Source: Gunn Oscillators, VCO's, PLDRO's etc.
430. Amplifiers: Power and Low Noise
431. Balanced / IQ Mixers
432. Band Pass and Notch Filters
433. Noise Sources
434. Directive Antenna
435. Schotkky Detectors
436. Cryogenic Detectors
437. Exposed Linear Encoder with Grating Scale
438. Wire Grid Polarizers in THz range
439. Fused Silica View port
440. Line Laser
441. Tripod, Motors & its accessories for Antenna Movement
442. Up-gradation of existing R & S VNA (ZVA-50) for Time gating facility
443. Material Measurement set-up
444. Cables & Connectors (0 - 40 GHz)
445. Power Supply (30 V, 5A)
446. Supply and Testing of 200kW Solid State Rectifier with Crowbar Switch Panel
447. Power supplies
448. Integrated circuits
449. Passive components
450. Racks & Chassis
451. Test and measurement Instruments
452. Programmable logic devices
453. Soldering station

454. PLC systems for automation
455. Transformers
456. Evaluation boards
457. Laptops
458. Wavelength Meter with Accessories
459. Acoustic Optical Modulator & Driver unit
460. Piezo Mirror Shifter and modulators
461. Accessories to for the Excimer laser system
462. Accessories to for the diode laser system
463. Spectrum Analyzer (DC to 100 MHz)
464. Photo-multiplier Tube Detectors and accessories
465. Control panel of AMPS
466. Flow analysis and modeling software for compressible fluid (gaseous) systems
467. Edge welded bellows
468. SS 316 VCR fittings
469. Data logger
470. Rare earth Magnets(NdFeB/SmCo)
471. Pipe feed through fittings
472. Flush face melt pressure sensor for liquid metals
473. Differential pressure transmitter of gaseous medium
474. Variable Frequency Drive for electric motor
475. High temperature bellow sealed valve Make Swagelok
476. Pb-Li ingots
477. Pb-Li to Air heat exchanger
478. NI make Data Acquisition module
479. VEGA make Radar Level Transmitter
480. Emerson Make Radar Level Sensor
481. Vortex Flow Meter
482. Pb-Li to Pb-Li recuperator
483. Therminol-55 (Heat Transfer Fluid)
484. High temperature compatible strain gages
485. Digital mass flow meter
486. Input Modules for Eurotherm T2550 Programmable Automation Controller
487. VFD Control panel for Canned Motor Liquid Metal Pump
488. Supply and Installation of Cable trays for EHCL Lab
489. Various Type of Electrical Heaters
490. UPS
491. Power Cables for VFD applications
492. Aluminium alloy plate
493. Floor crane
494. ON/OFF pneumatic valves
495. Solenoid valves
496. Electric motor for liquid metal pump
497. Fabrication of MHD test mock ups
498. Cover gas pressure transmitter
499. Circulation type heater for Pb-Li
500. Temp control panel
501. Mass flow indicator and controller
502. SS flexible hose with 16 & 25 KF flange

503. SS 316 Ferrule fittings for 1/8, 1/4 & 3/8 inches sizes (Connectors, Reducers, and Unions etc.).
504. SS 316 Tubing 1/4, 3/8 inches
505. SS 316 Tubing 1/4, 3/8 inches SS 316/304 Ball and needle valves
506. Digital gauges/transmitters
507. Cylinder trolleys
508. Recirculating chiller
509. Pressure transmitter
510. UHV DN 160 CF Manual Gate Valve
511. Vacuum chamber, heating system and other accessories of the system for reactive sputter coating inside a pipe
512. Fabrication and supply of Magnet Coils for Hydrogen Isotope Permeation Barrier Coating System
513. Lithium & titanium-based chemicals
514. Chemicals for lithium titanate preparation
515. Spares & Consumables for simultaneous thermal analyzer, model Linseis STA PT 1600
516. Spares & Consumables for Laser flash apparatus. Model Linseis LFA 1000
517. Spares & Consumables for high-temperature dilatometer, model Netzsch Expedit Select
518. Spares & Consumables for mercury porosimeter, model Quantachrome PM 60
519. Spares & Consumables for planetary ball mill, model Fritzsche P5
520. Spares & Consumables for particle size analyzer, model Brookhaven nanobrook omni
521. Spares & Consumables for extruder and spheronizer model Umang UICE lab
522. Spares & Consumables for Helium pycnometer model Instruquest
523. Spares & Consumables for pellet press model techno search instruments
524. Spares & Consumables for laboratory freeze dryer model model SP scientific BTP9EG
525. Spares & Consumables laboratory sieve shaker model electrolab
526. Rotary pump and its subsystems
527. X-Ray fluorescence spectrometer
528. Spares & Consumables for nabertherm muffle furnaces
529. Spares & Consumables for laboratory vacuum oven
530. Spares & Consumables laboratory deep freezer model REMI
531. Spares & Consumables for keysight datalogger
532. Gas flow distribution line
533. Thyristor & PID controlled power supply for compatibility experiments
534. Pressure and vacuum gauges, Vacuum valves and its accessories
535. Laboratory Rheometer
536. Peristaltic pump and its accessories
537. Alumina crucibles
538. DC power supplies
539. Platinum wires of different diameter
540. Load cell with indicator
541. True RMS Clamp meters
542. A universal type datalogger
543. Inconel material machined parts
544. A mass flow controller
545. A differential pressure transducers
546. Thermal sensors
547. Displacement sensors
548. Twin Jet Polishing Machine

- 549. Low speed Cutting Machine
- 550. Filler wire P91, RAFMS, 316L, 309L, Ni alloy
- 551. 316LN plates
- 552. Spares and Consumables for Metallography Instruments
- 553. Spares and Consumables for Mechanical Testing Instruments
- 554. Mass Flow controllers
- 555. Mass flow meters
- 556. Thermocouples
- 557. Heat flux sensor
- 558. Data loggers
- 559. Heaters and heating elements
- 560. Test channels and mockups
- 561. Insulations
- 562. Piping connectors and accessories
- 563. Power supply
- 564. Belt Grinder
- 565. Spares for Optical and Stereo Microscopes
- 566. SS316L Seamless pipes (and fittings) of different size e.g. DN 100, DN50, DN25, DN 40 etc.
- 567. Structural steels of different types e.g. ISMC channels, sheets, plates and bolts/fasteners, etc.
- 568. Insulation material of different thickness
- 569. Temperature and pressure transmitter and DPT for helium and water application
- 570. Flow meter for water application (Rotameter for chiller)
- 571. Flexible pipes (hose/bellows)
- 572. Manual ball valves for isolation/vacuum purpose (spare)
- 573. Replacement Batteries for UPS
- 574. Multicore instrumentation cables
- 575. Communication cables
- 576. High voltage DC power supply
- 577. Helium leak detector with helium pumping speed greater than equal to 2.5 l/s on buy-back basis.
- 578. Helium leak detector with helium pumping speed greater than equal to 10 l/s on buy-back basis.
- 579. Indenting concertina coil and Chain Link fencing for the work of increase in height of Compound wall at IPR campus
- 580. Supply, routing and installation of busbar
- 581. Supply of 300kV DC Earthing System
- 582. Electroformed Mesh
- 583. RF Detectors
- 584. Magnetron Sputtering Gun
- 585. Full range vacuum gauge
- 586. Water Cooler
- 587. IR Camera
- 588. Manipulator
- 589. Dehumidifier
- 590. CZT based X-ray spectrometer for the measurements of X-ray in 30 keV - 300 keV
- 591. Multipocket electron beam evaporator
- 592. 400k Ohm, 250 watt Non inductive Wire wound resistor

593. 100k Ohm, 100 watt Non inductive Wire wound resistor
594. ONLINE 5 KVA UPS with SNMP CARD
595. Rotary encoders (Absolute)
596. Rotary encoders (Incremental)
597. ISO 200 F UHV gate valve
598. Chiller Unit for Turbo Molecular Pump (TMP)
599. Transient field calibration set-up
600. Isolation transformers
601. Permanent Magnets
602. In-line IV probe
603. MS Sections (Angle, C-channel, I-Beam, Flat, SHS, RHS, etc.) of various sizes
604. Dehumidifier
605. Handheld digital multimeter
606. MF controllers (0 - 100 sccm)
607. Roots / Scroll Oil free Dry Vacuum Pump with exhaust silencer
608. Manually operated Fine / Precision Gas dosing valve / Manual leak valve
609. Manually Operated Vacuum Ball valve
610. HV Sine Wave Generating HF Power Supply
611. 20 kHz Variable High Voltage Power supply
612. Small Table top Tesla Transformer
613. Compact Table top Tesla Transformer
614. High Voltage rectifier Diodes
615. 3-Axis Stabilized Handheld Gimbal
616. Superconductor-Yttrium barium copper oxide (YBCO) disk (Diameter=50mm, Thickness=10mm)
617. Superconductor-Yttrium barium copper oxide (YBCO) disk (Diameter=28mm, Thickness=10mm)
618. High frequency transformer core
619. Air compressor
620. Femtosecond Laser system
621. Dry scroll vacuum pump
622. Vacuum Test Facility (1. Internal diameter of vessel - 1.5 m and Overall length - 3.5 m; 2. Xenon pumping speed : 30,000 l/s; 3. Vacuum gauge: 1000 mbar to 1e-7 mbar)
623. MS sheets of various sizes
624. Hylam Sheet and round bar of various sizes
625. Perspex (Acrylic) sheet and round bar of various sizes
626. CAD-CAM software (Mastercam, Solidworks, etc.)
627. High Vacuum Chamber With Support Stand For Large Area Plasma Source
628. Ceramic 5kV Electrical Isolator (Maximum Pressure: 17bar; Temperature range: -269 °C to 350 °C, Voltage isolation: 5kV; Compatibility with vacuum during operation: $\leq 10^{-6}$ mbar outside; Helium leak tightness: 10^{-9} mbar-l/s or better (at ambient conditions); Size - O.D.32.00 \pm 0.25mm, I.D. 29.00 \pm 0.25mm; Qty - 10Nos.
629. Supply of 300kV DC Connector (Plug) and Receptacle (Socket) assembly.
630. Self-contained Breathing Apparatus (SCBA) as per the IS 10245 Part-2.
631. Vacuum chamber with accessories for nanopowder synthesis.
632. Safety relief valves for Liquid Nitrogen service.
633. Flow diverter ball valves for Liquid Nitrogen service.
634. Vacuum View ports
635. Vacuum feed through

636. Consumables: Copper tape, Aluminum tape
637. Full range vacuum gauge
638. Swagelok tube fittings: Ferules nuts, VCR fittings, tube fitting connectors for high pressure application
639. Gas flow valves
640. Needle valves
641. Angle valves
642. PLC based control systems with associated input/output modules and control box.
643. Fabrication related to vacuum and cryo systems, flanges and associated components
644. Laser diode and accessories
645. Photo diode and accessories
646. Rotary vane pump
647. Digital storage oscilloscope with 4 channels and 100 MHz bandwidth
648. CMOS camera with 300 fps for Schlieren Imaging and acoustic field analysis related to nanopowder collection mechanism
649. Ultrasonic Cleaner
650. WR340 rectangular waveguides
651. 19 inch/ 42U Enclosures Networking/ Server rack
652. Digital Storage Oscilloscope-Qty:01
653. Two channel function generator-Qty:01
654. RF simulation software for active and passive devices
655. VIS Spectrometer
656. Magnet DC Supplies
657. Chiller-1TR-3no.s
658. Chiller-3TR-1no.s
659. Experimental Chambers
660. Vacuum Vessel (High Density Helicon System)and consumables[present]
661. UHV Gate valves 200 ISO [present]
662. Xe Gas High purity (300 Ltrs)
663. Kr Gases (500ltrs)
664. Materials (Copper, Steel, Aluminum) for lab purpose
665. Magnets [present]
666. Electronics & Electrical Items
667. Function Generator
668. Signal Generator
669. Oscilloscope (500MHz DSO)
670. Oscilloscope (200MHz-analog DSO)
671. Electronics Multimeter (4 nos)
672. Electrical Panel Distribution System
673. 100A Cables 500 mtrs
674. 1kvA Isolation Transformers
675. Diagnostics Cables and Electronics circuits and Amp etc. related items
676. Instrumentation feedthrough [present]
677. (Vac & High Current & High Voltage)
678. Ceramics Consumables
679. Quartz Plasma source tubes
680. Permanent Magnets Rare Earth (NdFeB)
681. Laboratory Storage Items Almirahs
682. Lab Tool Trolleys and others

683. UHV compatible re-entrant viewport
684. Laboratory bench with electrical sockets
685. Toolkit filing cabinet
686. Supply of 11 kV harmonic filter inductor
687. Digital Vernier Caliper for measurement purpose
688. Procurement of process pump with VFD for secondary cooling system of HHFTF
689. Electronic Water Conditioner
690. Procurement of tube fittings of various sizes and sizes: 100 Nos (approx.)
691. Pipes of various sizes: 2 inch, 1 inch, 1/2 inch of sch-80: 30 meter (approx.)
692. Fabrication, Assembly and Testing of target handling system for HHFTF
693. Fabrication of extension chamber
694. Railing system / trolley arrangement & modifications in existing target handling system
695. Repairing of Magnetron sputtering system and its component such as MFC
696. Magnetron sputtering heater parts
697. Tungsten alloy Rod
698. Upgradation of SCADA of Vac Brazing Furnace
699. Power conditioning equipment for HTTD laboratory in new lab building (Stabilizers, Isolation Transformers, Harmonic filter)
700. Hire external agency to do Market Survey to identify probable customers from plasma spray coating industries and their requirements of tungsten electrodes including Technical Specifications & Quantity of Electrodes.
701. Repairing of Laser Flash System
702. Modification of hardware interlock system of DACS-HHFTF
703. Machining of parts of helium cooled divertor.
704. Graphite block
705. Cable, Connectors, Junction Boxes (to interface EHCL target handling system with DACS-HHFTF)
706. Vacuum Feedthroughs (Electrical, BNC and Thermocouple) for Helium cooled target handling system
707. PXI ROFINET interface module for DACS or OPC Server license (to establish interface between EHCL with DACS-HHFTF)
708. AMC for Gleeble 3800 system.
709. K type Thermocouples (50 Nos.)
710. MS Plates of different sizes
711. MS Square Channels of different sizes
712. SS 316L Pipes of different sizes
713. Ball valves for vacuum line
714. Vacuum pump (rotary)
715. Fabrication of Lithium Injector
716. Fabrication of Sn-Li based liquid metal loop
717. PID based temperature control panel for Sn-Li based liquid metal loop
718. Fiber glass flexible heaters, spiral heaters, and different types of heaters elements
719. Earthing for HHFTF (Earth electrode, earth strip, etc)
720. Procurement of HV gate valve
721. 1/2" bellow seal valve
722. Procurement of Water chiller for Brazing Furnace
723. KF 25, KF 40 and KF 50 Right angle valves for Vacuum application
724. KF 25, KF 40 and KF 50 Stainless steel flexible bellows (hoses) for Vacuum application
725. Up-gradation of 82.6GHz Gyrotron for ECRH system in SST-1

- 726. Liquid Helium
- 727. Electronic components Solid state crowbar (Thyristors, Capacitor, Resistors, etc.)
- 728. Electronic components Solid state Switch (IGBTs, Capacitor, Resistors, etc.)
- 729. 30kV-100mA Power supply
- 730. Data Acquisition and control (DAC) system a) PXI based DAC system b) Electronic cards for the DAC system
- 731. Power supplies for Gyrotrons (Filament, Ion-pump, Magnet etc...)
- 732. Electric equipment's like CTs, HV Probes, HV cables, etc.
- 733. Electronics and fiber optic components
- 734. Mechanical components (vacuum, cooling including LN2 cooling, etc.)
- 735. Microwave components like detectors and low power components

Updated on 06/12/2021

- 736. Energy Storage paper and oil filled capacitor 15- 30 kV, Capacitance 50 – 100 microfarad
- 737. Triggered Spark Gap
- 738. Ignitron switch
- 739. High voltage resistor
- 740. Capacitor charging supply
- 741. 1 kW 13.56 MHz RF generator and matching network
- 742. Voltage controlled Microwave source 1- 20 GHz
- 743. High frequency ferrite
- 744. Directional coupler 0.5- 20 GHz
- 745. Optical view port
- 746. Vacuum gauges
- 747. High current DC power supplies for magnet coils
- 748. Fabrication of electromagnets
- 749. Fabrication of Vacuum system
- 750. TMP and dry Vacuum pump
- 751. Kilo Ampere range Pulse Current transformer

- 752. Chairs (Furniture)
- 753. Computer Tables (Furniture)
- 754. Almirah (Furniture)
- 755. Marble top work bench (Furniture)
- 756. EMD safe work bench (Furniture)
- 757. Open racks (Furniture)
- 758. Stabilizers

- 759. Variable Frequency Drive (VFD) for Liquid metal loop control panel
- 760. Hydraulic Oil (VG32 grade)
- 761. Brazing Filler for Helium Mock-up
- 762. Thermocouple Welder
- 763. Pressure Relief valve for Helium Gas
- 764. Pressure Regulator for Helium Gas
- 765. SS Inline Vertical Multistage Centrifugal Pump with Variable Frequency Drive
- 766. Supply of 300kV DC Isolator.

- 767. 2TB SSD drive

Updated on 28/01/2022

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- 768. Dew point transmitter
 - 769. Moisture/ Dew point Analyzer

 - 770. High voltage power supply compact module Qty: 2 nos.
 - 771. Digital pressure transmitter Qty: 4 nos.

Updated on 11/02/2022

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- 772. Supply, installation, testing and commissioning of Direct Expansion type AHU (DX-AHU) air conditioning system and its accessories (air handling unit, condenser unit, electrical control panel, copper multi strand armoured electrical cables, copper flexible control cables, copper wire set for earthing, rectangular ducts, fire damper, electric duct heater, thermal insulation, RCC/PCC platform foundation, minor civil works, etc.) for SRP & ISS lab clean room at FCIPT (IPR).

 - 773. Work bench with storage cabinets.
 - 774. Printer.
 - 775. Big screen monitor to display diagnostics data.
 - 776. Lab stools
 - 777. Chairs

Updated on 18/02/2022

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- 778. Fabrication, Testing, supply and Installation of Cryo-pumping Test Chamber (CTC)
 - 779. Helium compressor
 - 780. Silicon diode temperature sensors
 - 781. Pulse tube refrigerator
 - 782. Stirling refrigerator
 - 783. Charcoal and High emissivity coating

 - 784. VRI AB CAM VEO HANDLE-01AT0
 - 785. VRI AM CAM VEO CINE KIT 01BV0

- 786. Supply, Testing and Calibration of 750kV DC Resistive Voltage Divider

Updated on 25/02/2022

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- 787. Up-gradation of the PcVue SCADA system
 - 788. Purchase of the spares for Siemens PLC components
 - 789. Purchase of the spares for Cryogenics Instrumentation
 - 790. PCB manufacturing for PXI upgrade
 - 791. Electronic consumable for PXI upgrade
 - 792. OFC for PXI upgrade
 - 793. 5kVA UPS for Cryoplant PLC

Updated on 04/03/2022

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- 794. (3500-4200)A / (7- 10)V power supply
 - 795. (0.8-1.0)kA electric-vacuum feedthrough

- 796. Supply of 120kV High Voltage Fast Recovery Diodes.
- 797. Cylindrical lens based optical coupler for PMT array and fiber
- 798. X-ray CCD detector

- 799. Thermal Imaging Camera
- 800. Insulation Resistance Tester
- 801. Proximity Sensor and RPM meter

- 802. Vacuum Feedthrough for sensor wires: 4 Nos
- 803. MLI, 10 reflecting sheets as one layer, 1.5 m X 50 m in one roll: 1 roll
- 804. Stycast with thinner and hardener for cryogenic and helium gas application: 1 ltr
- 805. Computer monitor of ~32 inch size, 3 Nos and TV screen ~50 inch size- 1 no.: 4 Nos
- 806. UPS 6 KVA: 2 nos
- 807. Multimeter: 1 No.
- 808. CRO (cathode ray oscilloscope), multichannel, battery operated: 1 no.
- 809. Pressure transmitter, piezo-electric type, small volume, without local display: 20 Nos
- 810. Pressure regulators, mechanical type, 200 - 14 bar, with helium flow rate ~1g/s: 3 Nos
- 811. Spares of 3 cryogenic long stem valves: 3 sets
- 812. Software for gas chromatograph (impurity analyzer) operation: 1 set
- 813. Helium gas with 99.999% or better purity: 600 Nm³
- 814. S304 and SS304L pipes of different sizes for small experimental and system modification work: 1 lot
- 815. Pipe fittings (elbow, reducer, Tee, etc): 1 lot
- 816. Vacuum pump spares for 3 TMPs, 1 root-rotary pump and 3 rotary vacuum pumps: 1 lot
- 817. Vacuum gauges pirani type: 5 nos
- 818. Vacuum line fittings: 1 lot
- 819. Portable welding machine: 1 No.
- 820. Rotary vacuum pump, ~200 m³ per hr: 1 No.
- 821. Leak tight SS valves for helium services in 6 mm tubes: 20 Nos
- 822. Water cooler of cooling power about 2 kW. 1 No.
- 823. MFW (minor fabrication work) for cold box dismantling and shifting to new lab building: 1 system
- 824. MFW for helium compressor system dismantling and shifting to new lab building: 1 system
- 825. MFW for purifier experiment set-up: 1 system.
- 826. MFW for heat exchanger experiment set-up: 1 ststem
- 827. MFW for different lab welding works: 1 system
- 828. MFW for fabrication of temperature monitor: 1 system
- 829. MFW for fabrication of liquid helium level monitor: 1 system

- 830. Industrial Vacuum Cleaner
- 831. Wet and Dry Duty Cleaning

- 832. Ethernet LAN Components
- 833. Ethernet based Public Address System, VoIP

Updated on 21/04/2022

834. Switch-Mode Power Supply (SMPS) 48V

Updated on 05/05/2022

835. Electro pneumatic 250 CF high vacuum Gate valve.

836. 90 degree rotary knob vacuum valve.

837. Compound cold cathode gauge head with the controller.

838. Cryo temperature monitor unit.

839. Fabrication of hydrogen sensor and laser welding of iron sheet with SS316 chamber;

840. Different size of Iron Foil (Square shape and Disk shape), 99.5% Purity.

841. Mass flow controller

842. Gas Pressure Regulators

Updated on 27/05/2022

843. CADMATE CAD software

Updated on 10/06/2022

844. MONOBLOCK WATER PUMP: 02 No.

Updated on 17/06/2022

845. Antennae

846. Amplifiers

847. Low noise Amplifier

848. Software defined radio

849. Vector Network Analyzer

850. Computational Board

851. Drone/UAV

Updated on 25/06/2022

852. Supply of High Voltage Capacitors.

853. NdFeB grade N52 Permanent Magnets with remanent magnetic field (Br) more than or equal to 1.42 Tesla.

854. Fabrication and Supply of Pulsed Alternator system.

Updated on 08/07/2022

855. Wide-band width AC Current Probe

856. Acoustic Imager

Updated on 15/07/2022

857. RF Circulator

858. Antenna Positioning System

Updated on 22/07/2022

859. Voltage sensors

860. Voltage transducers

861. Current sensors
862. Current transducers

Updated on 29/07/2022

863. CuO powder (to be used for oxidation of hydrogen)
864. Dew Point Meter (to be used for moisture measurement)
865. LaNi5 alloy (to be used for hydrogen storage)

Updated on 26/08/2022

866. Supply of High Voltage Capacitors
867. Supply of High Voltage Rectifiers/Diodes
868. Supply of High Voltage Test Transformer
869. Supply of High Voltage Resistive Divider/Measuring Resistors
870. Fabrication and Construction of Partial Discharge (PD) Room/ Faraday Cage

Updated on 16/09/2022

871. Integrating sphere for calibration of spectroscopic system
872. Optical detector assembly based on fiber, PMT array and associated electronics.

Updated on 07/10/2022

873. Ladder (Stainless Steel)

874. Revolving Chair with Arm Centre pivot mechanism

Updated on 16/11/2022

875. Microsoft Visio Professional Software to draw the PFD and P&ID of the various experimental loops

Updated on 02/12/2022

876. Power Deflection Amplifier with water fittings, Model: CA5020-20A (Part of 200 kW High Power Electron Beam System)

Updated on 23/12/2022

877. IR Photo detector and Compatible Pre-amplifier

Updated on 06/01/2023

878. IGBT Module, Gate Driver card and Gate Driver Power Supply
879. 30kV, 5A DC HVPS

Updated on 13/01/2023

880. Silicon Bulk Fibreglass Thermal Insulation Sleeve; Qty: 350 mtrs.

Updated on 17/02/2023

881. Centralized LN2, GN2 distribution system for New Lab at IPR

Updated on 21/02/2023

882. Three phase Auto Transformer for Liquid metal loop control panel

Updated on 24/02/2023

- 883. Jigs for large size(2m dia) Ion source grid assembly
- 884. Ceramic coated Copper coils for RF based Negative Ion source
- 885. PU Insulated Copper Coils for RF based Negative Ion source
- 886. Pressure Reducing Valve - 65 NB for By pass line of TWIN cooling water system.
- 887. Large size(2m in dia) flanges for mounting Twin source grids under test facility.

Updated on 31/03/2023

888. Dome Camera

Updated on 06/04/2023

- 889 Hydrothermal chamber (100 mL)
- 890 Vacuum Oven
- 891 Tube furnace
- 892 Centrifuge
- 893 Spin coater
- 894 Double distilled water plant
- 895 Magnetic stirrer
- 896 Magnetic bars
- 897 Thermometer
- 898 Micropipette (10-100 microliter), (1000 microliter)
- 899 Glass Beakers & Glass vials
- 900 Glass Petri dish
- 901 Torque wrench
- 902 Mortar pestle
- 903 Weighing balance
- 904 Vacuum pump and Desiccator
- 905 Gloves, mask and lab coat
- 906 Vacuum cleaner (dry and wet)
- 907 LED/LCD monitor
- 908 Digital Vernier Calipers
- 909 Chemicals

Updated on 21/04/2023

- 910. Fabrication of UHV Components as per drawing
- 911. Fabrication of Phase Shifter as per drawing

Updated on 24/05/2023

- 912. Vector Network Analyser
- 913. Insulation Resistance tester
- 914. DC power supply components like Transformer, contactor, DCCT etc.
- 915. Upgrade of HVPS control system
- 916. AMC of Air circuit breakers
- 917. Maintenance of 2MVA Transformer

Updated on 07/07/2023

- 918. Beam guidance basic unit 2011
- 919. Adapter beam guidance basic unit 2001 to beam guidance basic unit 2011
- 920. Digital Signal Processor (DSP) Adwin-Gold II (customized)

Updated on 07/07/2023

921. Water Flow switches with one micro switch contact, independently adjustable within the flow range

Updated on 09/09/2023

922. Metal Fencing Work in UHVS Lab

Updated on 27/010/2023

923. Setting up an office space for IPR's incubation center: This includes design work, fabrication of offices using MS sections, Aluminum partitions, electrical, lighting & IT cabling work etc.

Updated on 27/010/2023

924. Procurement of office furniture: This includes the procurement of modular workstations, office chairs, meeting tables, reception table, conference table, almira, cabinets etc.

Updated on 27/010/2023

925. Procurement of Ultrasonic water bath (Sonicator)

Updated on 29/011/2023

926. Spares and Consumables for Transmission Electron Microscope (TEM)

Updated on 29/011/2023

927. Fabrication and supply of Housing shell with Flanges.

928. Fabrication and supply of Shaft Assembly and support Assembly.

929. Fabrication and supply of Rotor and Stator along with magnets for high power rotating system.

930. Supply of Linear Position sensor with driver.

931. Development, Fabrication, Assembly, Testing and supply of Controller unit for high power rotating system

932. Electronic components for power converter.

933. Smart Pirani vacuum Transducer cum transmitter.

934. Fabrication and supply of NdFeB grade N-40SH Permanent magnets.

Updated on 18/12/2023

935. Hydraulic press

936. Viscometer

937. Rheometer

938. Microwave synthesis system

939 Repair/replacement of Nanosclerometer controller with power supply

940. Workstation for CAD modeling and engineering simulations

941. Single axis antenna positioner

Updated on 15/02/2024

942. Magnesium powder

Updated on 12/03/2024

942. Manufacturing, Inspection, Assembly and supply of AMB Supported Energy Storage System (ASESS)

943. Supply of Full range vacuum gauge.

944. Fabrication, Assembly, Inspection and Supply of Support Structure for Soft Catch.

945. Hot Plate

946. Magnetic Stirrer with hot plate

947. Reagent bottles (PP,LDPE, HDPE, Borosilicate)

948. KBr dies

949. Heating mantle

950. Laboratory stirrer

951. Hydraulic press

952. Viscometer

953. Rheometer

954. Microwave synthesis system

955. Repair/replacement of Nanosclerometer controller with power supply

Updated on 10/05/2024

956. Niobium target

957. Molybdenum target

958. Tungsten target

- 959. SS304L helium gas storage tank of medium pressure
- 960. CS helium gas storage tank of medium pressure
- 961. Concrete base construction work for helium storage tanks and pipe layout work
- 962. SS304, SS304L, SS316 and SS316L pipe (seamless and welded type) and tubes and its fittings
- 963. Pipe layout work.
- 964. Oil removal system for helium compressor.
- 965. Oil removal system for air compressor
- 966. Helium Compressor
- 967. Air compressor
- 968. Compressor cooling and ventilation system
- 969. Air blowers and pumps
- 970. Cryogenic long stem control valve of various sizes
- 971. Room temperature control valve of various sizes.

- 972. Safety valve
- 973. Burst disc
- 974. Calibrated and uncalibrated Silicon diode temperature sensor.
- 975. Temperature sensor monitor.
- 976. Electrical distribution panel.
- 977. Electrical cables and instrument wires
- 978. UPS.
- 979. Vacuum chamber
- 980. Heat exchanger-plate fin type.
- 981. Spares for turbines
- 982. Gas regulator
- 983. Pressure transmitter.
- 984. Differential pressure transmitter.
- 985. Spares of helium compressor
- 986. Spares of air compressor
- 987. Spares of gas chromatographs
- 988. Calibration gas for gas chromatographs
- 989. Helium gas
- 990. PLC
- 991. Root-rotary vacuum pump
- 992. Dry scroll pump
- 993. TMP (turbo-molecular vacuum pump)
- 994. Vacuum Gauges of different types
- 995. Vacuum Fitting and Vacuum valves
- 996. Industrial category Computer and server
- 997. MLI fixing tapes
- 998. Fabrication of MS/CS platform and mezzanine floor
- 999. LHe Dewar
- 1000. LHe transfer siphon
- 1001. CMM(Coordinate measuring machine)

Updated on 04/07/2024

1002: Fabrication, Inspection and Supply of Long Plate Support Assembly (LPSA) and Short Plate Support Assembly (SPSA).

Project Code: RIP4006-S5

1003: Fabrication, Inspection and Supply of Support Plate Assembly (SPA) and Support Structure Assembly (SSA).

Updated on 08/08/2024

1004: Full Band Calibration and PC Software Update for the existing AB Millimetre Dual Channel Vector Network Analyser (8-220 GHz).

Updated on 13/01/2025

Annexure-A: (Updated on 25/01/2024)

S. No.	Description of Item
G1.	High current, low voltage constant current constant voltage power supply
G2.	Electric - Vacuum feedthroughs
G3.	Electron Beam System
G4.	Fast Camera
G5.	Camera and accessories
G6.	Ultra-High-Vacuum (UHV) Pump & Accessories
G7.	Free field type D and type B dot sensors for transient Electromagnetic Pulse measurements and compatible accessories (e.g.balun, passive integrator, low loss cable of 0.5m, 1m, 2m and 5m)
G8.	Free field type D and type B dot sensors for transient Electromagnetic Pulse measurements and compatible accessories (e.g.balun, passive integrator, low loss cable of 0.5m, 1m, 2m and 5m)
G9.	Signal Generator
G10.	Real Time Spectrum Analyzer
G11.	Waveguide components
G12.	Pulsed S-band Magnetron with central frequency: 3.0 GHz
G13.	Optical Wavelength Meter
G14.	Tunable Diode Laser
G15.	Visible Spectrograph System with Detectors
G16.	Current leads
G17.	Linear Displacement transducer
G18.	Analog and Digital ICs
G19.	High Voltage breakdown tester
G20.	2G High Temperature Superconducting (HTS) Wire
G21.	Bayonet couplings for cryogenic transfer line
G22.	Stabil Ion Gauge
G23.	Residual Gas Analyser
G24.	High temperature bellow sealed valve (3/4 inch pipe end connection)
G25.	AFT Arrow software
G26.	Lithium (Li) Material
G27.	1/2" bellow seal valve
G28.	Cryocooler Assembly (with standard accessories)
G29.	CFC (Carbon Fiber Composite) tiles for IR (infrared) imaging based beam diagnostics on INTF
G30.	Ion Pump with Controller
G31.	Solidworks software license for haptic interactions in Virtual Reality facility

S. No.	Description of Item
G32.	Motors, gearbox, and control system components for Dual-Arm Manipulator (DAM) and Winch
G33.	Motors, gearbox, encoder, brake, and control system components for VR controlled RH equipment
G34.	Cernox temperature sensor-Calibrated
G35.	Silicon diode temperature sensor-Calibrated
G36.	Silicon diode temperature sensor-Uncalibrated
G37.	Monitor for cryogenic temperature sensor
G38.	Xenon Gas Cylinders
G39.	Hollow Cathodes
G40.	Oxygen Free Electronic (OFE) copper plate
G41.	Add-on 633 nm laser with live track for existing procured Raman Spectrometer
G42.	Polarization Kit for 532 nm add on part of for existing procured Raman Spectrometer
G43.	SIIP software for materical surfacecharacterisation
G44.	Scanning Near-Field Optical Microscope (SNOM)
G45.	High voltage high frequency power supply
G46.	RF power supply with matching network
G47.	Multi pocket electron beam evaporator
G48.	Supply, installation & commissioning of a solid state RF (13.56 MHz) Generator of 1000 W capacity, along with compatible automatic matching network
G49.	Lens Power supply TDK 72 V, 40 A; for TEM
G50.	Portable Flue Gas Analyzer
G51.	Cryogen free PPMS/CFMS with magnetic measurement module (VSM)
G52.	Pulse-Forming Network and HV Power Supply (Local Supplier)
G53.	Linear amplifier, (foreign)
G54.	Microwave cables (foreign)
G55.	BNC Cables
G56.	Toridal Ferrite Core
G57.	Semi-rigid cables
G58.	N-type Bulk-head
G59.	Ceramic tubes
G60.	Ceramic tubes
G61.	Electropneumatic gate vale
G62.	RF power supply with matching network (Local)
G63.	Miscellaneous consumable items
G64.	In-line IV probe
G65.	Boron lined proportional counter
G66.	Wien filter with it's power supply, control & command system and all accessories
G67.	RF Signal generator
G68.	Vector Network Analyzer with frequency range 2MHz-3 GHz
G69.	Vertical Field Power Supply for Aditya-U and SST-1 tokamak
G70.	Wire wound mesh resistors used for capacitor charging 550 kW, 30kohm, 1A, 29kV(pulse)
G71.	Residual Gas Analyzer with spares
G72.	Turbo Molecular Pumps
G73.	Cryo Pump
G74.	UHV Gate Valve

S. No.	Description of Item
G75.	Liner/ Rotary Motion Feedthrough
G76.	UHV edge welded bellows
G77.	UHV viewport shutter
G78.	Piezo gas leak valve and Mass Flow Controller
G79.	Palladium Membrane based Hydrogen Purifier
G80.	Turbo Molecular Pump
G81.	High Pressure Gauge with digital read out and extra gauge head
G82.	Vacuum Gauge (Pirani/Cold cathod combination gauge, Pirani/B-A Combination gauge, Convatron gauge etc.)
G83.	Molecules Detection Spectrometer for Lithium
G84.	Fast feedback power supply (FFPS)
G85.	Divertor power supply
G86.	DC Current Transformer (DCCT)
G87.	DC Current Transformer (DCCT)
G88.	DC Current Transformer (DCCT)
G89.	DC Current Transformer (DCCT)
G90.	Beryllium Foil
G91.	Amplifier, Preamplifier for radiation detectors
G92.	Femto Second Laser
G93.	Nd:Yag Laser
G94.	Quartz crystal micro balance with spare
G95.	Ion-Pump Power Supplies for Gyrotrons (Spare)
G96.	A pulsed white light source
G97.	Interference band pass filters
G98.	Heterodyne Interferometer System and its components
G99.	Heterodyne Interferometer system in W-band (100GHz) and D-band (140 GHz) Frequency range
G100.	PLL source – 75 to 170 GHz
G101.	Balance mixer 75 to 170 GHz
G102.	Passive waveguide components (1) Directional coupler (2) Waveguide section of different length. (3) Waveguide bends (4) Waveguide Transition (5) Waveguide Twist (6) Waveguide Termination (7) Waveguide switch (8) Waveguide filter
G103.	Freq Doublers
G104.	Amplifiers (Gain blocks)
G105.	Mixers (IQ and Balanced)
G106.	Analog Signal Generator
G107.	Passive waveguide components 1) WR28 and WR42 Straight Sections of different lengths 2) WR28 90deg Bends E & H 3) WR42 Twist
G108.	Cables and connectors
G109.	Supply, Training & Installation of Dry Cryogenic Detection System

S. No.	Description of Item
G110.	Wire grid Polarizers and mirrors 70 to 1 THz.
G111.	Fixed Frequency Gunn Oscillators with isolator
G112.	Balanced Mixers
G113.	Band Pass Filter
G114.	Low Noise Amplifiers
G115.	Noise Source
G116.	Passive Waveguide components like Twists, Transitions, bends etc
G117.	Zero Biased Schottky detectors
G118.	Notch Filter
G119.	Lab Equipment : Signal Generator,Signal analyzer
G120.	Hydrogen Ion Source assembly
G121.	Compact Neutral particle Analyzer (NPA)
G122.	Infrared (IR)-camera and allied accessories
G123.	Wound Image Fiber Optical Bundle assembly
G124.	Wound imaging fiber bundle
G125.	High frame rate camera
G126.	X-Ray image intensifier
G127.	Microchannel Plate (MCP) with Phosphor Screen
G128.	X-ray CCD detector
G129.	Palladium Membrane based Hydrogen Purifier O/P flow rate: 12slpm nominal
G130.	Helium leak detector with helium pumping speed
G131.	Turbo molecular pump with pumping speed for N2 gas greater than equal to 1800 l/s having rotary pump with pumping speed greater than equal to 30 m3/h.
G132.	Turbo molecular pump with pumping speed for N2 gas greater than equal to 1200 l/s having rotary pump with pumping speed greater than equal to 18 m3/h.
G133.	Turbo molecular pump with pumping speed for N2 gas greater than equal to 650 l/s having rotary pump with pumping speed greater than equal to 12 m3/h.
G134.	Turbo molecular pump with pumping speed for N2 gas greater than equal to 350 l/s having rotary pump with pumping speed greater than equal to 12 m3/h.
G135.	Turbo molecular pump with pumping speed for N2 gas greater than equal to 60 l/s having rotary pump with pumping speed greater than equal to 05 m3/h.
G136.	Solar Imaging Telescope and its accessories (Optics, Mount, Compatible Imaging devices and accessories)
G137.	Spectrophoto-meter for UV-Vis-NIR with diffuse reflectance measurement

Updated on 25/01/2024