

[CSIR-ADVANCED MATERIALS AND PROCESSES RESEARCH INSTITUTE, BHOPAL]
PROCUREMENT PLAN*

(*Please read the note given at the end)

A	FOR THE FINANCIAL YEAR 2025-26
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A (a)	EQUIPMENT
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(i)	Equipment: CSIR Infrastructure Funds
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Sr. No.	Name Category of Equipment/ Vehicle Item	Quantity (Nos.)	Approximate Cost (Rs. In Lakhs)
1.	Induction furnace with bottom pouring facility	01	020.00
2.	Origin Pro-10 users	01	015.00
3.	Fabrication of a structure for stirrer motor positioning during foam making, and a Uniform cooling arrangement for foam making mould holding liquid foam	01	015.00
4.	Build Volume reducer for LPBF machine	01	022.00
5.	Sand/shot Blaster	01	012.00
6.	Thermocalc software with data base (Al family, Ti family, Steel family, Cu family and high entropy alloys) with suitable work station, including TC-Prisma, TC-Python, TC-Additive Manufacturing	01	125.00
7.	High temperature tribology facility	01	160.00
8.	High temperature melting furnace upto 2200°C with accessories	01	050.00
9.	Micro/Macro hardness tester	01	080.00
10.	Water Purification Unit	01	012.00
11.	Computer System/Desktop with/without accessories	09	011.00
12.	Rotary Evaporator with/without Vacuum Pump & Chiller	03	017.15
13.	3D Bio-Printer	01	149.00
14.	Magnetic Stirrer with/without Hot Plate	05	004.50
15.	Weighing Balance	03	004.00
16.	Automatic Hydrogen storage material analyzer (Sivert's Gas Sorption)	01	200.00
17.	FLIR thermal camera (RT- 1200°C)	01	002.00
18.	Thickness gauge	01	000.50
19.	Deep freezer (-80°C)	01	005.00
20.	Add on two more channels in the existing Electrochemical Workstation AUTOLAB (Metrohm) AUT MAC2045	02	035.00
21.	Add on three more modules in the existing Contact Angle Analyzer, Apex Instruments (ACAMNSC28)	01	004.00

22.	Hydraulic press for Pellet making	03	002.00
23.	Electrochemical workstation	03	150.00
24.	Centrifuge machine	01	002.50
25.	Vacuum chamber with pumping station	01	012.00
26.	Thermal evaporator	02	043.00
27.	Industrial ball Mil	01	005.00
28.	Tumbler mixer	01	003.00
29.	Power supplies	01	012.00
30.	Sieve shaker	01	001.50
31.	UV Printer	01	015.00
32.	UV-Visible Spectrophotometer	01	020.00
33.	Powder Mixer – up to 25 kg mixing capacity	01	010.00
34.	High Vacuum Pump	02	002.00
35.	Water circulating bath	01	002.50
36.	Peristaltic pumps	02	002.00
37.	High Pressure Stirred Cell (Filtration Unit)	01	003.00
38.	Flat sheet membrane casting machine	01	005.00
39.	Cross-Flow Membrane Filtration Unit	01	018.00
40.	Oven (Laboratory Drying/Vacuum/Hot Air)	08	009.00
41.	Clean Bench (Laminar Air Flow)	01	004.00
42.	Centrifuge Machine	01	003.50
43.	DI-water purification	01	005.00
44.	Water circular chiller	01	003.00
45.	Ice-Maker Machine	01	002.50
46.	Probe Sonicator	01	009.00
47.	Vapor Trapes	01	004.00
48.	Gas-Line (N2, Ar, O2, speciality gas)	01	008.00
49.	UPS (For Workstation/3kVA/5kVA/10kVA)	03	004.00
50.	Workstations (with/without Advanced Features)	05	030.00
51.	CAD software	01	010.00
52.	3-D printer	01	002.00
53.	Vacuum station with degassing chamber and inbuilt pneumatic stirrer	01	001.60
54.	Mobile stand Die (Size 8X16 cm, 8X10.5 & thickness 5mm for injection moulding machine)	01	005.00
55.	Fabritell Textiles identification device	01	005.50
56.	Impedance tube (Transmission Loss, sound absorption, and reflection coefficient measurement) laptop, software, microphone, calibrator, other accessories, etc.	01	100.00
57.	Compounding Equipment / neader/Grinding & Milling Machine	01	014.00
58.	Inductively Coupled Plasma-Mass Spectrometry (ICP-MS)	01	120.00

59.	Chemical Wet bench for silicon processing	01	008.00
60.	COMSOL Multiphysics Software	01	010.00
61.	Digital PH meter	01	005.00
62.	Tubular furnace (temperature range up to 1200°C)	01	004.00
63.	Assembly of 3D Printer, Filament extruder, 3D Scanner,	01	040.00
64.	Hot Compression Molding Press /Hydraulic press	01	060.00
65.	Spare parts/Accessories/Sensors/ Probes of the equipment's	01	020.00
66.	Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES)	01	092.00
67.	High Score Plus Software	01	015.00
68.	FT-IR with spectro electrochemical Setup	01	150.00
69.	XPS (X-Ray Photoelectron Spectrometer)	01	850.00
70.	Additive Micro Manufacturing System	01	700.00
71.	BET Surface area analyser	03	250.00
72.	Kjeltec	01	008.00
73.	Hydrothermal reactor	01	030.00
74.	Accelerated Carbonation Chamber	01	015.00
75.	Creep Test apparatus	01	007.00
76.	Dynamic Mechanical analyser	01	170.00
77.	Potentiostat (ZRA)	01	018.00
78.	Vacuum sintering furnace	01	007.50
79.	Multi-GPU server with rack and network-enabled nodes, with supporting software	01	165.00
80.	Supply, installation, testing, and commissioning of Sound System, stage lighting system, LED Video Wall 20X10, LED Display 55 inches, Podium consisting, Stage Furniture, furnishing works, Back Side LED Wall, Scaffolding, Uninstallation of existing setup, and contingencies	01	102.955
81.	ED-XRF	01	150.00
82.	Mini Ready Mix Concrete (RMC) Plant	01	050.00
83.	Upgradation of Servo Control Compression & Flexural Testing Machine	01	060.00
84.	Gentry Guarder & Lifting Crane System	01	035.00
85.	Vibration Roller Compacter	01	010.00
86.	Industrial Micro Wave System	01	035.00
87.	Humidity Chamber	01	025.00
88.	Palletising Machine	01	015.00
89.	Silent Diesel Generator	01	050.00
90.	Gridding Machine	01	002.00
91.	Sub Critical Water Reactor	01	005.00
92.	XPS Casa Software	01	001.00

93.	Distillation Unit	01	003.00
94.	3D SpectAlyze Standard, Photomultiplier, Xenon Lamp, Solid Sample Vial	01	020.00
95.	Microwave Synthesizer	01	020.00
96.	Photolithography Equipment	01	003.00
97.	Laser Ablation ICP-MS	01	004.00
98.	Microwave pyrolysis Oven	01	010.00
99.	Almari/ Chemical storage racks	01	000.50
100.	Analytical balance	01	002.00
101.	Shaker system	01	001.50
102.	Silent Diesel Generator Set (50 kVA, 3 Phase) with electronic governor having Automatic Transfer Switch Panel	01	010.00
103.	3D Concrete Printer 3m x 3m x 3m	01	073.50
104.	3D Concrete Printer 7m x 10m x 7m	01	212.50
105.	Rheometer	01	052.50
106.	Climatic Chamber	01	023.50
107.	MATALAB Simulink Simscape with Toolboxes	02	060.00
108.	Flammable and Explosion Proof Refrigerator/ Laboratory Refrigerator/ Spark-free Refrigerator	01	002.50
109.	Fume Hood for TwinJet Electropolisher	01	006.00
110.	Oxygen concentrator	01	002.00
111.	Multichannel Potentiostat/Galvanostat with SERS Accessories	01	120.00
112.	Advanced Gas Chromatograph	01	033.00
113.	GOF 130 router wood cutter	01	00.125
114.	Electric jigsaw machine 450W, 3100spm, 65mm, with adjustable stroke rate	01	000.055
115.	130 GOF router GBM 13 RE heavy duty Electric rotary drill 600W, 13mm, 20 Nm, 1.7 Kg, Soft grip handle	01	000.050
116.	I5 14th Generation 610 Motherboard Asus 32 GB DDR4 3200mhz RAM 512 NVME SSD Cabinet + SMPS Best + 550 W SMPS HP Wired Keyboard + Mouse 24" LG Monitor - Rs. 64000	01	000.640
117.	Luminous 6kVA Online UPS with inbuilt isolation transformer	01	000.740
118.	Set of SMF Battery Quanta rating 12V/26Ah (16 batteries in a set) for 30 minutes backup	01	000.540
119.	Racks and links	01	000.050
120.	Blower/ Heater - 425 x 500 x 600mm, KW rating - 9 KW 3 PH, fan size 12 inches, heater type finned tubular heater	01	000.450

(ii)	Equipment: CSIR Funded Projects (FTT, HCP, MLP etc)
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Sr. No	Name Category of Equipment/ Vehicle Item	Quantity (Nos.)	Project Number/ Code	Approximate Cost (Rs. In Lakhs)
1	Induction furnace with bottom pouring facility (rephrasing required)	01	FIR080305	020.00
2	Hot Air Oven	01	OLP 306	000.60
3	Autoclave	01	OLP 306	001.45
4	BOD Incubator	01	OLP 306	001.45
5	PC Computer for Equipment	02	OLP-201	001.50
6	Czochralski set up for single-crystal growth	01	Under financial approval (CSIR-SEAS Mission)	026.00
7	Muffle/Tubular Furnace (heating upto 1400°C)	01	Under financial approval (CSIR-SEAS Mission)	004.00
8	VNA (Vector Network Analyzer)/Electrical Conducting sensing machine	01	OLP- 0304	008.00
9	Lateral extensometer	01	HCP 54 WP1	000.35
10	Industrial Cooler	01	HCP 54 WP1	000.35
11	Cooling system/AC	01	HCP 54 WP1	000.50
12	High-end GPU workstations, Mobile computing platforms, data storage systems, Portable interface devices (Portable touch/HMI/iPad/Tab/ mobile interface devices/ MacBook),etc., Robotic manipulator/arm, PC/Portable controller, SMT pick and place machine, environmental chamber, 3D printer, NDT, 3D hand-held scanner, IT-related products, and other small equipment.		CLAIM	022.00
13	iOS-based Tablet Computers	03	HCP002502	003.00
14	Laptop Computers	02	HCP002502	002.00
15	Deionized Water System	01	HCP0101	000.25
16	Walkie talkie 8 pack	01	HCP0101	000.10
17	Optical Power Meter	01	HCP0101	000.10
18	Optical Loss Test Set (OLTS)	01	HCP0101	002.00
19	Optical Time Domain Reflectometer (OTDR)	01	HCP0101	001.00
20	Lypholizer/ Freeze Dryer	01	HCP0101	002.50
21	Electrochemical Workstation (Potentiometer, galvanometer, cyclic voltammetry)	01	HCP0101	002.00

(iii)	Equipment: Externally Funded Projects (EFP)
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Sr. No	Name Category of Equipment/ Vehicle Item	Quantity (Nos.)	Project Number/ Code	Approximate Cost (Rs. In Lakhs)
1	Laboratory stirrer	01	GAP0128	000.15
2	Refrigerator	01	GAP 142	000.50
3	Microplate Reader	01	GAP 138	009.00
4	Vertex Mixer	01	GAP138/GAP142	000.15
5	Portable Liquid Nitrogen plant	01	GAP 142	005.00
6	Chiller/AC/Refrigerator	01 unit each	GAP136	001.50
7	Large area thermal evaporator, battery tester, etc	01	DST Project under review	021.00
8	Desktop	01	GAP-152	001.70
9	UPS (2KV)	01	GAP-152	000.40
10	Mobile Workstation/iPad	01	GAP-152	003.00
11	Liquid Nitrogen Storage Containers and dewar flasks	01	ANRF/ECRG/2024/005528	000.65
12	Heating mantles, probes and hot plates	01	ANRF/ECRG/2024/005528	001.20
13	Gas cylinders and regulators	01	ANRF/ECRG/2024/005528	000.65
14	Tubular Furnace	02	ANRF/ECRG/2024/005528	005.20
15	Muffle Furnace	01	ANRF/ECRG/2024/005528	005.00
16	Mixer mills	01	ANRF/ECRG/2024/005528	014.30
17	Vacuum Oven	01	ANRF/ECRG/2024/005528	003.50
18	HVDC cable with lug fitted on both sides (in mtrs) [5 mtrs with lugs fitted on both sidesx 3 pcs= 15 mtrs total]	15 mtrs	GAP-130	002.40
19	UPS backup of EMM machine	01	GAP-130	001.50
20	UV VIS Spectrophotometer	01	GAP135	005.00
21	Textile Calendaring Machine	01	GAP-135	005.00
22	Refractometer	01	GAP-135	003.00
23	Texture Analyser	01	GAP-135	015.00
24	UV-VIS Spectrophotometer	01	GAP-135	005.00
25	Magnetic stirrer, Vortexer, PCR Machine, Shaker, accessories etc	01	GAP-154	000.75
26	Computer/Laptop	01	GAP131/GAP144/GAP155	001.50
27	Printers	02	GAP131/GAP144/GAP155	000.50
28	Monitor	01	GAP131/GAP144/GAP155	000.30
29	Work Station	01	GAP131/GAP144/GAP155	002.00
30	Power Amplifier	01	GAP131/GAP144/GAP155	000.13
31	Weather sensor with data logger	01	GAP131/GAP144/GAP155	004.00
32	UPS	01	GAP131/GAP144/GAP155	000.30
33	Color and Black & White Printer	02	GAP131/GAP144/GAP155	000.50
34	Digital Storage Oscilloscope	01	GAP131/GAP144/GAP155	001.00
35	Function Generator	01	GAP131/GAP144/GAP155	000.80
36	Hammer Drill Machine/Drill Machine	01	GAP131/GAP144/GAP155	000.15
37	Computer Table/Chair	01	GAP131/GAP144/GAP155	000.50
38	Gel Permeation Chromatography (GPC)	01	GAP 153	040.00
39	Flat panel X-ray detector	01	GAP 153	018.00
40	Rotary Evaporator	01	GAP 153	009.00
41	Oven	01	BRNS Approved	003.30

42	High Performance Computing Platforms: workstations, computing, displays, monitors, mobile computing platforms (laptop, iPad, etc), and printing facilities.		ICMR	015.00
43	Small equipment such as power supplies, UPS, displays/monitors, and an environmental chamber		ICMR	007.00

A (b)		CONSUMABLES			
Sr. No.	Category	Expected Procurement Value (Rs. In Lakhs)			
		CSIR Infra Grant	CSIR Funded Projects	Externally Funded Project (EFP)	Total (Rs. In Lakhs)
1	R&D Consumables for closed loop systems (Thin-film sample holders for Netzsch LFA467 Thermal Conductivity Meter, DSC sample holders, XRD, sample holder, resistance heating coils @ 1000-1400 °C, Electronic and discrete electronics components (ICs, resistors, semiconductors, MOSFET/ transistor/diode, etc.	63.50	30.00	13.00	103.50
2	Chemicals (SS316L AM powder, Ti alloy AM powder, copper alloy powder, transition element metal powders - Cr/Ni/Mo/Si/Cu/Ti/V/Nb/Zr /Fe/Al/Mn/Co/Sc/V/B/Y/W/ Ta/Y2O3/CeO2/Al2O3/, rare earths, DI water etc. Paraffin wax, Liquid paraffin etc.	128.00	45.00	29.00	202.00
3	Other Consumables (laboratory gloves, laboratory masks, emery papers, polishing cloths, SS316L and Ti6Al4V build plates, etc. Metal mould & graphite crucible etc. GI sheet box, Polymer etc.	111.00	30.00	18.6	159.60
4	Glass wares (ex- beakers, petri-dishes, glass slides, measuring flasks, petri dish, etc.)	22.00	10.25	5.10	37.35
5	Plastic wares (Rectangular boxes, cylindrical vessels, Plastic boxes, Desiccators, storage boxes etc.)	11.20	2.15	8.6	21.95
6	Toner Cartridges.	23.47	2.5	2.30	28.23
7	Batteries, etc.	6.2	1.25	1.6	9.05
8	Gases (ex- Argon, Nitrogen, Argon + Hydrogen mixture, Helium, Carbon Dioxide)	14.75	2.7	3.0	19.75
9	Maintenance/AMC/repairing of existing equipment- Netzsch LFA467 Thermal Conductivity Meter, fluid bed coating system, Table top XRD, etc. Repair of instron 8801, Repairing of Deep Freezer and Printer etc.	191.00	25.50	14.0	230.00

	Vacuum melting furnace, chiller pump etc.				
10	Stationery items-A4 paper, File, folders, L covers etc.	8.50	5.05	2.90	16.45
11	IT / software-related Items-Endnote-10 licence etc.	76.00	1.65	11.30	88.95
12	Furniture (Lab tools, Table for equipment, visiting chairs, lab chairs, Solvent & chemical storage cabinet, chemical synthesis work benches etc.	18.50	8.20	2.00	28.70
13	Electric Items (Web camera, Headphones, Keyboard, Extension board, Voltage Stabilizer, Induction Plate etc.)	5.00	1.00	1.00	7.00

B	FOR NEXT 2-4 FINANCIAL YEARS (2026-30) (From 01/04/2026 to 31/03/2030)
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B (a)	EQUIPMENT
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Sr. No.	Name of Equipment / Item	Quantity (Nos.)	Approximate Cost (Rs. In Lakhs)
1.	Continuous Foam making Setup Rig	01	70
2.	Motorized Micro-indentation	01	20
3.	Light gas setup for ballistic testing 900m/sec	01	25
4.	Polymer printer	01	15
5.	Sotwares (Fusion 360/Creo/Image Pro/Rhino Upgrade/Solidworks/ AZtecSynergy/ Abaqus Upgrade /new)	01 Each	127
6.	Work station with UPS	02	30
7.	Vacuum metal infiltration arrangement with furnace and accessories	01	20
8.	Desktop and Laptop	01+01	2.5
9.	Weighing balance	01	01
10.	Customized 3-5 kg Al melting Furnace	01	02
11.	Friction stir welding setup ring	01	30
12.	Wax Printer	01	50
13.	Rheometer	1	310
14.	Mixer units for rubber	1	30
15.	Tribometer	1	160
16.	Stylus based roughness measurement device	1	25
17.	Cutting machines- diamond cutter	1	15
18.	Lubricant mixing unit	1	15
19.	3D printing for rubber/soft materials	1	30
20.	Compression molding	1	20
21.	Twin screw extruder	1	40
22.	Hot air oven	1	20
23.	Vacuum air oven	1	20
24.	High-end GPU workstations, Mobile computing platforms, data storage systems, Portable interface devices (Portable touch/HMI/iPad/Tab/mobile interface devices/ MacBook),etc. Robotic manipulator/arm, PC/Portabler controller SMT pick and place machine, environmental chamber, 3D printer, NDT, 3D hand-held		17.723

	scanner, IT-related products, and other small equipment.		
25.	UV-VIS-NIR Spectrophotometer	01	10.00
26.	Spectrofluorometer	01	30.00
27.	Workstation with monitor	05	15
28.	LED / LCD Screen	05	10
29.	Solid State NMR	01	500
30.	Partial Size Analyser	01	150

B (b)	CONSUMABLES
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Sr. No.	Category	Expected Procurement Value (Rs. In Lakhs)
1	R&D Consumables for closed loop systems (Netzsch LFA467 Thermal Conductivity Meter, DMP 350 Flex Metal 3D printer, spares and accessories of parts of the tabletop SEM and LN2 plant, Resistance heating coils @ 1000-1400 °C, Xenon flash thermal sensor, & s/w upgradations etc.), Electronic Items etc.	100
2	Chemicals (SS316L AM powder, Ti6Al4V AM powder, CuCrZr AM powder, Ti powder, copper powder, copper alloy powder, Al powder, Al alloy powder transition element metal powders - Cr/Ni/Mo/Si/Cu/Ti/V/Nb/Zr/Fe/ Al/Mn/Co/Sc/V/B/Y/W/Ta/Y2O3/CeO2/Al2O3/, rare earths, acetone, iso-propanol, toluene, ethanol, iron chloride, potassium thiocyanate, oxalic acid, hydrofluoric acid, hydrochloric acid, sulphuric acid, nitric acid, hypo-phosphoric acid, sodium hydroxide, potassium hydroxide, etchant chemicals, iso-propanol Resin for polymer printer, PdCl2. Ethanol, acetone, etchant chemicals,)	200
3	Other Consumables (laboratory gloves, laboratory masks, emery papers, polishing cloths, polishing dispersions, cold-mounting solutions, cold mounting moulds, SS316L and Ti6Al4V build plates, Mo wire for EDM, Copper powder, aluminum powder, SS powder, graphene powder, filter papers, wax beads, silicon gasket compounds, silicon rings, vacuum pump connecting joints and hose pipes, Ceramic Casing powders, polymer 3d try sheets, printing bed Vacuum furnace consumable like electrodes, O-rings, SS flasks with different dia and height, safety gloves, iso-propanol High temperature hand gloves, Rotary pump oil, Diffusion pump oil, Ceramic, trays, , Normal and 3D printing Metal powders Tissue papers bundles, Mo wire for EDM, Al, Mg ingots, Heating coils for muffle furnaces, Thermo couples for muffle furnaces, Metal ingots & Powder i.e., Li, Al, Mg, Zn, Cu, Mn, Co, Ni, Cr, Ti, Ca, Sr, Fe, Sn, W, Mo, Nb, Zr, V, Hf, Sc, Ce, Cd, Si, Yb, Sm,etc	300
4	Glass wares (ex- beakers, petri-dishes, glass slides, measuring flasks, conical flasks, volumetric storage bottles, jars sealed storage bottles, measuring cylinder, pipettes, stirring beads, funnels)	50
5	Plastic wares (Rectangular boxes, cylindrical vessels, Plastic boxes, Desiccators, storage boxes, Air-tight containers, 10-, 20- & 30-ml containers, face shields, goggles	50
6	Toner Cartridges.	20
7	Batteries, UPS batteries, Inverter batteries	30

8	Gases (ex- Argon, Nitrogen, Argon + Hydrogen mixture, Helium,)	20
9	Maintenance/AMC/repairing of existing equipment- Netzsch LFA467 Thermal Conductivity Meter, fluid bed coating system, Table top XRD, optical microscope, table top SEM, Potentiostat, sintering furnaces, LPBF 3D printer, casting machine, muffle furnace, vacuum sintering furnace, polymer 3D printer, particle size analyser, DSC RAMAN AMC and repair, Induction furnace, vacuum pump, resistance heating furnace, Mg furnace, etc.) Repair and upgradation of Shimadzu UTM 20 ton	300
10	Stationery items-A4 paper, File, folders, L covers, Pen, pencil, steppler pins, AAA batteries, AA batteries, punching machine, spiral binders, photo papers, paper clips and pins.	15
11	IT / software-related Items	20
12	Furniture (Lab tools, Table for equipments, visiting chairs, lab chairs)	20
13	Electric Items (Exhaust fan with ducting facility, electrical spares etc.)	30

Note:

- The above procurement plan is dynamic and could be revised/updated as per the grant/projects as deemed necessary with the approval of the Competent Authority.
- The procurement of the chemicals & consumables would be based on the need and ongoing requirement of R&D activities of Lab/Instt.
- The procurement is subject to the fund's availability/release of sufficient grant from funding agency.
- The indicated procurement value is an estimate only.