

TENTATIVE EQUIPMENT PRIORITY LIST (FY 2024-25)-, BSH- P50/INFRA		
Sl No.	Description	Qty
1	LC-HRMS/MS system - Exploris 240 system	1
2	Solvent Purification System	20
3	Digital Display Units	20
4	High-pressure Autoclave Reactor 2000ml	1
5	High-pressure Autoclave Reactor 500ml	1
6	Tissue Embedding unit with cold plate	1
7	Semi Preparative HPLC System	1
8	Mini vertical Gel Electrophoresis system 12	12
9	Fast Semi Dry Electroblotting System	6
10	Automatic Digital Density meter	1
11	Automatic Colour Transmission Spectrophotometer to measure colour of oils	1
12	Gaussian molecular modelling software with vendor configured hardware system	1
13	Gel Permeation Chromatography (GPC)	1
14	Automatic Colour Transmission Spectrophotometer to Measure Colour of Vegetable Oils	1
15	H-Cube continuous flow hydrogenation reactor	1
16	Flow-cytometer-Analyzer	1
17	CONFOCAL MICROSCOPE	1
18	Automated Hollow fiber Spinning machine & Centrifugal Potting Machine with accessories	1
19	AMPTS II by bioprocess control	1
20	Thermal Conductivity Analyser	1

21	Temperature Programmed Reduction/Desorption/oxidation with Mass detector	1
22	BET surface area analyzer	1
23	Gas Chromatography Instrument	1
24	Solvent distillation unit	1
25	BCU-01 with 4 mm CPMAS probe	1
26	Honey profiler	1
27	Vacuum Pumps	25
28	Rotary Evaporators	25
29	Chillers	20
30	Magnetic stirrers- with / without Heating system	25
31	All in one PC	25
32	Laptops	10
33	Multifunction Printers	10
34	AC's	20
FY 2025-26		
S.No	Description	Qty
1	Gravimetric gas and vapor sorption analyser £250,000.00	1
2	Pulsed NMR Analyzer for Determining Solid Fat Content	1
3	Hydrogenation Reactors (50mL volume)	1
4	DMSO EXTRACTOR	1
5	Micro CT:	1
6	Reaction Calorimeter (Ambient and High Pressure system)	1
7	Parallel Micro bioreactors (ambr® 15 or ambr® 250)	1
8	1-5 Kg Catalysts preparation unit	1
9	LCMS Triple Quadrupole	1
10	HPLC unit with PDA detector	2
11	HPLC unit with ELSD detector	1
12	GC-Orbitrap-HRMS/MS system	1

13	Femtosecond Oscillator for existing femtosecond laser set up	1
	GC-Orbitrap-HRMS/MS system	1
14	All in one PC	25
15	Laptops	10
16	Multifunction Printers	10
17	AC's	20

FY 2026-27		
S.No	Description	Qty
1	MOL BANK	1
2	High Pressure VLE system	1
4	Circular Dichroism (CD)	1
5	Powder X-ray Diffractometer (PXRD)	1
6	Scanning electron microscope with EDXS facility	1
7	He-recovery system	1
8	Atomic Force Microscopy (AFM) with Accessories	1
9	Spectrofluorometer (Modular F-link based optical system for lifetimes with coupling for one TDM emission monochromator)	1
10	Scanning electron microscope with EDXS facility	1
11	All in one PC	25
12	Laptops	10
13	Multifunction Printers	10
14	AC's	20

REMARKS:

1. Requirements mentioned above are tentative requirements, which may vary or change based on actual R&D requirements of user concerned as well as budgetary availability. There is no firm commitment for procurement of the same. Equipment which could not be processed in the current financial year 2024-25, may be considered for priority of next Financial Year, as per R&D requirement and fund availability.

2. Considering the nature of R&D activity and related requirements any equipment not mentioned above can be considered for procurement at any point of time with the approval of the Competent Authority as per specific requirement of the Institute.

3. As regards to procurement under sponsored projects, same will as per sanction made by the sponsoring agency under the respective projects and list below separately.

EQUIPMENT PRIORITY LIST for FY 2024-25 (TENTATIVE)

(CSIR Projects)

Sr. No	Name Category of Equipment/ Vehicle Item	Quantity (Nos.)
1	Automated continuous reactive distillation column	1
2	Auxiliary equipment for experimentation & Simulations	1
3	Atritors (1kg, 3 kg, 5 kg)	1
4	A molten salt reactor (MSR) for methane pyrolysis including online gas chromatograph with both TCD and FID detectors	1
5	Reactor upgradation (with dosing pumps & recirculating cooling bath) GC / LC purification system- Minor laboratory equipment	1
6	100ml lab. Table top Stirred pressure Autoclaves in Material of Construction: SS-316L with accessories	1
7	500mL lab trolley autoclaves in material of construction SS 316L with accessories	1
8	Thermal Conductivity Analyzer	1
9	Temperature Programmed Density Analyzer	1
10	Pre-pilot scale Hydrodynamic Cavitator	1
11	High-Speed Centrifuge	1
12	Reactor assembly	1
13	Julabo Heating fluid circulator with accessories	1

14	Requirement for spares, accessories and overall maintenance of existing analytical equipment (GC, HPLC, Short Path Distillation unit, Autoclaves, etc.)	1
15	Reactors for materials synthesis, scale-up and coating application.	1
16	Intense flowHastelloy reactor for halogenation	1
17	Customized modular flow reactor	1
18	CSTRs in series	1
19	Plate reactor in series(Hastelloy and glass)	1
20	Customized flow separators	1
21	Continuous distillation unit	1
22	Vacuum pumps(Three of different capacities)	1
23	Dosing pumps(10)	10
24	Fluid circulators for higher temperature	1
25	Gas chromatography	1
26	HPLC systems	1
27	Workstations for carrying out process simulations and computational fluid dynamics simulations(5)	5
28	CFD Software(Star CCM+)	1
29	Dynochem software	1
30	Matlabs simulink and polspace software	1
31	DoE Software	1
32	Mass flow controllers	1
33	Insti-FTIR	1
34	Accessories(NRVs, BPRs, Tubing etc)	1
35	Autoclave (Hastelloy)- 0.5L/1L	2
36	Autoclave (SS316)-0.5L/1L	1
37	Autoclave (SS316)- 2L	2
38	LC/GC-MS	1
39	GC	1
40	Modular reactor (1 mt, inconel 600H)	2
41	Back pressure regulating valves (hastelloy)	5
42	Cryostat (-90 degree C)	4

43	Pressure distillation unit	1
44	Glove box	1
45	Scrubbing system	2
46	Rotavapours	4
47	Immersion Cooler with rigid probe	2
48	Fuming hoods (walk-in)	5
49	Dosing pumps	4
50	Mass-flow controllers	8
51	Preparative LC	1
52	Photochemical reactor	2
53	UPS system	1
54	Sand blaster upgradation	1
55	Vacuum pump	1
56	Curing press	1
57	Rotavapor	1
58	Hand blender	1
59	High temperature oven	1
60	Air oven	1
61	UTM load cell(2 nos-for low and high strength)	2
62	Heating/cooling bath circulators (-50 to +150°C)	1
63	Vacuum oven	1
64	Vacuum pump	1
65	Hot plates with magnetic stirrers	2
66	Large-scale Overhead Stirrers	3
67	Solvent Exchange Set-Up (Large-scale)	1
68	CO ₂ mass flow controller (MFC)	1
69	analytical balances, UV-visible chamber, etc)-Desktop computer with copier, printer & scanner	1

70	rotary evaporators (2no.), vacuum pumps (2no.), magnetic stirrers (10 no.), overhead stirrers (2 no.), high shear mixture (2 no.)	1
71	Heating Mantles and Hot Plates with Stirrers (250-400°C range) and High Pressure Gas Regulator (Approx. 1000 psi)	1
72	Ultrahigh vacuum pump for extreme exclusion of air and moisture	1
73	Miscellaneous Laboratory Equipments	1

EQUIPMENT- TENTATIVE PRIORITY LIST (FY 2024-25) - (GAP Projects)

Sr. No	Name Category of Equipment/ Vehicle Item	Quantity (Nos.)
1	Accessories for existing Fixed bed reactor including mass flow controllers, pumps, PLC system	
2	Gas Analyser	1
3	Injection Moulding	1
	Compression Moulding Automated	1
	Cast Film Moulding	1
4	Thermal Mixer with Blocks	1
	Refrigerator	1
	Magnetic Stirrer with Hot Plate	4
	Desktop	1
	Gas Cylinder	1
	Printer	1
	Weighing Balance	1
	Overhead Laboratory Stirrer	

5		2
	Ultrasonic Probe Sonicator	1
	Analytical Balance	1
	Hot plate magnetic stirrer	2
	UV Light Cabinet	1
	pH Meter	1
	Freeze dryer	1
6	CO2 adsorption desorption isotherms measurement instrument	1
	Breakthrough Experiment set up for multicomponent gas mixtures separation	1
7	Water Purification System	1
	Freezedryer withhighvacuumpump	1
8	High Vacuum Pump	1
	Sonnicator	1
	In vitro Cell direct Heat CO2 Incubator	1
	Biosafety Cabinet Class II Type A2	1
	Millipore Water Purification System	1
	Low Temperature Freezer	1
9	Photo Chemical Reactor	1
	Analytical Balance	1
	Accessories for Nikon Inverted Microscope Model TE 2000E	1
	Automatic crystallizer	1
	Lyophilizer	1
10	Spray Drier	1
	Hot-air oven	1
	Stability Chamber	1
	Upgradation of GC with MS	1
11	Customised solvothermal pre-treatment autoclave	1
	Multimode reader	1
12	Rotary evaporator	1
	Workstation	1

13	Cavitation Reactor	1
14	Pelletalization Machine, Slurry Pumps, Filter Press-2	-
	Hydrodynamic Cavi-Reactor Setup	1
15	Furnace Heater	1
	Mass Flow Controller	1
	Miscellaneous (Pumps, Condenser, Column)	1
16	High Pressure Reactor	1
	GC	1
17	Magnetic Stirrer	8
	Vacuum Pump	2
18	Analytical Balance	1
	Mini Centrifuge	1
	Refrigerator	1
	Vacuum Manifold with Pump	1
	Helium Gas Cylinder	1

EQUIPMENT- TENTATIVE PRIORITY LIST (FY 2024-25)
(Sponsored Projects)

Sr. No	Name Category of Equipment/ Vehicle Item	Quantity (Nos.)
1.	Microsoft Surface Pro 9 laptop	1
2.	HP all in one PC	3
3.	Hot Plate Magnetic Stirrer	1
4.	Centrifugal Pump	1
5.	N2 cylinder	1
6.	Magnetic stirrer Radel with heating upto 300 deg C	1
7.	Swagelok BPR	1
8.	Vacuum pump with precision for high vacuum of 1.5 m ³ /h capacity and upto 7 mbar	1
9.	To establish Pilot plant	1
10.	Photocatalytic CO ₂ Reactor	1

REMARKS:

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