ANNEXURE-A

Technical Specifications:

A) Plinth Mounted Design

B) SEFA-8 standards Heavy Duty under Cabinets & Drawers:

SEFA-8 standards Heavy Duty Under Module, comprising of one drawer, one cabinet with shutter and adjustable height shelf. Cabinet shutter will be in double skin construction and shall be provided with heavy duty, knuckle and barrel type SS hinges and positive catch arrangement. The under module shall be fabricated out of heavy gauge special grade Galvanized Iron sheet in weldless construction and shall be finished with pure epoxy coating for extra ordinary corrosion resistance.

C) Electrical Trunk Box - G.I construction; duly powder coated

D) Electrical Sockets - Legrand or Equivalent make

SN	Description	Quantity
1	Island Bench - 1 Size: L 5555 mm x W 1500 mm x H 900 mm	1
	• Work top in 18 ± 1 mm thick Black Granite construction	-
	• 500 mm wide storage module with one drawer one shutter	10
	• Leg space	10
	• Modesty Panel in G.I. Construction	1
	• Double sided double tier reagent rack with electrical raceway (in G.I. Const)	
	• 6/16 Amp electrical sockets and 16 Amp one way switch	24
	• Service Pendant	1
	• Filler Panel in G.I. Construction	2
2	Island Bench - 2 Size: L 6680 mm x W 1500 mm x H 900 mm	1
	• Work top in 18 ± 1 mm thick Black Granite construction	-
	• 500 mm wide storage module with one drawer one shutter	12
	• Leg space	12
	• Modesty Panel in G.I. Construction	1
	• Double sided double tier reagent rack with electrical raceway (in G.I. Const)	
	• 6/16 Amp electrical sockets and 16 Amp one way switch	32
	• Service Pendant	1
	• Filler Panel in G.I. Construction	2

COMPLIANCE STATEMENT TO TECHNICAL SPECIFICATIONS

Sl. No.	Tender Specification	Bidder's Specification	Compliance (Yes/ No)
1	Laboratory furniture must be tested as per SEFA-8M standards in SEFA Approved labs with latest 2016 Guidelines published by SEFA.		
2	All modular construction & design must be made of mainly skin passed/zero spangle G.I. (Galvanized Iron) sheet duly coated with at least 50-60 micron Epoxy Powder Coated in panel form and in CKD (Completely Knocked Down) construction. The design should have provision for reconfiguration for change in layout using simple tooling and should provide independent access to the utilities installed, electrical panel & instrumentation panel. It should be removable without removing other panels.		
3	All GI sheet components are of superior brand like TATA Steel / Jindal and are fabricated by precision shearing, levelling, and notching, piercing, machines to achieve consolidated dimensions within close tolerances under the strict quality checks and assembled with the aid of fixtures. Exposed welding marks should be polished smooth to improve aesthetic. Corner intersections of vertical and horizontal members should in the same plane with bolted joints and should be suitably aligned.		
4	**Under Cabinets:** SEFA-8 standards heavy duty under module, comprising of one drawer - one shutter and adjustable height shelf, all drawers and only shutters. Cabinet shutter will be in double skin construction and shall be provided with heavy duty, knuckle and barrel type SS hinges and positive catch arrangement. Shutter and drawer handles are also provided with recessed designed in Aluminum const. with epoxy powder coating. The under module shall be fabricated out of heavy gauge special grade Galvanized Iron sheet in weldless construction and shall be finished with pure epoxy coating for extra ordinary corrosion resistance.		

	Surface Treatment: The complete GI material of cabinet is pretreated (degreased, Zinc phosphated) and epoxy powder coated for better corrosion resistance. The thickness of powder coat shall not be less than 50-60 microns, conforming to relevant BIS code, which accordingly passes the test of Salt Spray for 1000 hours and having the scratch hardness of 3 kgs.		
5	**Detailed specifications and thickness of GI items in each module:** - Cabinet end panels; min. 1.0 mm thick GI Sheet - Cabinet rear panel and top panel; min. 1.0 mm thick GI sheet - Cabinet base skid; 1.0 mm thick GI Sheet - Cabinet drawers; 1.0 mm thick GI Sheet - Cabinet shutters & drawer front panels; double skin const, min 0.8 mm thick GI sheet - Cabinet main frame structure and drawer slide rails, 1.6 mm thick GI Sheet - Each cabinet shall have self-standing type base skid plinth in GI const.		
6	**List of approved makes of materials:** Epoxy Powder: Vijay Coat Float Glass : Modi Guard / Saint Gobain Hinges : Haffle Locks : Hettich Telescopic Channel : Haffle		
7	**Worktops:** Work top shall be in 18 ± 1 mm thick Black Granite construction		
8	**Reagent Rack:** Worktop mounted reagent rack shall be in double tier design. Vertical member and main bracket of the reagent rack shall be in Aluminum construction, duly anodized and epoxy coated for excellent corrosion resistance. Rack platform shall be in wire reinforced glass or Phenolic Resin construction. Shelf height shall be adjustable as per requirement		
9	**Electrical Fittings:** Sockets and switches shall be complete with internal wiring. Fittings shall be mounted on electrical trunk. Electrical Trunking shall be minimum 1 mm thick GI with epoxy powder coating. Electrical Sockets - Legrand make.		
10	**Sink:** In one piece, molded Sink in Polypropylene (PP) construction. Sink outlet shall be provided with a large bottle trap in PP		

	construction.		
11	**Peg Board:** Peg Board in Phenolic resin construction with 20 Nos. PP Pegs		
12	**Three Way Water Taps:** 3 way taps valves with goosenecks required at the sink tables made of forged brass body with 1/2" BSP male inlet and powder coated. Goosenecks shall have a separate outlet coupling with a female thread securely brazed to the gooseneck for attachment of serrated hose ends, aspirators and other outlet fittings. Rigid goosenecks shall have a male inlet thread and be threaded directly into the faucet body so as to be absolutely rigid. Swing goosenecks shall utilize a TFE packing with an externally adjustable packing nut. Water faucets and valves shall be fully assembled. All taps shall have plastic knob with ISI approved color code. **Construction Detail of 3 Way Water Taps:** **1. Raw Material:** • Brass as per IS: 319 (I) (Machining Grade). • Brass as per IS: 8737 (Forging Grade). • Pipe as per IS: 407 (CuZn37). • Polypropylene Knob. • All Gasket / 'O' Ring Nitrile Rubber. • Inlet Connection 1/2" B.S.P. **2. Testing:** • Pneumatic Test at 18 Bars. • Hydraulic Test at 9 Bars. • Bursting Test at 36 Bars. • Working Temperature Range: 0' to 70' Celsius **3. Powder Coating:** • Epoxy Fusion Bond		

Note: The bidder should strictly adhere to the above technical specifications

TECHNICAL SPECIFICATIONS FOR LABORATORY FURNITURE & ACCESSORIES

LABORATORY FURNITURE & ACCESORIES

A) Laboratory Workstations in Plinth Mounted

General Description:

Laboratory furniture must be tested as per SEFA-8M standards in **SEFA Approved labs** with latest 2016 Guidelines published by SEFA.

All modular construction & design must be made of mainly skin passed/zero spangle G.I. (Galvanized Iron) sheet duly coated with at least 50-60 micron Epoxy Powder Coated in panel form and in CKD (Completely Knocked Down) construction. The design should have provision for reconfiguration for change in layout using simple tooling and should provide independent access to the utilities installed, electrical panel & instrumentation panel. It should be removable without removing other panels.

All GI sheet components are of superior brand like TATA Steel / Jindal and are fabricated by precision shearing, levelling, and notching, piercing, machines to achieve consolidated dimensions within close tolerances under the strict quality checks and assembled with the aid of fixtures. Exposed welding marks should be polished smooth to improve aesthetic. Corner intersections of vertical and horizontal members should in the same plane with bolted joints and should be suitably aligned.

Laboratory Work Stations are available in 2 heights of 900mm (Standing purpose) and 750mm (Sitting purpose) in metallic construction designed to have completely flexible modular system. Each module will have independent base frame. Necessary leg space are provided between two modules wherever required. Rear portion of the leg space are covered with the enclosure panel. Work table should consist of;

a) SEFA-8 standards heavy duty under cabinets & drawers: SEFA-8 standards heavy duty under module, comprising of one drawer - one shutter and adjustable height shelf, all drawers and only shutters. Cabinet shutter will be in double skin construction and shall be provided with heavy duty, knuckle and barrel type SS hinges and positive catch arrangement. Shutter and drawer handles are also provided with recessed designed in Aluminum const. with epoxy powder coating. The under module shall be fabricated out of heavy gauge special grade Galvanized Iron sheet in weldless construction and shall be finished with pure epoxy coating for extra ordinary corrosion resistance.

- **Detailed specifications and thickness of GI items in each module:**
  - Cabinet end panels; min. 1.0 mm thick GI Sheet
  - Cabinet rear panel and top panel; min. 1.0 mm thick GI sheet
  - Cabinet base skid; 1.0 mm thick GI Sheet

- Cabinet drawers; 1.0 mm thick GI Sheet
- Cabinet shutters & drawer front panels; double skin const, min 0.8 mm thick GI sheet
- Cabinet main frame structure and drawer slide rails, 1.6 mm thick GI Sheet
- Each cabinet shall have self-standing type base skid plinth in GI const.

- **List of approved makes of materials:**
  - Epoxy Powder : Vijay Coat
  - Float Glass : Modi Guard / Saint Gobain
  - Hinges : Haffle
  - Locks : Hettich
  - Telescopic Channel : Haffle

- **Surface Treatment:**
  The complete GI material of cabinet is pretreated (degreased, Zinc phosphated) and epoxy powder coated for better corrosion resistance. The thickness of powder coat shall not be less than 50-60 microns, conforming to relevant BIS code, which accordingly passes the test of Salt Spray for 1000 hours and having the scratch hardness of 3 kgs.

b) Worktops: Work top in 18 ± 1 mm thick Black Granite construction

c) Reagent Rack: Worktop mounted reagent rack in single or double tier design. Vertical member and main bracket of the reagent rack are in GI construction and epoxy coated for excellent corrosion resistance. Rack platform are in wire reinforced glass or Phenolic Resin construction. Shelf height are adjustable as per requirement.

d) Electrical Fittings: Sockets and switches complete with internal wiring. Fittings are mounted on electrical trunk. Electrical Trunking are1 mm thick GI with epoxy powder coating. Electrical Sockets - Legrand make.

e) Sink: In one piece, molded Sink in Polypropylene (PP) construction. Sink outlet are provided with a large bottle trap in PP construction.

f) Peg Board: Peg Board in Phenolic resin construction with 20 Nos. PP Pegs.

g) Three Way Water Taps: 3 way taps/valves with goosenecks required at the sink tables made of forged brass body with 1/2” BSP male inlet and powder coated. Goosenecks shall have a separate outlet coupling with a female thread securely brazed to the gooseneck for attachment of serrated hose ends, aspirators and other outlet fittings. Rigid goosenecks shall have a male inlet thread and be threaded directly into the faucet body so as to be absolutely rigid. Swing goosenecks shall utilize a TFE packing with an externally adjustable

packing nut. Water faucets and valves shall be fully assembled. All taps shall have plastic knob with ISI approved color code.

Construction Detail of 3 Way Water Taps:

1. **Raw Material:**

- Brass as per IS: 319 (I) (Machining Grade).
- Brass as per IS: 8737 (Forging Grade).
- Pipe as per IS: 407 (CuZn37).
- Polypropylene Knob.
- All Gasket / 'O' Ring Nitrile Rubber.
- Inlet Connection 1/2" B.S.P.

2. **Testing:**

- Pneumatic Test at 18 Bars.
- Hydraulic Test at 9 Bars.
- Bursting Test at 36 Bars.
- Working Temperature Range: 0' to 70' Celsius

3. **Powder Coating:**

- Epoxy Fusion Bond