

Indian Institute of Technology, Kanpur
Laurus Center for Gene Therapy, MFCEM, IIT Kanpur

Sub: TENDER FOR LAB FURNISHING – LAURUS CENTER FOR GENE THERAPY

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Quotations are invited for the above-mentioned subject as per the detailed specifications in I-A and II-A & quantity listed in I-B and II-B, respectively

ANNEXURE I-A

Item Description: For BOQ Line Item 1

Executive table set of combination of Table with Pedestal & Side return unit,

Overall table Size 1800W x 900D x 750H mm,

Table top Made of 36mm thick Pre laminated Plywood Board (PLPB) top with 2mm thick PVC edge banding, Sides made of 18mm thick PLPB legs, 2mm thick PVC edge banding, modesty & Pedestal made of 18mm thick PLPB with 2mm thick PVC edge banding, Three drawers pedestal made of 450mm width in 18mm thick PLPB material with SS handles, Side return unit 36mm thick PLPB top rest complete body made of 18mm thick PLPB material with 2 Nos. Swing door shutters & 3drawer pedestal with SS handles

Side return size 1200W x 600 D mm, product as per design given in image.

Board- Century / Greenply / Greenlam

Item Description: For BOQ Line Item 2

Executive Chair with Head rest: The Chair Shall be of Overall Size: H: 106-120, D 72.8, W 73.8 cm. Seat Height 44.5-54.5, SEAT/BACK ASSY.: The Cushioned seat made of 15mm thick hot pressed plywood with Fabric upholstery, The Net Back is made up of back outer (material-Glass Filled) & Back inner (material- PP) upholstered with polyester Mesh fabric. The size of the Back & seat are 44.5 cm. SEAT SIZE: 47.0 cm. (W) x 48.0 cm. (D), POLYURETHANE FOAM: The Polyurethane foam is moulded with density = 45 +/- 2 kg/m³ and Hardness = 20 +/- 2 at 25% compression. ARMRESTS: The armrest is having two adjustments, Height and Depth. The depth adjustment is provided in pad which is fixed to armrest structure. Armrest Top is made up of PU molded over plastic inner. SYNCHRO MECHANISM: The adjustable tilting mechanism is designed with the following features: • 360 revolving type. • Front-pivot for tilt with feet resting on ground and continuous lumbar support ensuring more comfort, Tilt tension adjustment can be operated in seating position. • 3-position Tilt locking mechanism is provided. Seat/back tilting ratio of 1: 2. The Lumbar pad (material- Poly Propylene) is fixed to lumbar spine through lumbar Pad support. Lumbar Support Assembly has height adjustment of approx 40mm. Neck-rest ASSEMBLY: The Neck-rest assembly consists of upholstered Neck-rest inner (material- Poly Propylene) with moulded Polyurethane foam & polyester fabric. Upholstered inner is fixed to Neck-rest cover. Neck-rest is fixed to back assembly through Neck-rest spine. PNEUMATIC HEIGHT ADJUSTMENT: The pneumatic height adjustment has an adjustment stroke of 8.0 cm. PEDESTAL ASSEMBLY: The pedestal is High Pressure Die cast Aluminium and fitted with 5 nos. twin wheel castors. The pedestal pitch-centre dia. is 60.0cm without castors. TWIN WHEEL CASTORS: The twin wheel castors are injection moulded in black nylon having 60mm wheel Diameter.

Item Description: For BOQ Line Item 3

Fixed Chair, Seat & back made of SS hollow pipe, 40 density foam & upholstered with crape fabric, fixed armrest.

Item Description: For BOQ Line Item 4

High Back Revolving Chair For Conference Room, Overall Dimension: 720W ±10 x 720D ±10 x 1250H ±10 mm, Seat of High back chair is made of 12mm thick hot pressed plywood pasted with PU Moulded foam with Fabric upholstery on Seat, Used PU Moulded foam on Seat of D-45 kg/m³, Back of High back chair is made of Injection moulded PP material structure in Black & steel colour combination upholstered with Mesh fabric, Adjustable Lumber support upholstered with fabric, Adjustable Headrest on back Upholstered with Mesh Fabric, Seat Size: 470W ±10 x 460D ±10 x 70Thick. ±5 mm, Back Size: 500W ±10 x 760H ±10, Mechanism: Synchro Tilt Mechanism 3 position locking, Tilt tension knob to loosen or tighten the tension according to users body weight, Gaslift: Lift -Used gaslift of 85 mm size of Class-IV grade, Plastic Gas lift cover, Armrest: Pu padded adjustable armrest, armrest fixed with Seat, Chair Base & Wheels: Aluminium die casted Chair Base, base consists of 5 prongs with 650±5 mm pitch circle diameter, 60mm Dia. Black Nylon - Twin Wheel Pin castor.

Item Description: For BOQ Line Item 5

Medium Back Revolving Chair, Overall Dimension: 720W ±10 x 720D ±10 x 1050H ±10 mm, Seat of High back chair is made of 12mm thick hot pressed plywood pasted with PU Moulded foam with Fabric upholstery on Seat, Used PU Moulded foam on Seat of D-45 kg/m³, Back of High back chair is made of Injection moulded PP material structure in Black & steel colour combination upholstered with Mesh fabric, Adjustable Lumber support upholstered with fabric, Seat Size: 470W ±10 x 460D ±10 x 70Thick. ±5 mm, Back Size: 500W ±10 x 550H ±10, Mechanism: Synchro Tilt Mechanism 3 position locking, Tilt tension knob to loosen or tighten the tension according to users body weight, Gaslift: Lift -Used gaslift of 85 mm size of Class-IV grade, Plastic Gas lift cover, Armrest: Pu padded adjustable armrest, armrest fixed with Seat, Chair Base & Wheels: Aluminium die casted Chair Base, base consists of 5 prongs with 650±5 mm pitch circle diameter, 60mm Dia. Black Nylon - Twin Wheel Pin castor.

Item Description: For BOQ Line Item 6

Conference table of overall size 3600 W x 1200D x 750H, Table top made of 36mm thick MDF with 4mm thick Veneer and PU polish, under structure legs & modesty made of 18mm thick PLPB with 2mm thick PVC edge banding, Legs & modesty should be in box style so can use it as a raceway channel, two nos. pf Popup box given on the top.

Item Description: For BOQ Line Item 7

3-seater sofa – Material: Leatherette, Colour & Colour Family Black , Dimension (L)1800mm X (D)710mm X (H)770mm, Seating Capacity 3 Seater, Seating Height 425mm , Legs Chrome plated, Finish Matte
Size Compact, Style Modern, SKU CLEMENT/3/L-37

Item Description: For BOQ Line Item 8

Single seater sofa - Material: Leatherette, Colour & Colour Family Black , Dimension (L)800mm X (D)710mm X (H)770mm, Seating Capacity 1 Seater, Seating Height 425mm , Legs Chrome plated, Finish Matte
Size Compact, Style Modern, SKU CLEMENT/1/L-37

Item Description: For BOQ Line Item 9

Center table with Glass top Made of 18mm thick pre laminated MDF board with glass top
Dimension 1200mm * 600 mm * 450 mm

Item Description: For BOQ Line Item 10

Magazine stand

Magazine Stand for office should be well designed magazine holders made of wood with four racks for holding magazines, books, newspapers etc. Both sides of this magazine stand should be carved with single wood giving it a unique attraction.

Item Description: For BOQ Line Item 11

Side Table: Made of 18mm thick pre laminated board

Dimension 450mm * 450 mm * 450 mm

Item Description: For BOQ Line Item 12

Back Cabinet, Over all size 1800W x 450D x 750H, made of 18mm thick PLPB with 2mm thick PVC edge banding, Table top of Size 1800W x 450D made of 18mm thick PLPB with 2mm thick PVC edge banding, Back cabinet consist of 4nos. of drawers & 4nos. of shutters, shelf provided in shutter storage, overall height 750mm, Stainless steel handles provided. Made of 18mm thick pre laminated board with glass shutters

Dimension 1500mm * 450 mm * 750 mm

Item Description: For BOQ Line Item 13

Wooden Book shelf

Made of 18mm thick pre laminated board

Dimension 900mm * 450 mm * 1800 mm

Item Description: For BOQ Line Item 14

Chair for Tissue Culture Room

Medium Back Revolving Chair, Overall Dimension: 720W ±10 x 720D ±10 x 1050H ±10 mm, with hand rest and solid base with adjustable height.

Item Description: For BOQ Line Item 15

Vendor Chair

Material: Powder Coated perforated Seat and Back, Chrome Plated , Dimension (L)1400mm X (D)600mm X (H)800mm, Seating Capacity 2 Seater, Seating, Legs Chrome plated,

Size Compact, Style Modern, SKU, L-3CH UP

Item Description: For BOQ Line Item 16

Video conferencing setup (software based)

4K ultra-high-definition ePTZ camera with a new design. Auto frame according to the number of people in the scene, and the characters are in the middle. It has perfect functions and superior performance, which employs advanced ISP processing algorithms so as to provide vivid images with evenly clear brightness, strong color layering, high resolution, and fantastic color rendition. Easy and convenient to install and maintain, stable and reliable.

- **Ultra HD 4K Resolution:** 1/2.8 inch high quality CMOS sensor. Resolution is up to 4K with frame rate up to 30fps (MJPG) or 30fps (H.264); compatible with 1080P and 720P
- **ePTZ:** ePTZ and 10X digital Zoom
- **Built-in MIC:** Built-in two omni-directional MIC pickups; with unique noise suppression algorithm, effective pickup distance up to 6 meters
- **Auto Framing:** Employing superior face detection algorithm to intelligently and automatically frames according to the number of people in the scene, and the characters are in the middle
- **Wide FOV:** 100 Degree wide angle and small distortion lens
- **Video output interface:** Video output interface USB 3.0
- **Multiple Audio/Video Compression Standard:** Supports H.264, MJPG, YUY2, NV12 video compression, to made video play smoothly

- **Low Noise and High SNR:** Super high SNR image is achieved with low noise CMOS. Even in the case of ultra-low illumination, the picture remains clean and clear
- **Multiple Installations:** Standard equipped with mold clamp. Easy to install on any devices, such as LCD screen, laptop, table and tripod
- **Easy to Use:** No need to download driver; USB 3.0 Plug and play
- **Wide Applications:** Personal video conferencing, enterprise video conferencing, collaboration meeting, etc

Item Description: For BOQ Line Item 17

Mobile Shelving unit for Archive room- Compactor

Size of each body H-1980 mm x Width -915mm x Depth 457mm, each body has 4 No of adjustable shelves making 5 compartments.

Provide centralise locking system in both push and mechanical compactors. Provide individual temporary locking of each carriage bas in mechanical compactors. Base /Carriage: Rigid welded construction made up of 3mm thick HR steel sheet. Rail/ track made up of 25x25mm square MS bar, 2.5mm and 3.0mm thick HR steel sheet.

Item Description: For BOQ Line Item 18

Foldable Ladder

5 steps 6 ft Ladder which can be used as a self-support, material should be aluminium, there should be heavy duty anti-skid & Guard rail for safety.

Item Description: For BOQ Line Item 19

Warranty& Maintenance – 07 years for lab furniture & 03 years on Video conference setup.

ANNEXURE I-B

Office Furniture		No of Set	Unit
1	Executive table set of combination of Table with Pedestal & Side return unit, Overall table Size 1800W x 900D x 750H mm,	1	SET
2	Executive Chair with Head rest	1	SET
3	Fixed Chair	4	SET
4	High Back Revolving Chair For Conference Room	20	SET
5	Medium Back Revolving Chair	30	SET
6	Conference table of overall size 3600 W x 1200D x 750H	1	SET
7	3 seater sofa set	1	SET
8	1 seater Sofa set	2	SET
9	Center table with Glass topMade of 18mm thick pre laminated board with glass top Dimension 1200mm x 600 mm x 450 mm	1	SET
10	Magazine stand	1	SET
11	Side Table Made of 18mm thick pre laminated board Dimension 450mm * 450 mm * 450 mm	1	SET
12	Back unit(low height) Made of 18mm thick pre laminated board with glass shutters Dimension 1500mm * 450 mm * 750 mm	1	SET
13	Wooden Book shelf Made of 18mm thick pre laminated board Dimension 900mm * 450 mm * 1800 mm	1	SET
14	Fixed Chair for Tissue Culture Room	12	SET
15	Vendor Chair	1	SET
16	Video conferencing set up(without Microphone)	1	SET
17	1 BAY - 4 HC Mechanical drive Mobile shelving unit for library ,	1	SET
18	Foldable Ladder	3	SET
19	Warranty& Maintenance	5	YRS

ANNEXURE II-A

Item Description: For BOQ Lab 16(i), Lab 17(i), Lab 18(i), Tissue Culture Lab(i), Central Facility(i) Island Laboratory Workbench

I-Frame System

1. The suspended under-bench welded units should be supported on heavy-duty steel frames fully carrying the load of worktops.
2. Its superior strength combined with aesthetically appealing end caps should give maximum flexibility and modularity while making a layout.
3. I-frame should be constructed with a cross section of 60mm x 40mm and should be 2 mm thick and should be without a vertical front leg to give a clean look. This should provide more knee space or leg space and should facilitate uninterrupted lateral movement of the under-bench units within the bench run.
4. The I-frame legs should be supplied with adjustable feet (tolerance from -5mm to +20mm) to correct the unevenness of flooring.
5. The tubular enclosed type construction should discourage dust accumulation and unwanted development of bacteria & fungus.
6. Drainage gradient should be well adjusted throughout the length of table and should have horizontal supports for drainage systems.
7. The structure should have a removable back panel to provide access for maintenance throughout the length of table.

ELECTRICAL TRUNKING WITH TWO SHELVES REAGENT RACK WITH OVERHEAD STORAGE:

1. Electrical trunking is made up of 1.6 mm thick GI MS Sheet.
2. The complete M.S. material of cabinet should be pre-treated (degreased, Zinc phosphate) and epoxy powder coated for better corrosion resistance.
3. The thickness of powder coat should be 45-50 microns, which passes the test of Salt Spray for 1000 hours.
4. It should have a high temperature withstanding capacity with excellent electrical insulation properties.
5. The rear portion of above accessories which is in contact with live metal should be made from thermo set material which will not melt on heating.

UNDER-BENCH STORAGE CABINETS ON HEAVY DUTY CASTORS: Suspended welded cabinet body should be of flush face construction with intersection of vertical and horizontal members like LH and RH side panel along with front horizontal channel, back panel and bottom panel. It should have the provision for relocation anywhere easily as it should be an independent unit. Cabinet should be of square non-sharp edge construction. Doors should be assembled with SS-304 hinge assembly. Removable back panel should be provided to easily access the service lines running behind the cabinet benches. Intermediate horizontal channels should be provided between door and drawer. Shelf should be eight bend panel with 20mm height. Drawer tray should be of single piece construction. Drawer should be well supported on LH and RH ball slide suspension system. Steel door and drawer front should be of double wall construction with sound dampening material filled inside. Doors should be easily removable, and hinges should be easily replaceable. The under-storage units for Island tables should be ergonomically distributed at an alternative intervals with leg space of same length as that of the under storage unit. And for wall facing tables continuous movable understorage units with castor wheels to be provided.

Dimensions: The dimensions of the cabinets should be W = 600/750, D = 530mm.

Configuration: The configurations should be 2 Shutter/ 2 Shutters and 1 Drawer.

MOC: The entire material construction for the storage units should be MSGI: IS – 513 (1994). **Thickness:** LH/RH side panels, shutter front, Bottom panel, Top front, Drawer separator, shelf, Alignment channel should be of 1.2mm thk. Removable Back panel, Shutter cover, Fr. Rack strip, Top cover panel should be of 1mm thick. **FINISH:** The finish of the welded cabinets should be powder coated pure epoxy of thickness 40- 60 microns. **Handles** should be Anodized Aluminium Recessed-Type, **CTC:** 160.0 mm. **LOCK:** Units should have a locking facility with 180° cam lock mechanism. **HINGES:** Soft-closing type SS 304 Hinges. Shutter should be of twin-type construction with sound dampening effect

using profeel. Shutter cover should be equipped with Bump on for sound dampening. **Ball Slide** : for drawer units should be 400mm length.

SERVICE FITTINGS AND ACCESSORIES: The service fittings (Sink, Faucet, Valve, Light fittings, Tube Light, Socket, Switch, drain board etc.) should be laboratory grade, and water faucets and valve bodies should be cast red brass alloy or bronze forgings, all fittings should be powder plated unless specified otherwise. Fittings should be identified with service indexes in the color coding as per DIN 12920.

ELECTRICAL TRUNKING:

The electrical trunking used for housing electrical switches and sockets, its top panel, bottom panel of the trunking should be made from 1.2 mm thick GI MS panel. It should be available in both, single sided and double-sided configurations. It should be made from GI MS with pure epoxy powder coating. The front surface that houses the electrical points should have a slope. The electric trunking unit should consist of Three Modular 16/6A switch socket MCB unit.

SWITCH & SOCKETS

1. These are made of High gloss virgin grade engineering thermoplastics to impart a defect free surface. 2. They impart excellent electrical insulation properties.
3. Owing to this all electrical switches and sockets are capable of handling higher currents and operating temperatures.
4. Front plates can be changed at any time with ease without disturbing the wiring to quickly and economically match changes in the surroundings.

Item Description: For BOQ lab 16(ii), Lab 17(ii), Lab 18(ii,viii,ix,x), Central facility Lab(ii,iii) Wall Laboratory Workbench

Supply and placing of laboratory workbenches .

C-FRAME SYSTEM: All C-Frames assemblies should be manufactured from standard hollow metal sections; confirming to I.S. Code 7138:1973 (Indian Standard specification for steel tubes for furniture) and all sheet metal components should be of GI confirming to IS Code 513:1994. The suspended under-bench welded units should be supported on heavy-duty steel frames fully carrying the load of worktops. Its superior strength combined with aesthetically appealing end caps shall give maximum flexibility and modularity while making a layout. C-frame should be constructed from a rectangular pipe with a cross section of 60mm x 40mm and should be 2 mm thick and should be without a vertical front leg to give a clean look. This shall provide more knee space or leg space and would facilitate uninterrupted lateral movement of the under- bench units within the bench run. The C-frame legs should be supplied with adjustable feet (tolerance from - 5mm to +20mm) to correct the unevenness of flooring.

UNDERSTRUCTURE ON HEAVY DUTY CASTORS: All understructure assemblies shall be made up of GI sheet metal confirming to IS Code 513:1994. The assemblies consists of horizontal members made up of 1 mm thick GI MS with pure epoxy powder coating of 50 – 70 micron thickness. The back panels, cover panels and side panels are made up of 1 mm thick GI MS with pure epoxy powder coating of 50 – 70-micron thickness. The cover panels shall cover the service lines that run behind them and easily removable for future service line maintenance purposes. The tubular enclosed type of construction shall discourage dust accumulation and unwanted development of bacteria & fungus. Drainage gradient should be well adjusted throughout the length of table and should have horizontal supports for drainage systems. The structure should have a removable back panel to provide access for maintenance throughout the length of table. The C-frame shall also have skirting at back bottom side. It should be suitable for standing nominal heights of 900mm respectively for the laboratory. The table depth/width should be 750/900mm for Wall facing tables and 1500/1800 mm for Island tables. The length of the table should be as per the approved laboratory furniture layout.

REMOVABLE BACK PANELS: These cover panels should cover the **service lines (eg: for sink, Laboratory faucet, Valve etc.** with complete pipeline for inlet and outlet and electrical Switch, Socket, light etc with complete internal

electrical wiring as per standard wherever required) that run through the middle for the island units. These should be easily removable (unclipped) and the service line should be accessed for maintenance. They should be made of GI MS of 1mm thickness with pure epoxy powder coating of 50-70 microns.

COVER PANELS: All side cover panels and back panels, filler panels should be made from GI MS panels of 1.0 mm thickness with pure epoxy powder coating of 50-70 microns.

ADJUSTABLE REAGENT SHELVES: Depending upon the layout, height adjustable reagent rack shelves should be provided with 1" of height adjustability. It should be complete modular design consisting of 2 stage horizontal storage shelves made of minimum 1 mm thick GI MS with pure epoxy powder coating and having cutouts for electrical switches and sockets. Cutout for 3 module plate to be provided. All the members are knock down and can be restructured. The Reagent Racks vertical pillars should be made from GI MS of 1.6 mm thickness with pure epoxy powder coating with MS brackets of 2 mm thickness.

Item Description: For BOQ Lab 16(iii),Lab 17(iii),Lab 18(iii)

Modular Wall Facing Workbench without base cabinet , with 7 nos of Electrical raceway with 16 amp switches and sockets with granite top Full Length Adjustable Reagent Shelves in 14-16 gauge GI sheet constructure to increase load capacity Two tier - Depth 300mm Ht 600mm

Table top: 18 +/- 2 mm thick well-polished Jet Black Granite with half round nosing, acid-resistant, alkali-resistant Material of Construction for Work Bench: C Frame assembly from standard hollow section conforming to IS 7138/60 mm X 30 mm x 2 mm thick with all other structures made in GI sheet of 16-18 gauge.

All C-Frames assemblies should be manufactured from standard hollow metal sections; confirming to I.S. Code 7138:1973 (Indian Standard specification for steel tubes for furniture) and all sheet metal components should be of GI confirming to IS Code 513:1994. C-frame should be constructed from a rectangular pipe with a cross section of 60mm x 30mm and should be 2 mm thick and should be without a vertical front leg to give a clean look.

This shall provide more knee space or leg space and would facilitate uninterrupted lateral movement of the under-bench units within the bench run.

The C-frame legs should be supplied with adjustable feet (tolerance from -5mm to+20mm) to correct the unevenness of flooring.

The tubular enclosed type construction shall discourage dust accumulation and unwanted development of bacteria & fungus. The structure should have a removable back panel to provide access for maintenance throughout the length of table.

The C-frame shall also have skirting at back bottom side. Finish on metal surface: Epoxy polyester powder coating with dry film thickness of 50 – 70 microns.

Interior & Exterior will be provided with powder-coated finish. Under Bench Cupboards will be provided with Top Drawer and Bottom Two Shutter with one Horizontal Partition.

All necessary hardware fitting like Heavy Duty Drawer Channels for smooth rolling to be provided.

Item Description: For BOQ Lab 16(iv),Lab 17(iv),Lab 18(iv)

GI Modular Wall facing Workbench (L shaped) Modular Wall facing Workbench with 1 base cabinet (2 shutters 1 no) and 1 corner unit , with 2 PP sink and 3 way faucet with 2 pegboard and eyewash.

Table top: 18 +/- 2 mm thick well-polished Jet Black Granite with half round nosing, acid-resistant, alkali-resistant with 2 PP sink & 3 way faucet brass type

Material of Construction for Work Bench: C Frame assembly from standard hollow section conforming to IS 7138/60 mm X 30 mm x 2 mm thick with all other structures made in GI sheet of 16-18 gauge.

All C-Frames assemblies should be manufactured from standard hollow metal sections; confirming to I.S. Code 7138:1973

(Indian Standard specification for steel tubes for furniture) and all sheet metal components should be of GI confirming to IS Code 513:1994.

C-frame should be constructed from a rectangular pipe with a cross section of 60mm x 30mm and should be 2 mm

thick and should be without a vertical front leg to give a clean look.

This shall provide more knee space or leg space and would facilitate uninterrupted lateral movement of the under-bench units within the bench run.

The C-frame legs should be supplied with adjustable feet (tolerance from -5mm to+20mm) to correct the unevenness of flooring.

The tubular enclosed type construction shall discourage dust accumulation and unwanted development of bacteria & fungus. The structure should have a removable back panel to provide access for maintenance throughout the length of table.

The C-frame shall also have skirting at back bottom side. Finish on metal surface: Epoxy polyester powder coating with dry film thickness of 50 – 70 microns.

Interior & Exterior will be provided with powder-coated finish. Under Bench Cupboards will be provided with Top Drawer and Bottom Two Shutter with one Horizontal Partition.

LABORATORY SINK AND ACCESSORIES: The sinks should be polypropylene molded construction made up of 5 mm thick high density and elastic poly propylene with good resistance to organic solvents. Bowl size should be 560 L x 350 W x 255 D mm. Faucet should be 3-way type. The worktop should be 19mm (+/- 2mm) thick Jet-Black Granite worktop. The exposed edges of the worktop should be chamfered and smoothed. The bottom of the worktop should be polished and there should be a V-groove throughout the length of the exposed edges to protect the cabinets from meeting the spillages. The overhang on the storage cabinet is 25 mm at the front side and 30 mm at the sides. The backing material used is a neoprene mat of 6 mm thickness.

[NOTE : Supply and installation of laboratory furniture with necessary placement of sink, Laboratory faucet, valve etc. with complete pipeline for inlet and outlet and electrical Switch, Socket, light fittings etc with complete internal electrical wiring as per standard wherever required will be within the scope of the Bidder/Agency. Source of Water inlet and waste outlet and Electricity Source will be provided within the room.]

Item Description: For BOQ lab 18(vi)

SINK UNIT : Providing and Placing in position Sink Unit. Welded cabinet body shall be of flush face construction with intersection of vertical and horizontal members along with front horizontal channel, back panel and bottom panel. It shall be relocated anywhere easily as it should be an independent unit. Cabinet shall be of square non-sharp edge construction. Doors shall be assembled with SS-304 hinge assembly. Door front shall be of double wall construction with sound dampening material filled inside. Doors shall be easily removable and hinges shall be easily replaceable. Thickness of side panels, shutter front, Bottom panel, Top front, should be of 1.2mm and for Shutter cover, Front Rack strip, Top cover panel shall be of 1 mm. Powder coating shall be pure epoxy with thickness of 50-70 microns. Anodized Aluminum Recessed- Type handles shall be provided. Providing and fixing PP Drop-In Sink with Anti-Siphon Bottle Trap and Flexible Serated Connector to connect sink to the waste line, length 1metre. and 38mm Dia. Polypropylene Molded Sinks shall be made up of 5 mm thick high density and elastic poly propylene with good resistance to organic solvents. Polypropylene Sinks (Drop-in) of overall size 560 L x 350 W x 255 D (mm), (Black color). Classic timeless appearance in matt finish, non rusting and easy to maintain with bottle trap. Providing and fixing 3-way outlet Water Faucet on each Sink Unit. The Faucet shall have 3 swan neck type water faucet made up of Brass with epoxy powder coating. It should be PH and rust resistant. The switch valve cast to be made of ceramic that can avoid acid wear. The outlet produced in PVC, has detachable hose nozzles, allay pressure, changeable high-pressure outlet constructed or normal clean outlet control of water flow faucet immediately

PEG BOARDS : Supply and installation of single faced high grade Polypropylene pegboard having a tray hole for water drainage and detachable pegs . Minimum 20 no's of Pegs should be present.

EYE WASH : Supply and Installation of Emergency Eye Wash with double spray-type outlet heads to deliver a soft , wide , high volume spray of water . Outlet heads should have an internal self-regulating flow control, a reticulated polyurethane filter, a threaded spray cover and a hinged swing-away dust cover. Hinged cover should be permanently

attached to outlet head body with a stainless steel pin. All wearing components should be located inside spray head for ease of service. All emergency eye wash and shower equipment should be third party certified to comply with ANSI Z358.1-2009.

Item Description: For BOQ Lab 18 (vii)- Anti Vibration Workbench

Supply and placing of Anti Vibration workbench of Size-750mm L X750mm W X750mm H.

Table Top - 18 +_ 1 mm Thick Granite.

Shock Absorber - Rubber pads

Structure Details- Made of Custom designed rubber pads are provided below the granite & at the bottom of the table to absorb the vibrations. Structure made with 1mm thick CRC material. Interior & Exterior Finish with 50-70 microns powder - coated finish.

SPECIFICATION : 2Hz natural frequency built-in air isolators .Active self-levelling and passive pump up versions. Highly rigid laminated construction with damping core.

Item Description :For BOQ Central facility iv- Fumehood & its auxiliaries

Supply and Installation of Laboratory grade Fume Hood with inbuilt blower and overall Dimension of Length : 1200 mm , Width – 900mm , Height -2250mm- 1 Unit

Design Structure: Aerodynamic, Floor mounted, Airflow type: Auto by pass type (for non AC labs),

Exterior Construction: 1.2 & 1.5 mm heavy duty electro galvanized Steel (as per IS: 513) sheets with epoxy powder coating and rigid structure.,

Interior Construction: Chemical and Heat resistant, Fire retardant, Smooth finish, Easily Cleanable Panels made out of durable material integral work walls, 6 mm thick,

Front Top Panel: Easily open able hinged top panel for easy access to Flow control Valve and electrical lighting fixtures for maintenance.,

Airfoil: Aerodynamic design. Horizontal airfoil mounted on the worktop made of 1.6mm thick GI sheet.

Worktop: Chemical resistant slash and spillage proof dished HPL worktop (16 to 18 mm thick)., Sash (Shutter): Vertical rising counter-balanced sash. Toughened Float Glass sash for full work area visibility (5 mm thick). Smooth and light sash operation. Clear operable height (750 mm).,

Lighting: Fluorescent light (20 watt, 1 nos.) with vapour proof housing and fitting for proper illumination., Electrical

Utilities: 3 Nos. of 5/15 amp electrical points shall be provided on the right side of the fume hood with tube light switch.

Push button starter and electrical connector shall be fixed on the top of the fume hood with all internal connections.,

Working Surface`& Drip Cup: 19mm thick super black granite will be provided for the table top of fume hood also PP Small drip cup for the draining of water from the fume hoods.,

Utility Services: Remote operated services fitting will be provided inside the fume hood with 1 Water, 4 Nos. for Gas., CENTRIFUGAL BLOWER: 1350 CFM Chemical & heat resistant PP blower with aerodynamically balanced impeller, with drain plug. Conforming to fume hood face velocity as required. Electrical motor 1 HP, 1 phase TEFC, IP55, Class F, direct drive foot mounted motor will be provided

Item Description :For BOQ Auxillary works (ii)-Laboratory Stool:

Supplying and placing of stool. The seat should be made up of 1.2±0.1cm thick flat plywood and with moulded Polyurethane foam and should be upholstered with replaceable synthetic leather covers. The seat size to be of diameter 38.0 cm having adjustments of 360° revolving type. The back foam should be designed with contoured Lumbar support for extra comfort. The upholstery should be made of synthetic leather. The back size should be of 45.0 cm (W) covered with polyurethane foam. The High Resilient (HR) polyurethane foam should be moulded with density = 45 +1-2 kg/m3 and Hardness load 16 ± 2 kgf for 25% compression.

The manual height adjustment should be easy to operate with the help of a knob. It should be easily lockable at the most comfortable position. The five-prong pedestal should be fabricated from 0.2 ± 0.02 cm DD 1079 / HR sheet, powder coated (DFT 40-60 microns) and fitted with an injection moulded black Polypropylene Hub Cap and 5 nos. twin wheel castors. The pedestal-should be 45.0±0.5cm pitch-circle diameter-(50.0±-1,0cm-with-castors). Circular-foot-ring of

042.0±0.2cm should be made up of 01.9±0.2 x0.12±0.0096cm thick MS ERW Tube for foot support. The twin wheel castors should be injection moulded in Black Nylon.

LIST OF APPROVED MAKES FOR COMPONENTS

Steel	TATA Steel, JINDAL Steel, SAIL
Powder Coating	Kansai Nerolac, Berger Paints, Asian Paints
Switches Sockets with MCB Unit	Northwest, Anchor , Norisys, Havells, Legrand
Locks, Fittings & Hardware	Hettich, Hafele,Ebco ,Godrej
Drawer Slides, Hinges	Hettich, Hafele,Ebco ,Godrej
LED Tubelight	Phillips, Havells
Electric Cable	Havells , Polycab, Finolex
Water Faucets and Gas Valves:	Broen/Watersaver/ L&T/RWD/ Amtech
Video Conferencing Unit	Polycomm/Ekin/BenQ

ANNEXURE II-B

BOQ

Lab 16 - Laboratory Workbenches in 60mm x 30mm x 2mm C-frame Construction		In RMT	No of Set	Total	Unit
i	Island Workbench : Lab Counter 750 mm wide, 900 mm high as above with heavy duty Reagent racks with built in Overhead storage units throughout the running length supported by master uprights and with mobile understructure on heavy duty castor wheels of 1-Drawer+2 shutter construction	7.2	3	21.6	RMT
ii	Instrument Lab Counter 900 mm wide, 900 mm high as above with Electric Trunking Unit and continuous mobile understructure on heavy duty castor wheels of 1-Drawer+2 shutter construction	1.5	2	3	RMT
iii	Lab Workstation Counter 900 mm wide, 750 mm high as above with continuous heavy duty 2 tier storage racks with electrical raceway(1.2mm GI construction)	6.6	1	6.6	RMT
iv	Sink table: L shape Lab Counter 750 mm wide, 900 mm high as above with 2 sink units(1 corner+1 terminal)with 2 shutter	1.5+1	1	2.5	RMT
v	Glass Shutter Over Head cabinet : Made of epoxy powder coated 16-18 gauge sheet, Dimension-600 mm W x 400 mm D x 600 mm H		9	9	SET

Lab 17 - Laboratory Workbenches in 60mm x 30mm x 2mm C-frame Construction		In RMT	No of Set	Total	Unit
i	Island Workbench : Lab Counter 750 mm wide, 900 mm high as above with heavy duty Reagent racks with built in Overhead storage units throughout the running length supported by master uprights and with mobile understructure on heavy duty castor wheels of 1-Drawer+2 shutter construction	7.2	3	21.6	RMT
ii	Instrument Lab Counter 900 mm wide, 900 mm high as above with Electric Trunking Unit and continuous mobile understructure on heavy duty castor wheels of 1-Drawer+2 shutter construction	1.5	2	3	RMT
iii	Lab Workstation Counter 900 mm wide, 750 mm high as above with continuous heavy duty 2 tier storage racks with electrical raceway(1.2mm GI construction)	6.6	1	6.6	RMT
iv	Sink table: L shape Lab Counter 750 mm wide, 900 mm high as above with 2 sink units(1 corner+1 terminal)with 2 shutter	1.5+1	1	2.5	RMT
v	Glass Shutter Over Head cabinet : Made of epoxy powder coated 16-18 gauge sheet, Dimension-600 mm W x 400 mm D x 600 mm H		15	15	SET

Lab 18 - Laboratory Workbenches in 60mm x 30mm x 2mm C-frame Construction		In RMT	No of Set	Total	Unit
i	Island Workbench : Lab Counter 750 mm wide, 900 mm high as above with heavy duty Reagent racks with built in Overhead storage units throughout the running length supported by master uprights and with mobile understructure on heavy duty castor wheels of 1-Drawer+2 shutter construction	7.2	3	21.6	RMT
ii	Instrument Lab Counter 900 mm wide, 900 mm high as above with Electric Trunking Unit and continuous mobile	1.5	2	3	RMT

	understructure on heavy duty castor wheels of 1-Drawer+2 shutter construction				
iii	Lab Workstation Counter 900 mm wide, 750 mm high as above with continuous heavy duty 2 tier storage racks with electrical raceway(1.2mm GI construction)	4.4	1	4.4	RMT
iv	Sink table: Lab Counter 750 mm wide, 900 mm high as above with 1 sink units	1.2	1	1.2	RMT
v	Sink Unit 900x750x900	0.9	1	0.9	
vi	Glass Shutter Over Head cabinet : Made of epoxy powder coated 16-18 gauge sheet, Dimension-600 mm W x 400 mm D x 600 mm H		20	20	SET
vii	Anti Vibration Table		2	2	SET
viii	Inner room 1 table 1: L shape Lab Counter 900 mm wide, 900 mm high and lab counter 750mm wide,900mm high with continuous mobile understructure on heavy duty castor wheels of 1-Drawer+2 shutter construction	1.1+ 1.2	1	2.3	RMT
ix	Inner room 2 table: L shape Lab Counter 900 mm wide, 900 mm high and lab counter 750mm wide,900mm high with continuous mobile understructure on heavy duty castor wheels of 1-Drawer+2 shutter construction	1.5+ 1.2	1	2.7	RMT

Tissue Culture Laboratory Workbenches in 60mm x 30mm x 2mm C-frame Construction		In RMT	No of Set	Total	Unit
i	Island Workbench : Lab Counter 750 mm wide, 900 mm high as above with heavy duty Reagent racks with built in Overhead storage units throughout the running length supported by master uprights and with continuous mobile understructure on heavy duty castor wheels of 1-Drawer+2 shutter construction	5.2	1	5.2	RMT
ii	Virus Room Workbench: Lab Counter 900 mm wide, 900 mm high as above with built in Overhead storage units throughout the running length supported by master uprights and with mobile understructure on heavy duty castor wheels of 1-Drawer+2 shutter construction	4.5	1	4.5	RMT
iii	Stainless Steel 316 Shoe Rack : Made of 18 gauge sheet, Dimension-900 mm W x 450 mm D x 600 mm H		2	2	SET
iv	Providing & Fabrication of Aluminum Partition & Door Providing and fixing full height single skin aluminum partition with 4mm thick float glass and 10mm thick pre laminated particle board combination. Fixing with required hardware and rubber gasket all complete		1	340	SQFT
v	Air Curtain Supply and installation of Aluminum body air curtain 5 feet model -AAS-225 with door on off sensor		1	1	SET
vi	Glass Shutter Over Head cabinet : Made of epoxy powder coated 16-18 gauge sheet, Dimension-600 mm W x 400 mm D x 600 mm H		4	4	SET

Central Facility Laboratory Workbenches in 60mm x 30mm x 2mm C-frame Construction		In RMT	No of Set	Total	Unit
i	Island Workbench : Lab Counter 750 mm wide, 900 mm high as above with heavy duty Reagent racks with built in Overhead storage units throughout the running length supported by master uprights and with continuous mobile understructure on heavy duty castor wheels of 1-Drawer+2 shutter construction	5.2	1	5.2	RMT
ii	U shaped Lab Counter 900 mm wide, 900 mm high as above with Electric Trunking Unit and 2 corners of 1050mm and continuous mobile understructure on heavy duty castor wheels of 1-Drawer+2 shutter construction	3.6+4 .65+3	1	13.35	RMT
iii	Dark room Lab Counter 600 mm wide, 900 mm high as above with Electric Trunking Unit	1.8	1	1.8	RMT
iv	Fume hood		1	1	SET
v	Centrifugal Blower		1	1	SET
vi	PP + FRP ducting for Fume-hood	15	1	15	RMT
vii	Providing & Fabrication of Aluminum Partition & Door Providing and fixing full height single skin aluminum partition with 4mm thick float glass and 10mm thick pre laminated particle board combination. Fixing with required hardware and rubber gasket all complete		1	135	SQFT
viii	Supply & Installation of Wallpaper Vinyl Wallpaper in solid Dark Colour		1	130	SQFT
ix	Glass Shutter Over Head cabinet : Made of epoxy powder coated 16-18 gauge sheet, Dimension-600 mm W x 400 mm D x 600 mm H		17	17	SET
Cold Room		In RMT	No of Set	Total	Unit
i	Lab Counter 600 mm wide, 900 mm high as above with Electric Trunking Unit a and continuous mobile understructure on heavy duty castor wheels of 1-Drawer+2 shutter construction	1.2	1	1.2	RMT
Auxiliary works		In RMT	No of Set	Total	Unit
i	Slotted Angle Rack Material of Construction: 18G thick perforated GI Sheet. Interior & Exterior should be provided with powder- coated finish with 3 nos. of shelved and 4 nos. of compartments. Rack Dimension-900mm W*450 mm D*1800 mm H		4	4	SET
ii	Lab stools		54	54	SET
iii	Providing & Fabrication of Aluminium Partition & Door Providing and fixing full height single skin aluminium partition with 4mm thick float glass and 10mm thick pre laminated particle board combination. Fixing with required hardware and rubber gasket all complete		1	160	SQFT
iv	Water Pipeline and Connection B. Internal Water Pipeline Connection- for Labs B.1. PVC Pipe 25 mm for Water Inlet B.2. PVC Pipe 75 mm for Water Outlet B.3. Individual Water connection to all the sinks. (as per site requirements).Source of Water inlet and waste outlet and Electricity Source will be provided within the room by the buyer.		1	1	SET
v	Internal Electrical Connection. Internal Electrical Connection - 2.5 cable (ISI mark) cover with flexible pipe & PVC Casing from inside of lab. (as per site requirements)		1	1	SET

Warranty and Maintenance	
i	Warranty & Maintenance – 07 years for lab furniture & 03 years on Video conference setup.

Scope of Annual Maintenance Services

1. **Cleaning and Inspection:** Experienced technicians should perform a thorough cleaning of all furniture, including caseworks, storages, fume hood body and linings, worktops, sink units and any other materials. And also should conduct a detailed inspection to identify any existing or potential issues.
2. **Alignment and Repairs:** Any minor repairs or adjustments required for furniture should be promptly addressed to concerned authority. This includes fixing loose joints (if any), replacing worn-out components (if any), and addressing any structural concerns (if any). Auxiliary works like plumbing line, electrical connections, ducting line should be assessed thoroughly.
3. **Refinishing:** The firm should assess the condition of metal and wood finishes, polishing, and coatings. If necessary they should refinish or touch up the furniture to restore its original luster.
4. **Upholstery Care:** For upholstered furniture, they should clean and condition the fabric, addressing stains and wear and tear also provide fabric protection treatments if desired.
5. **Hardware and Accessories:** All hardware components and accessories should be inspected and, if necessary, replace to ensure the furniture functions perfectly.
6. **Preventive Maintenance:** Provide recommendations for ongoing care and maintenance to minimize future wear and tear, extending the life of furniture.

The quotation should reach the undersigned on or before the last date

PI/ Indentor details:

Dr. Jayandharan G Rao

Professor

Lab-13, Dept. of BSBE

Indian Institute of Technology Kanpur

Kalyanpur-208016, Uttar Pradesh

Contact: 0512-2594084, e-mail ID: mgtlab13@gmail.com

Terms and Conditions:

1. Quotations should be sent to the PI/ Indentor address
2. Quotation should be valid for minimum 90 days
3. Ensure to specify details clearly during technical bid
4. Payment terms should be mentioned in the quote
5. All process should be F.O.R.
6. Delivery period should be within 6 weeks from the date of purchase order followed by the installation in one week.
7. The Institute reserves the right to cancel the tender at any stage without assigning any reason thereof.


Signature of the PI/ Indentor