Foundation for Innovation and Technology Transfer

REQUEST FOR PROPOSALS

Reference No. FITT/BioNEST/2023/02

Name of Service / Work	Design, Supply, Fabrication and installation of lab furniture and equipment for the Bioincubator lab at the R&I Park, IIT Delhi, including Fume hoods, BSL-2 cabinets, clean room, cold room, safety showers, etc.
EMD	Rs. 3 Lakhs
Performance Guarantee	5% of order value
Contract period	120 days from the award of the contract
Date of publication	1st September 2023
Last date for Submission of queries:	7th September 2023 (through email)
Query response publishing on the website:	11th September 2023
Site visit (Based on interest submission by email)	Before 13th September 2023
Make-Bid submission deadline	20th September 2023

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1. NOTICE

FOUNDATION FOR INNOVATION AND TECHNOLOGY TRANSFER REQUEST FOR PROPOSALS

FITT, IIT Delhi invites Proposals in two bids system (i.e., Financial Bid and Technical Bid) from eligible Manufacturing Firms for Providing comprehensive Design, Supply, Fabrication and installation of lab furniture and equipment for the Bioincubator lab at the R&I Park, IIT Delhi, including Fume hoods, BSL-2 cabinets, clean room, cold room, safety showers, etc. The Bioincubator labs are being set up in the said building for which particular types of FURNITURE are required. The proposals are to be submitted in the English language.

Experienced & competent OEMs who fulfil the eligibility criteria are invited for a Pre-Bid meeting and will receive further details regarding the detailed scope of work, submission of bids, conditions of contract, etc.

FITT, IIT Delhi, Hauz Khas, New Delhi - 110016 invites Proposals in two bid systems (i.e. Technical bid & Financial bid) from eligible and reputed Manufacturing firms for the following work.

RFP No.	**FITT/BioNEST/2023/02**
Name of work	Supply, fabrication and installation of lab furniture and equipment for the Bioincubator lab at the R&I Park, IIT Delhi, including Fume hoods, BSL-2 Biosafety cabinets, clean room, cold room, safety showers, etc.
Time allowed for completion of work.	120 days
EMD	INR 3 Lakhs
Validity of Bid	90 (Ninety) days from the date of opening of the financial bid
Proposal Submission	The bid documents will be submitted in hard copies in two envelope system to the Office of COO, FITT at mentioned address.
Site visit	The site visit will be facilitated till 13th Sept. 2023.
Address and Venue of physical submission of bids	O/o The Chief Operating Officer, Foundation for Innovation and Technology Transfer, Deans' Complex, First Floor, Indian Institute of Technology Delhi, Hauz Khas, New Delhi – 110016
Address for communication	O/o The Chief Operating Officer, Foundation for Innovation and Technology Transfer, Deans' Complex, First Floor, Indian Institute of Technology Delhi, Hauz Khas, New Delhi – 110016
E-mail address	coo@fitt-iitd.in Subject Heading: Query for Bioincubator Lab furnishing work at R&I Park, IIT Delhi. For submission subject line as **Proposal for Bioincubator Lab furnishing work at R&I Park, IIT Delhi**
Last Date and time of bid submission as well as hard copies of all documents	Refer page 1 for last date. Bid to be submitted in Physical form. Under this system, the bidder must submit their offer in two separate sealed envelopes marked as Technical Bid and Commercial Bid on the cover page of the envelopes. The sealed envelopes should be placed in a third larger envelope. The main envelope containing both bids should be super-scribed with RFP enquiry no. FITT/BioNEST/2023/02
Date of Technical Bid Stage II (Presentation)	Presentation to be made by selected Bidders (as per the evaluation of submitted documents in Stage-I shortlisting) for technical evaluation as per laid down norms (Date and Venue to be intimated later, tentative around 20th September).

Opening of Financial Bids of Technically qualified bidders	Tentatively between 20th – 30th September 2023

All Bidders are hereby cautioned that Proposals containing any material deviation or reservation as described in respective Clauses of "Instructions to Bidders" shall be considered non-responsive and summarily rejected.

The Scope of work shall be as per the drawings approved which are to be mutually signed off between the bidder and the client post-opening of the financial bid. Payments will be processed based on the approved drawings as per the phases defined and agreed to. Drawings are to be made considering the existing electrical and plumbing connections available at the site (Site may be inspected at any time with prior approvals).

FITT reserves the right to accept or reject any or all Bids without assigning any reason. No Bidder shall have any cause of action or claim against FITT for rejecting their Bid.

All Civil, Plumbing & Electrical work including Utility connections (plumbing, electrical etc) to the Case Work, Fume Hood, Biosafety cabinet, etc, will be part of the scope of work. The bidder has to hand over the area fully furnished and ready to use. CAD drawings of the site will be provided on request.

Preparation of Bids

Bidder should take into account all the communications, corrigendum, if any, communicated to them by O/o COO, FITT. All communications and corrigendum would also be published on the FITT website.

Submission of Bids

INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR SUBMISSION

Proposals under two bids system in the prescribed formats are invited, from a limited number of Bidders having experience of providing lab furnishing services.

Instruction to the bidders	
1.	**Prices** i) Prices must be in INR (FOR FITT, IIT DELHI). ii) The unit prices should be for the same unit as indicated in the Schedule to tender enquiry and not for any other unit. iii) Prices quoted should be for supply, installation, Testing and commissioning in FITT, IIT DELHI iv) The prices and quantity should be quoted as per the BOQ
2.	**Signing of Tender:** The Tender is liable to be rejected if complete information is not given therein or if the particulars and date(if any) asked for in the schedule to the Tender are not fully filled in or not duly signed/authenticated. Specific attention is drawn to the delivery dates and necessary conditions in the Annexure enclosed herewith. **Each page of the tender document is required to be signed and bears the official seal of the tenderers.**
3.	**Opening of tenders:** You are at liberty to be present or authorize a representative to be present at the opening of the tender at the time and date specified in the Schedule.
4.	**Terms of Delivery:** Supply, Installation and Commissioning are required by date(s) within 120 days from the date of the purchase order, advance payment, Drawing signoff & Other approval. Installation would be completed within 30 days after the receipt of materials.
5.	**Right of Acceptance:** The Indian Institute of Technology Delhi does not pledge itself to accept the whole or any part of the Tender or portion of the quantity offered. The Institute reserves the right to increase or decrease the quantity of the material according to its requirements.
6.	The Institute shall not be responsible for the late receipt of tender documents due to postal and or any other delay.
7.	You must give an undertaking to the effect that "in case of downward price movements during the period, the firm promises to pass on the advantage to IIT Delhi". Your quotation will be summarily rejected if the undertaking does not accompany the quotation.

8.	**Conditions of contract:** Tenderer should quote based on the conditions referred to in Para of the invitation to tender and tender papers. In case these terms and conditions are not acceptable to the tenderer, he should specifically state the deviation(s) there from in the body of the tender.
9.	**Deviation from specifications:** It is in the interest of the tenderer to study the specifications in the tender schedule thoroughly before quoting so that, if any deviations are made by the tenderer, the same are prominently brought out in the body of the tender. If you need to add any optional items to your system in order to meet our specifications, you are requested to quote for the total, including the option required to suit our requirements; otherwise, your tender will not be considered at all.
10.	**Transit Insurance:** The Purchaser will not pay separately for Transit Insurance.
11.	**Payment:** 30% On signing of agreement/ Work Order against the PI 45% On supply of Items at the work site on a Pro-rata basis within 15 days 20% On completion of installation on a pro-rata basis within 15 days Remaining 5% against submission of PBG for DLP Period (12 months)
12.	**Warranty/guarantee:** The tenderer has to declare that the goods sold to the buyer under this contract shall be of the best quality and workmanship and shall be strictly in accordance with the specifications. The tenderer should provide 1 year OEM warranty from the date of successful completion of the work.
13.	**Liquidated damages:** In case the firm fails to execute the supply as per the purchase order in whole or in part as per the terms and conditions of PO, 0.5% to a maximum of 5% per week against pending items on a pro-rata basis can be imposed by the institute.
14.	**Country of origin:** The country of origin of the quoted item should be mentioned in the offer in case of imported item. As per the Ministry of Finance, Deptt. of Expenditure, Public Procurement Division Order (Public Procurement No.1) issued from file No.6/18/2019-PPD dated 23rd Sept., 2020 regarding Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs) 2017, it is directed that any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with the Competent Authority i.e. the Deptt. for Promotion of Industry and Internal Trade (DPIIT). The said order will not apply to bidders from those countries (even sharing a land border with India) to which the Government of India has extended lines of credit or in which the Government of India is engaged in development projects (updated lists of the countries are given in the Ministry of External Affairs) "Bidder" (including the term "tenderer", "consultant" or, service provider" in certain contexts) means any person or firm or company, including any member of a consortium

	or joint venture (that is an association ofseveral persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participated in a procurement process. "Bidders from a country which shares a land border with India" for the purpose of this Order means: 1. An entity incorporated, established, or registered in such a country; or 2. A subsidiary of an entity incorporated, established, or registered in such a country; or 3. An entity substantially controlled through entities incorporated, established, or registered in such a country; or 4. An entity whose beneficial owner is situated in such a country; or 5. An Indian (or other) agent of such an entity; or 6. A natural person who is a citizen of such a country; or 7. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above The beneficial owner for the purpose of above will be as under: - 1. In the case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together or through one or more juridical person, has a controlling ownership interest or who exercise control through other means. Explanation a) "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent of the share or capital or profit of the company. b) "Control" shall include the right to appoint a majority of the directors or to control the management of policy decisions, including by virtue of their shareholding or management rights or shareholders agreements or voting agreements.

2. OBJECTIVE

a) Ensure standards of planning, execution, commissioning and quality assurance, and adherence to timeline of the projects as per the requirements.
b) Comprehensive services including fabrication, installation and handing over the project to FITT along with technical support during defect liability period. Defect liability period shall be 12 months from the date of completion of the payment process.
c) Efficient execution and supervision by personnel who are experienced and skilled in management.
d) All such other actions required to be undertaken for satisfactory completion and commissioning of the project to the entire satisfaction of FITT.

3. TECHNICAL ELIGIBILITY CRITERIA

Company Profile: The bidders should be Lab infrastructure providers with an experience of the turnkey project executed (proof of PO & completion letter shall be furnished) and should be a registered company in India or should be a subsidiary of the foreign parent company in India (with >50% holding with Indian partners) with a manufacturing facility of Lab furniture in India & must upload the scanned copy of PAN Card, Trade License, Incorporation Certificate, Factory License, Income tax Return of the last Three Financial years. Professional Tax Registration along with the updated challan and clearance certificate's Registration Certificate and Registration of EPF and ESI Certificate. FITT may conduct factory inspections if required.

4. DISQUALIFICATION

Even if a Bidder meets the above criteria, FITT may disqualify the Bidder if:

a) The Bidder has made misleading or false representations in the forms, statements and attachments submitted; or
b) The Bidder gets blacklisted, debarred, or restrained in the last 10 years by any Government Agency, or even after submitting this RFP and while the bids are under evaluation. Bidder shall have to provide the undertaking on INR 100 stamp paper to the above effect
c) Submitted more than one Bid for the same work.
d) The bidder does not deposit EMD
e) If any discrepancy is noticed in the documents

5. BROAD SCOPE OF WORK

The work will consist of installation of lab furniture, Biosafety cabinets, Fume Hoods along with the electrical works, plumbing, chairs, etc., as per requirement.

Detailed Scope of work mentioned in Chapter 2

6. TIME SCHEDULE

The project's completion time will be 3 months after allocation of PO and handing over of site. The contract's basic consideration and essence shall be adherence to the time schedule for performing the work as stated in the document.

7. EMD & ITS FORFEITURE

The earnest money should be deposited in the form of a Demand Draft of a Scheduled Bank issued in favour of the Foundation for Innovation and Technology Transfer. No bank guarantee will be accepted in lieu of the earnest money deposit.

FITT shall forfeit the EMD in the following events:

a) If the proposal is withdrawn during the validity period or during the extension agreed by the Firm thereof.
b) If the Proposal is varied, or modified, in a manner not acceptable to FITT after opening of Proposal during the validity period, or any extension thereof.
c) If the bidders tries to influence the evaluation process.
d) If the Performance Security for performance is not furnished as per relevant clause given in the bid and/or the Contract is not signed within the time limit specified.
e) The earnest money of unsuccessful Bidders shall be discharged/returned by the FITT as promptly as possible, after the expiration of the Bid Validity or the award to the successful bidder whichever is earlier. The earnest money deposited by the successful bidder will be refunded after submission of the performance guarantee within 30 days of the award of work.

8. TECHNICAL BID

The Technical Bid submitted by the bidder should duly consider the requirements as per the RFP and the Scope of Services.

The formats for submission are enclosed in this document as Annexure / Form to help the Bidders in the submission of offers.

All documents are to be submitted physically as well as electronically within the due date.

The following documents shall have to be submitted:

a. Annexure – 1 on firm letterhead mentioning UTR Number
b. All Appendices / Annexures & Forms as given in RFP duly filled in and signed.
c. Details of the experience of the bidder in the prescribed format.
d. Copy of award letter as desired
e. TDS certificate in case of the non-Govt organization as per attached format
f. Organizational description and details of the Bidder’s firm in the prescribed format
g. Curriculum Vitae for Team leader to be deployed on the work and experience of Key Personnel proposed to be deployed on this project.

h. Financial capability of the bidder in the prescribed format
i. Proof of similar work experience through work orders, and completion certificates.
j. Cover Letter for Technical Proposal
k. Pan Card issued by Income Tax Department
l. Certificate of GST Registration
m. Details of Financial turnover for the last three financial years (only certificate to be given, the voluminous balance sheet should not be uploaded)
n. Copy of registration/constitution of firm n. Bank Solvency

FITT reserves the right to verify the credential submitted regarding Proposal eligibility criteria.

The Bidders may submit any other information at the time of Presentation before the committee i.e., as a part of Technical Bid (Stage II). Only those bidders who qualify in the Technical Bid (Stage-I) will be informed about the date and time of the presentation before the committee.

9. FINANCIAL BID

The Financial Bid shall be inclusive of all costs including designs, supply of material, installation work (Including electrical and networking, plumbing inclusive of supply and drainage) and any approvals/certifications by respective agencies/local bodies.

A. QUOTED BOQ.
B. DETAILED BREAK-UP OF TAXES AND CHARGES ALONG WITH QUOTED SCHEDULE OF QUANTITY(SOQ)

Intending bidders are hereby requested to submit the technical bid and financial bid separately in two separate covers as mentioned in the tender. The price bid should not be submitted in the technical cover. If such document is found in the technical cover, the entire bid shall be liable to be cancelled without any prior intimation to the bidder and should be quoted strictly in the format provided only. The interested bidders may visit the proposed site before submitting the tender, if so desired, at their own cost The Bidders are required to quote fee inclusive of all prevailing taxes and levies. The quoted price will not be increased either due to cost overrun of the main project, extension of time or due to any reason whatsoever.

BIDS WITHOUT FINANCIAL QUOTES WILL BE SUMMARILY REJECTED.

10. AMENDMENTS TO THE RFP DOCUMENT

At any time prior to the deadline for the submission of Bids, for any reason, whether at its own relative or in response to a clarification or query raised by a prospective Bidder, FITT may modify the RFP by an amendment notice.

The addendum/ corrigendum will be available on the website www.fitt-iitd.in

In order to allow Bidders reasonable time to prepare their Bids after taking into account such amendments, FITT may, at its discretion, extend the deadline for the Submission of Bids.

11. PREPARATION OF PROPOSAL

Bidders' responsibility

a) The Bidder is solely responsible for the preparation of Bids and details therein.
b) The Bidder is expected to examine carefully all the contents of RFP and factor the same into his Bid. Rejection due to non-compliance with the requirements as detailed in these documents shall be at the Bidders' own risk.
c) Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tender regarding the nature of the site conditions, the means of access of the site, and in general obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender in any manner. A tenderer shall be deemed to have full knowledge of the site, whether he inspects it or not and no compensation or otherwise of any charges incurred or to be incurred consequent on any misunderstanding or otherwise shall be admissible.
d) The Bidder shall bear all costs associated with the preparation and submission of his Bid, and FITT will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the Bidding process.
e) The list of documents has been prepared mainly for the convenience of the Bidders and any omission on the part of FITT shall not absolve the Bidder of his responsibility of reading and understanding the various clauses in the RFP including the specifications and to submit all the details specifically called for (or implied) in those clauses. Bid documents shall be stamped and signed on all pages by a person duly authorized to sign Bid documents.
f) Entries to be filled in by the Bidder shall be typed.
g) The Bid shall be without alterations, overwriting, interlineations or erasures except those to accord with instructions issued by FITT, or as necessary to correct errors made by the Bidder. All amendments/corrections shall be interlineations by the person or persons signing the Bid.
h) All witnesses and sureties shall be persons of status and probity and their full names, occupations and addresses shall be written below their signatures.
i) No Bid shall be allowed to be modified, substituted, or withdrawn by the Bidder in any manner whatsoever after final submission.

Special Instructions:

j) The institute does not bind itself to offer any explanation to those bidders whose technical bids have not been found acceptable by the technical evaluation committee.
k) The supply, installation, and commissioning of the items in the tender should be executed within 120 days or earlier in the following order from the date of first payment.
l) Warranty/Guarantee: 1-year OEM warranty from the date of successful completion of the work.
m) Installation Progress Report: The supplier shall submit monthly progress reports of the work at the site. The report will contain the following: (i) Scope of the work with broad structural details, (ii) Schedule of various works showing mile-stone, targeted

tasks and progress, and (iii) Progress chart of the various components of the work that are planned and achieved for the month as well as cumulative up to the month with reasons for deviations, if any.

n) Testing of Materials and Performance: All the required tests as per Technical Specifications got to be conducted at the risk & cost of the Supplier unless specifically mentioned otherwise. All necessary tests as per the order, and specifications will be carried out on all the materials whether ISI marked or otherwise. Whenever specifications do not specify the frequency of tests, the same will be carried out as per the directions of the technical committee. Nothing extra whatsoever will be payable on this account.

o) Testing at Manufacturer's Place: All materials, which are specified to be tested at the manufacturer's works, must satisfactorily pass the tests in the presence of the technical committee or their authorized representative before being used in the work. In case all requisite testing facilities are not available at the manufacturer's premises, such testing shall be conducted at a laboratory approved by the committee. The Supplier will bear the charges for such testing.

p) The Supplier will conduct his work, so as not to interfere with the functioning of the Department or hinder the progress of the work being performed by other supplier(s) and will as far as possible arrange his work and will place and dispose off the materials being used or removed, so as not to interfere with the Department or operations of the other Supplier and will arrange the work with that of the others in an acceptable and coordinated manner and will perform it in the proper sequence to the complete satisfaction of others.

q) The committee reserves the right to inspect/witness and review any or stages of the work at the workshop/site deemed necessary for quality assurance and/or timely completion of work.

r) All materials will be checked by the Institute on receipt of the same at the site before use.

s) The Supplier will be responsible for the watch and ward/guard of the building safety, fittings and fixtures provided by him/ supplied to him against pilferage and breakage during the period of installations and thereafter till the entire work as per agreement is physically handed over to the department. No extra payment will be made on this account.

t) Any required Civil work, power source and water supply essential for the timely completion of the order must be intimated in writing, well in advance.

u) Existing drains, pipes, cables, overhead wires, sewer lines, water lines and similar services encountered in the cause of the execution of work will be protected against damage by the Supplier at his own expense. In case the same are to be removed and diverted, the Supplier will work out the details with the institute and take its approval for the same.

v) The suppliers will have to engage well-experienced skilled labour and deploy modern equipment to execute the work. The supplier has to make their own arrangements for boarding and lodging for their manpower deployed during installation. During the installation, the installation party has to abide by all statutory requirements and government rules applicable to them.

w) The Suppliers will take all safety precautions to avoid accidents by exhibiting caution boards, red flags, red lights and by providing necessary barriers and all other measures, as required from time to time. The supplier will be responsible for all damages and accidents due to negligence on his part.
x) The committee decision for selecting the vendor is final.
y) Any deviation, clarification, and financial negotiation can be done in the presence of the committee constituted by the IIT-FITT, Delhi along with the finance team of the institute.
z) The work progress will be periodically intimated to the committee. Any discrepancies can be directly brought to the notice of the committee. The committee has the right to monitor the progress at any given time.

12. VALIDITY

The offer shall remain valid for a period of 90 (ninety) days from the date of opening of the financial bid. The overall offer including personnel proposed for the assignment as well as quoted fees shall remain unchanged during the period of validity.

Extension of Bid Validity

Prior to the expiry of the original Bid Validity Period, FITT may request Bidders to extend the Bid Validity Period for a specified additional period. In case the bidder extends the bid validity, the bidder shall also extend the validity of the Bid Security accordingly.

LATE BIDS

Any Bid received in the office of the Chief Operating Officer, FITT, New Delhi after the deadline prescribed for submission of Bids in the Notice Inviting Bids herein will not be opened.

13. TECHNICAL BID OPENING AND EVALUATION

a) The Bids will be opened on the date & time as mentioned in Notice Inviting Bids.
b) The bids which do not comply with one or more of the foregoing instructions may not be considered.
c) On opening OF technical bids and Bid envelope, the Bids will be examined along with the physically submitted copies to see if they are complete and contain all documents. If the documents do not meet the requirements of the RFP, a note will be recorded accordingly by the FITT, and the said Bidder's Proposal will not be considered for further processing/evaluation.
d) The weightage of the Technical Bid and Financial Bid will be 70% and 30% respectively in the selection process of the contractor. Further, the Technical Bid is divided into 2 components i.e. Technical Bid Stage-I (documents for eligibility, experience and organizational structure) & Technical Bid Stage-II (Presentation before the Committee and physical inspection of items). The Technical Bid will have a weightage of 70% in the in overall final score divided into 35% and 35% weightage

for Technical Bid Stage-I and Technical Bid Stage-II respectively. The Financial Bid will have a weightage of 30% in the overall final score.

e) The eligibility criteria for Bidders participating in the selection process are as laid down in the RFP. The Bidders will be evaluated for Technical Bid as per the criteria contained in RFP.

f) The details submitted by the bidders will be evaluated in the following manner:
   i. The initial criteria prescribed in para earlier in respect of experience of similar class of works completed, bidding capacity and financial turn over etc. will first be scrutinized and the bidder's eligibility for the work be determined.
   ii. The bidders qualifying the initial criteria as set out in the relevant para above will be evaluated for the following criteria by scoring method "Table 1"
   iii. To become eligible for shortlisting the bidder must secure at least sixty percent marks in each and Seventy percent marks in aggregate.
   iv. FITT, however, reserves the right to restrict the list of such qualified bidders to any number deemed suitable by it.
   v. Even though any bidder may satisfy the above requirements, he would be liable to disqualification if he has:
   vi. Made misleading or false representation or deliberately suppressed the information in the forms, statements and enclosures required in the eligibility criteria document,
   vii. Record of poor performance such as abandoning work, not properly completing the contract, or financial failures/weaknesses etc.

g) Financial information

Bidder should furnish the following financial information:

h) Annual financial statement for the last three years in (Form "A") and Experience in works highlighting experience in similar works. Bidder should furnish the following:
   i. List of all works of similar nature successfully completed during the last seven years in (Form "B").
   ii. List of the projects under execution or awarded in (Form "C").
   iii. Particulars of completed works and performance of the bidder duly authenticated/certified by an officer, not below the rank of Executive Engineer or equivalent should be furnished separately for each work completed or in progress in (Form "B").
   iv. Information in (Form "D") should be complete, and no work should be left out.

i) Organization information
   Bidder is required to submit the information in respect of his organization in Forms "D" & "E"

j) Letter of transmittal

The bidder should submit the letter of transmittal attached to the document. (as per the prescribed format)

TABLE 1

TECHNICAL BID STAGE 1

CRITERIA FOR EVALUATION OF THE PERFORMANCE OF CONTRACTORS FOR PRE-ELIGIBILITY (If not meeting the criteria, the bid may be rejected)

FIRST PRE-QUALIFICATION CRITERIA:

Sr. No.	**Description**	***Whether complied or not (specify Yes/No)**	**Score**		**Document Availability**	
			Maximum	**Achieved**	**Yes**	**No**
1.	**The bidder should have completed at least one similar work with a value not less than Rs. 6 Crores in the last 8 years. The term "similar work" refers to projects involving Lab furniture, Fume Hood, Exhaust System, GDS system, HVAC, Electrical System, Clean Room Partitions, and Leak Detection System.** This work should have been carried out in collaboration with Govt. Funded Technical Institutes (including IITs, IISERs, IIMs, NITs, IIITs, NITTTRs, IISc, and IIEST), Central Universities, DAE Institutes (NISER, TIFR), or reputable pharmaceutical organizations. The bidder's experience will be evaluated based on successfully completed projects during the last 8 years, with the value of executed works adjusted to the current costing level using a simple rate of 5% per annum. This adjustment will be calculated from the date of completion to the last date of receipt of bids for this tender. Purchase orders without accompanying work completion certificates will not be considered for assessing the bidder's experience in similar works. Additionally, ongoing projects without work completion certificates will not be	Mandatory				

	entertained. The work completion certificate must provide comprehensive details, including the nature of the work, items executed, commencement date, completion date, and any associated delays along with reasons.					
2.	Bidder should have not incurred any loss in more than 2 years in the last 5 financial years ending on March 2019 (Auditors Certification of Profit & Loss Should be submitted as documentary proof)		10			
3.	**Financial Turnover:** Should have had an average annual financial turnover of Rs. 10 Crore in respect of fume hood, and laboratory furniture during the last three years ending 31st March 2021 (Group turnover of any other business other than Fume hood, Exhaust System, Lab work Benches, Gas & Utility Distribution System, Electrical Works and Lab Furniture can't be included). Latest audited financial statement with CA Certificate stating the turnover from the specified scope of work to be submitted.		5			

4.	**Infrastructure**: The bidder or its parent company in India or abroad should preferably have a well-established (their own) in-house manufacturing unit for the steel lab furniture and fume hood, quality management system as per International standards providing the products and services on a continuous basis at least for the last 10 years. The bidder or its parent company in India or abroad should possess the current/valid approval for such items manufacturing facility from the factory inspector. Should have an in-house facility to facilitate SEFA & ASHRAE Testing		5			
5.	The bidder/parent company should be an Official member of SEFA (Scientific Equipment & Furniture Association) on a continuous basis at least for the past 5 yrs. "**Laboratory Furniture Certificate of Performance" certified by SEFA** should be submitted. Also, it is **desired** that the bidder shall have EN 13150:2001 for **"Laboratory Work Benches Dimensions, safety requirements and test"** & EN 14056:2003 for **"Laboratory furniture - Recommendations for design and installation"**		10			
6.	Bidder should be the prime manufacturer/ OEM of Laboratory Furniture and Fume Hood. It is preferred that the Bidder should also have a facility of BSC manufacturing with NSF certifications available. If the bidder lacks BSC manufacturing facility,		20			

	they can consider third party Biosafety cabinets as per the make list.					
7.	The bidder/parent company should possess the key professional staff, at least one, in his organization with good knowledge of codes and standards like ASHRAE and BS EN 14175. (Face Velocity and Inner-Plane containment testing of fume hoods and the use of the associated test equipment) Such professionals should have a valid membership on a continuous basis for at least for the past 5 years (the bidder should provide necessary documentary proof like his employment letter, salary paid proof with P/F deposited challan & his form 16).		5			
8.	The bidder should have the ability to do ASHRAE testing at the site by themself or third party. The bidder should submit supporting documents verifying similar tests which have been conducted at least such 5-customer site, in which an order of Fume hood as mentioned in **point no. 2,** was executed during the last 5 years from the date of notification of this tender.		5			
9.	Considering the Size of the Project, the Bidder should have a Solvency of a minimum of Rs.5 Crore. The Bidder shall produce the Solvency Certificate for Rs.5 Crores from the Bank, with the technical Bid.		5			

10	The bidder expected to have in-house SERVICE TEAM who would have executed at least 2 Annual Maintenance contract for in the past 5 Years of minimum value Rs.15 Lakhs and must produce service orders for the Fume Hoods, Lab furniture, Exhaust System along with appreciation letters & completion certificates of such contracts and it **is desirable** that the bidder should have minimum 2 Running Contracts of value more than Rs.15 Lakhs for current financial year and must produce Service orders and confirmation letter from the customer		10			
11	It is desired that the bidder should have executed at least 2 laboratory infrastructure projects & should have completed successfully by achieving more than 1,50,000 injury free/Safe Man Hours in a continuous basis (A proof, certificate certified by the HSE & project manager should be furnished)		15			
	TOTAL		**100**			

Important: The minimum qualifying points will be 60 for first qualification criteria

CLARIFICATION OF BIDS

Evaluation of technical packages submitted by Bidders shall be undertaken based on the details submitted in the technical package only. Bidder shall not be allowed to submit, on their own, additional information or material after the date of submission and such material if submitted will be disregarded. However, FITT reserves the right to seek any clarification from Bidders for details submitted with the technical package.

14. PRESENTATION OF PROJECT – TECHNICAL BID (STAGE II)

a) A multi-media presentation is expected from the Bidders. The Bidders shall be required to make presentations of 30 minutes duration duly supported by relevant models, animations, etc. The Bidders will present their conceptual understanding of

the project in the form of a design proposal/ design scheme along with their vision of the past work done etc. The presentation will be made by the key resource person of the bidding firm.

TABLE 2

TECHNICAL BID STAGE 2

SR. No.	Particulars	Maximum Marks
1	Conceptual understanding of the project along with the vision on the planning of the proposed work	30
2	Material inspection and quality, aesthetics, etc. assessment of the mock lab installed at FITT, IIT Delhi.	30
3	Company profile & Presentation on different types of projects accomplished earlier	30
4	Subjective evaluation by the committee on other relevant matter	10

b) All the Bidders who secure overall 70% (seventy percent) marks along with at least 60% (Sixty percent) in each section of Technical Bid (Stage-I) will qualify for further evaluation in Technical Bid Stage-II. They will be considered for evaluation in Technical Bid (Stage II) and will be invited to make a presentation before the Committee constituted by the FITT. A Technical Committee will evaluate the Design Scheme/ Proposals and presentations by eligible Bidders constituted by the FITT. The Committee will judge each presentation by Bidders based on laid down criteria and marks will be allotted accordingly as per "Table- 2"

c) Only up to top 5 Bidders, provided they score a minimum of 70% (seventy percent) marks in aggregate subject to the condition that the Bidder should score 60% marks in each section of "Table-2", will be considered in Technical Bid (Stage- II). Financial Bids of top 5 bidders will be opened who qualify in Technical Bid Stage-II.

d) Bidders will make a presentation of the company profile, past experiences, photography of work accomplished, etc. in Technical Bid before the committee constituted by FITT. The presentation shall cover, in sufficient detail, the appreciation of the project, Proposed Conceptual Scheme, methodology of planning, design and material details, with the Proposed organizational structure for coordination, monitoring and reporting of the project activities including responding to queries/question raised by FITT, work program, etc. The objective of the presentation is to evaluate the Bidder regarding their understanding and preparedness for the assignment as well as evaluation of their concept scheme and get clarifications, if any, as required by FITT.

e) The technical evaluation comprises of the inspection of Mock-up labs at FITT, IIT-Delhi Following items are to be set up for the Mock-up:

- 6ft Fume hood
- 8ft long Island table with Reagent Rack, Sockets, Valves, sink
- Solvent Storage Cabinets
- Chairs and lab stools

Necessary measuring/testing devices/Chemicals need to be brought by the vendors for demonstration during technical evaluation.

The mock furniture of all the vendors will remain at the FITT, IIT-Delhi site till 7 days after inspection.

The mock lab is one of the most important evaluation criteria as discussed with the vendors in the pre-bid meeting. The specification of the furniture will be strictly evaluated in the decision making. Further, the vendor should strictly follow the tender specification for the display of various furniture in the mock Lab. Any alternative (duplicate) materials are not allowed in the mock lab presentation.

Product Brochures with specifications should be attached along with the tender.

FITT reserves the right to reject any bid if:

a) At any time, a material misrepresentation is made or found out; or
b) The Bidder does not respond within the stipulated time to requests for supplemental information required for the evaluation of the Bid.

CONFIDENTIALITY

Except the public opening of Bid, information relating to the examination, clarification, evaluation and comparison of Bids and recommendations concerning the award of the Contract shall not be disclosed to Bidders or other persons.

Any effort by a Bidder to influence the employees of FITT/ members of the Evaluation Committee in the process of examination, clarification, evaluation and comparison of Bids and in decisions concerning award of contract, shall result in the rejection of their Bid.

15. FINANCIAL BID OPENING

Financial bids of the participating firms will be evaluated based on the criteria and procedure contained in the following clause i.e., 'Financial Bid Evaluation'. Marks will be given during the evaluation of Technical and Financial Bid as detailed in the following sections of this chapter. A Bidder scoring the highest marks after the evaluation of Technical Bid Stage-I, Technical Bid Stage-II and Financial Bid will be qualified for Providing planning, design, procurement, and installation of special items like lab furniture & equipment for the Bioincubator lab at the R&I Park, IIT Delhi, which may include BSL-2 cabinets, clean room, cold room, safety showers, etc.

The lowest Financial Bid (FM) will be given a Financial Score (SF) of 100 points. The financial score (SF) of other financial bids given by Bidders will be computed as per the following formula: SF = 100 × FM /FO Where, FM= Lowest Financial Bid, FO= Financial Bids of other Bidders, SF= Financial Score. The following example is included for clarification. Suppose 3 proposals are opened for Financial Bid which gave Rs. 120 (Bidder A), Rs. 100 (Bidder B) and Rs. 110 (Bidder C) as Financial Bid amounts. The proposals will thus be scored as under: Proposal Evaluated cost A = Rs.120, B = Rs.100 & C = Rs.110. Financial Scores of all the qualified Bidders eligible will be calculated in the following manner: A: (100 ×100) / 120 = 83 , B: (100 ×100) / 100 = 100 & C: (100 × 100) / 110 = 91

OVERALL EVALUATION FOR SELECTION OF CONTRACTOR

i. The final evaluation will consist of summation from the 3 components, i.e. (A) Technical Bid Stage-I, (B) Technical Bid Stage-II and the (C) Financial Bid, combining to a total of Marks i.e. A+B+C.

ii. In the final score, 35% weightage will be given for marks achieved in Technical Bid Stage-I (component A), 35% weightage will be given for marks achieved in Technical Bid Stage-II (component B) and 30% weightage will be given for marks achieved in Financial Bid (component C).

iii. On the basis of the combined weighted score for Technical Bid Stage-I & II and Financial Bid, the qualified Bidder shall be ranked in terms of the total score obtained. The proposal obtaining the highest total combined score in evaluation of Technical Bid Stage-I & II and Financial Bid will be ranked as H-1 followed by the proposals securing lesser marks as H-2, H-3 etc. The proposal securing the highest combined marks and ranked H-1 will be invited for negotiations, if required and shall be recommended for award of contract.

iv. Following is an example of the procedure to be followed. As per the example discussed above, suppose, 3 proposals, A, B & C were received. The qualified Bidders were awarded (75 and 70), (80 and 85) and (70 and 90) marks respectively for Technical Bid Stage-I and Technical Bid Stage-II. All the 3 proposals were, therefore, found technically suitable and their financial proposals were opened after notifying the date and time of bid opening the qualified Bidders. The financial bids were evaluated thereafter as per above Clause and financial score are given. The combined evaluation, thereafter, will be as under:

Bidders	Marks (Technical Bid Stage-I)	Marks (Technical Bid Stage-II)	Score (Financial Bid)	Total Marks	Rank
A	75 x 0.35 = 26.25	70 x 0.35 = 24.5	83 x 0. 30 = 24.9	75.65	H 3
B	80 x 0. 35 = 28	85 x 0.35 = 29.75	100 x 0. 30 =30.0	87.75	H 1
C	70 x 3.5 = 24.5	90 x 0. 35 = 31.5	91 x 0. 30 = 27.3	83.3	H 2

Proposal B, therefore, will be declared as winner of the selection procedure and recommended for negotiations/approval, to the competent authority.

Award criteria

v. FITT reserves the right, without being liable for any damages or obligation to inform the bidder, to:

vi. Amend the scope and value of contract to the bidder.

vii. Reject any or all the applications without assigning any reason.

viii. Any effort on the part of the bidder or his agent to exercise influence or to pressurize the employer would result in the rejection of his bid. Canvassing of any kind is prohibited.

ix. QUOTE FOR ALL ITEMS AND IN FIGURES & WORDS: The tenderer shall quote his rates in words and figures with reference to each item and must enter all the items

shown in the attached Bill of quantities. Incomplete offer shall be liable for rejection. In case there is a discrepancy in "words" and "figures", the rate in words will be taken as correct for the evaluation the of tender. The total amount shall be written both in figures and in words.

16. AWARD OF CONTRACT

Prior to the expiry of the period of Bid Validity, FITT will notify the successful Bidder by e-mail / by registered/speed post. This letter (hereinafter and in the Conditions of Contract called 'the Letter of Award') shall mention the sum which, FITT will pay to the firm in consideration of the work performed by the firm as prescribed by the Contract (hereinafter and in the conditions of Contract called 'the Assignment Fee') to the satisfaction of FITT. No correspondence will be entertained by FITT from the unsuccessful Bidders.

The Letter of Award shall constitute a part of the contract.

17. SIGNING OF AGREEMENT

FITT shall prepare the Agreement in the Performa included in this Document, duly incorporating all the terms of the agreement between the two parties. Within 30 days from the date of issue of the Letter of Award, the successful Bidder will be required to execute the Contract Agreement. This document shall also form part of the agreement.

a) The Successful Bidder shall submit Performance Security within a period of 15 days from the date of issue of the Letter of Award
b) One copy of the Agreement duly signed by FITT authority and the Firm through their authorized signatories will be supplied by FITT to the Firm.
c) In case the Successful Bidder does not sign the Contract with FITT, FITT reserves the right to retender the project or to award it to the next bidder with the highest score.
d) The agreement may be suitably amended with mutual consent during the currency of the contract.

EMPLOYMENT OF OFFICERS/ RETIRED OFFICERS OF THE FITT

The Bidder(s), either at the Proposal stage or during the execution stage shall not employ or attempt to employ any staff from current or past employees including retired employees of FITT in any capacity unless such employee has completed at least two years post-retirement/ resignation or had obtained a 'No Objection Certificate' specific to this effect.

STANDARDS OF ETHICS

FITT desires that the Firms shall observe the highest standard of ethics during the selection and execution of such contracts.

In pursuance of the above objective, this policy defines, the terms set forth below as follows:

"Corrupt practice" means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the selection process or in contract execution; and

"Fraudulent practice" means a misrepresentation or omission of facts in order to influence a Selection process or the execution of a contract,

"Collusive practice" means a scheme, arrangement or understanding between two or more Firms, with or without the knowledge of FITT, designed to establish prices at artificial non-competitive levels.

"Coercive practice' means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a selection process or affect the execution of a contract.

It is further provided that:-

FITT will reject a proposal for award if it determines that the Firm recommended for award has engaged in corrupt or fraudulent or collusive or coercive activities in competing for the contract in question;

FITT will declare a Firm ineligible, either indefinitely or for a stated period of time, to be awarded a government contract if it at any time determines that the Firm has engaged in corrupt or fraudulent practices in competing for, or in executing this contract.

18. FITT'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS

Notwithstanding anything above, FITT reserves the right to accept or reject any Bid at any time prior to award of Contract without thereby incurring any liability to the affected Bidder or Bidders or any obligations to inform the affected Bidder or Bidders about the grounds for FITT's action.

FITT reserves the right to cancel/annul the selection process, at any stage prior to the award of the Contract, in larger public interest, on account of the following:

a) in case no Bid is received.
b) occurrence of any event due to which it is not possible to proceed with the selection process.
c) evidence of a possible collaboration/mischief on part of Bidders, impacting the competition, objectivity and transparency of the selection process,
d) it is discovered that Bidders have breached standard of ethics.
e) any other reason, which in the opinion of FITT necessitates the cancellation of the selection process.
f) On occurrence of any such event, FITT shall notify all the Bidders within 7 days of such decision. FITT shall also promptly return the Bid Security submitted by the Bidders within 15 days of issue of such notice. FITT is not obligated to provide any reason or clarification to any Bidder on this account. FITT's liability under this clause is restricted to returning the Bid Security and no other reimbursements of costs/ expenses of any type shall be made by FITT on this account.

g) FITT further reserves the right to abandon the project or to retender if the bids received are not acceptable due to reasons in sub clauses above or for any other reason
h) The bid must contain the name and place of business of the Bidder. If the Bidder is a partnership firm or a company, an authorized person must sign the bid with seal of the organization. Significant evidence of authority of the person signing on behalf of the Bidder shall be furnished with the bid. All the pages of this offer document must be initialed/signed and submitted to within the stipulated date of submission of bids.

19. OBLIGATION OF THE FIRM SIGNING AGREEMENT

a) The Firm shall carry out planning, designing, supply and installation and be responsible for commissioning and warranty of the products ensuring adherence to BIS and SEFA standards and local bylaws.
b) In discharge of the said obligations and scope of work, the role and responsibilities of the Firm shall include, but not limited to the installation of furniture/equipment conforming to the approved drawings and supervision during installation, efficient project management for timely completion.
c) The work shall be carried out as per particular technical specifications, the nomenclature of individual items and drawings given in the Tender documents.
d) The particular technical specifications shall be read in conjunction with the items of work in the schedule of quantities and the drawings. Where discrepancy in description / drawing occurs, the decision of the Chief Operating Officer/Architect shall be final and binding.
e) Whenever reference is made in the Contract to specific standards and codes to be met by the goods and materials to be furnished, and work performed or tested, the provisions of the latest current edition or revision of the relevant standards and codes in effect shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national, or relate to a particular region, other authoritative standards that ensure a substantially equal or higher quality than the standards and codes specified, will be accepted, subject to FITT's prior approval and written consent. Differences between the standards specified and proposed alternative standards shall be fully described in writing by the Firm and submitted to the FITT prior to the date when the Contractor desires the FITT's consent. In the event the FITT determines that such proposed deviations do not ensure substantially equal or higher quality, the Firm shall comply with the standards specified in the documents.
f) The Firm shall use the approved makes of materials given in the Tender Document. The final selection of materials, out of the approved makes of materials or otherwise to be used at the site shall rest with the FITT and it shall be binding on the Firm. The Firm shall get the samples of all brands covered in the approved makes and obtain approval from the FITT. For any items not covered in the list of approved makes, the Contractor shall follow the instructions of the Chief Operating Officer. No extra cost shall be entertained for any variations except for the change in the basic cost of material.

g) The Firm is required to coordinate its work along with any other agencies working at site. It must reimburse any of the damage made by any of its representatives for any of the other agency or owner at site. All quantities in Schedule of Quantities are tentative which may vary as per site conditions. The Contractor has to verify the quantities before procuring the materials.
h) The Contractor shall, on complete installation of equipment(s), submit all relevant documents & drawings related to the equipment's Warranty, Test certificates, Catalogues, Operation & Maintenance manuals, List of recommended spares & consumables, Reconciliation statement and all requisite approvals from the concerned Authorities.
i) The Contractor shall prepare and submit the sample of each item of work, as per nomenclature well in advance of actual execution, to enable adequate time for inspection and testing, before placing the order in bulk. Furniture supplied/work carried out must be strictly in conformity with the approved samples. Samples delivered/works carried out at the site, are to be provided free of charge by the Contractor and should any materials supplied/work done/samples delivered be rejected they shall be promptly removed from the site of work at the Contractor's own expense.
j) The approved samples shall be kept in the custody of the FITT(IIT-Delhi) at no extra cost to the Employer and shall become guiding samples for the execution of that particular item of work. Work not conforming to the approved samples shall be rejected. Rates quoted for the items shall include for such preliminary work and shall not be paid for separately.

20. OBLIGATIONS OF FITT

FITT shall provide the scope of works and requirements to the Firm.

FITT shall approve design and time schedule for completion of the work if found necessary.

As soon as the project is finally completed and NOCs / documents / certificates, including completion certificate obtained, Firm shall inform FITT, for final taking over the items.

The stage wise payment to the Firm by FITT has already been highlighted

TDS and statutory deductions, if any, shall be deducted as per prevailing Government Rules and Regulations before releasing the payment at each stage.

Modifications, Additions and Alterations:

The Firm shall not make any material deviation, alteration, addition to or omission from the work shown and described in the contract document except without first obtaining the written consent from FITT.

21. FORMS

INTEGRITY PACT

To

……..,

……..,

……..

Sub: RFP No. for the work of ""Providing planning, design, procurement and installation of special items like lab furniture & equipment for the Bioincubator lab at the R&I Park, IIT Delhi, which may include BSL-2 cabinets, clean room, cold room, safety showers, etc.at the R&I Park, IIT Delhi at IIT Delhi"

Dear Sir,

It is hereby declared that FITT is committed to follow the principle of transparency, equity and competitiveness in public procurement.

The subject Notice Inviting Tender (RFP) is an invitation to offer made on the condition that the Bidder will sign the Integrity Agreement, which is an integral part of the tender/bid documents, failing which the tender/bidder will stand disqualified from the tendering process and the bid of the bidder would be summarily rejected.

This declaration shall form part and parcel of the Integrity Agreement and signing of the same shall be deemed as acceptance and signing of the Integrity Agreement on behalf of FITT.

Yours faithfully,

Chief Operating Officer

[TO BE SUBMITTED DULY SIGNED BY THE BIDDER ALONGWITH BID DOCUMENTS]

To

The Chief Operating Officer

Foundation for Innovation and Technology Transfer, IIT Delhi, Hauz Khas,

New Delhi – 110016

Subject: Submission of Bid for the work of "PROVIDING COMPREHENSIVE SERVICES FOR PROCUREMENT AND INSTALLATION OF SPECIAL ITEMS LIKE FURNITURE & EQUIPMENT FOR BIOTECHNOLOGY LABS IN R&I PARK, IIT DELHI"

Dear Sir,

I / We acknowledge that FITT is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document.

I / We agree that the Notice Inviting Proposals is an invitation to offer made on the condition that I / We will sign the enclosed integrity Agreement, which is an integral part of tender / bid documents, failing which I / We will stand disqualified from the tendering process. I / We acknowledge that THE MAKING OF THE BID SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE of this condition of the RFP.

I / We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when the tender/bid is finally accepted by FITT. I / We acknowledge and accept the duration of the Integrity Agreement, which shall be in line with Article 1 of the enclosed Integrity Agreement.

I / We acknowledge that in the event of my/our failure to sign and accept the Integrity Agreement, while submitting the tender/bid, FITT shall have the unqualified, absolute and unfettered right to disqualify the tenderer /bidder and reject the tender/bid is accordance with terms and conditions of the tender/bid.

Yours faithfully,

(Duly signed by authorized signatory of the Bidder)

[To be signed by the bidder and same signatory competent / authorized to sign the relevant contract on behalf of FITT]

INTEGRITY AGREEMENT

This Integrity Agreement is made at.....on this ..... day of.....20.....

BETWEEN

The, FITT, IIT Delhi Campus, Hauz Khas, New Delhi - 16 represented through COO, FITT

.....,

(Hereinafter referred as the 'Principal/Owner',

(Address of Division)

'Principal/Owner', which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

.....

.....

(Name and Address of the Individual/firm/Company)
Through…….....
.....

..... ……. (Hereinafter referred
(Details of duly authorized signatory)

to as the "Bidder/Contractor" and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

PREAMBLE

WHEREAS the Principal / Owner has floated the Tender (RFP No.) (hereinafter referred to as "Tender/Bid") and intends to award, under laid down organizational procedure, contract for "PROVIDING COMPREHENSIVE SERVICES FOR PROCUREMENT AND INSTALLATION OF SPECIAL ITEMS LIKE FURNITURE & EQUIPMENT FOR BIOTECHNOLOGY LABS IN R&I PARK, IIT DELHI" hereinafter referred to as the "Contract".

AND WHEREAS the Principal/Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s) AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as "Integrity Pact" or "Pact"), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witnesses as under:

ARTICLE 1: COMMITMENT OF THE PRINCIPAL / OWNER

1.1. The Principal/Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:

1.1. No employee of the Principal / Owner, personally or through any of his / her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

1.1.1. The Principal/Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.

1.1.2. The Principal/Owner shall Endeavour to exclude from the Tender process any person, whose conduct in the past has been of biased nature.

2. If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC)/Prevention of Corruption Act, 1988 (PoC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Principal/Owner will inform the Chief Vigilance Officer and in addition can also iRFPiate disciplinary actions as per its internal laid down policies and procedures.

ARTICLE 2: COMMITMENT OF THE BIDDER(S) / CONTRACTOR(S)

1. It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the Government / Department all suspected acts of fraud or corruption or coercion or collusion of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.
2. The Bidder(s)/Contractor(s) commits himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:
   2.1. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/Owner's employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.
   2.2. The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.
   2.3. The Bidder(s) / Contractor(s) will not commit any offence under the relevant IPC/PoC Act. Further the Bidder(s) / Contractor(s) will not use improperly, (for the

purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal / Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

2.4. The Bidder(s) / Contractor(s) of foreign origin shall disclose the names and addresses of agents / representatives in India, if any. Similarly Bidder(s) / Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participate in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.

2.5. The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.

3. The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
4. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practices means a wilful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Government interests.
5. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/ her reputation or property to influence their participation in the tendering process).

ARTICLE 3: CONSEQUENCES OF BREACH

Without prejudice to any rights that may be available to the Principal / Owner under law or the Contract or its established policies and laid down procedures, the Principal/Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidder/ Contractor accepts and undertakes to respect and uphold the Principal/Owner's absolute right:

1. If the Bidder(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days' notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/Owner. Such exclusion may be forever or for a limited period as decided by the Principal/Owner.

2. Forfeiture of EMD/Performance Guarantee/Security Deposit: If the Principal/Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Bidder/Contractor.
3. Criminal Liability: If the Principal/Owner obtains knowledge of conduct a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of IPC Act, or if the Principal / Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

ARTICLE 4: PREVIOUS TRANSGRESSION

1. The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.
2. If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/ holiday listing of the Bidder/Contractor as deemed fit by the Principal/ Owner.
3. If the Bidder/Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its own discretion, revoke the exclusion prematurely.

ARTICLE 5: EQUAL TREATMENT OF ALL BIDDERS/ CONTRACTORS/ SUBCONTRACTORS

1. The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Sub- contractors/sub-vendors.
2. The Principal/Owner will enter into Pacts on identical terms as this one with all Bidders and Contractors.
3. The Principal/Owner will disqualify Bidders, who do not submit, the duly signed Pact between the Principal/Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

ARTICLE 6: DURATION OF THE PACT

1. This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor 6 months after the completion of work under the contract or till the

continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded.

2. If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority of IIT Delhi.

ARTICLE 7: OTHER PROVISIONS

1. This Pact is subject to Indian Law, place of performance and jurisdiction is the Head Quarters of the Division of the Principal/Owner, who has floated the Tender.
2. Changes and supplements need to be made in writing. Side agreements have not been made.
3. If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by Board Resolution.
4. Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intensions.
5. It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement / Pact, any action taken by the Owner/Principal in accordance with this Integrity Agreement/ Pact or interpretation thereof shall not be subject to arbitration.

ARTICLE 8: LEGAL AND PRIOR RIGHTS

1. All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/Contact documents with regard to any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of the following witnesses:

.....

(For and on behalf of Principal / Owner)

.....

(For and on behalf of Bidder / Contractor) WITNESSES:

1. .....

(Signature, name and address)

2. .....

(signature, name and address)

Place:

Dated :

Annexure – 1

AFFIDAVIT FOR SIMILAR WORK EXPERIENCE

To

COO, FITT

----------,

I/We undertake and confirm that eligible similar works(s) has/have not been got executed through another Firm on a back-to-back basis. Neither have we been blacklisted, debarred or restrained by any organization in the past. Further, if such a violation comes to the notice of the FITT, then I/we shall be debarred from tendering in future forever. Also, if such a violation comes to the notice of the FITT before the date of start of work, the Chief Operating Officer shall be free to forfeit the entire amount of the Performance Guarantee.

Yours faithfully

Annexure – 2

UNDERTAKING

I/We have read and examined the Technical Bid (Stage-I & II) and Financial Bid documents. I/We hereby tender for the execution of the work: "Providing planning, design, procurement and installation of special items like lab furniture & equipment for the Bioincubator lab at the R&I Park, IIT Delhi, which may include BSL-2 cabinets, clean room, cold room, safety showers, etc. within the specified time frame for various activities in all respects.

We agree to keep the tender open for 90 days from the date of opening of the financial bid and not to make any modifications in its terms and conditions.

If I/We fail to furnish the prescribed Performance Guarantee within the prescribed period, I/We agree that the FITT shall without prejudice to any other right or remedy be at liberty to forfeit the said earnest money absolutely. Further, If I/We fail to commence work as specified, I/WE agree that the FITT shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said performance guarantee absolutely, otherwise earnest money shall be retained by him towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein. Further, I/We agree that in case of forfeiture of earnest money or both Earnest Money & Performance Guarantee as aforesaid, I/We shall be debarred from participating in the re-tendering process of the work.

I/We hereby declare that I/we shall treat the tender documents drawings and other records connected with the work as confidential documents and shall not communicate information/derived there from any person other than a person to whom I/we am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the state.

Dated - - - - - - - - - - - - - - - -

Signature of Firms Postal Address Witness:

Address:

Occupation

Annexure-3

PROFORMA FOR PERFORMANCE GUARANTEE

(BANK GUARANTEE BOND TO BE SUBMITTED ON AWARD OF CONTRACT)

In consideration of having offered to accept the terms and conditions of the proposed agreement between ……..and …….. (Hereinafter called the said Firm(s) for the work

……
(Hereafter called the said agreement) having agreed to the production of an irrevocable bank guarantee for Rs.

…… (Rs.....only) as a security/ guarantee from the Firm for compliance of his obligations in accordance with the terms and conditions in the said agreement.

1. We .....(Hereinafter referred to as the Bank) hereby (indicate the name of the bank) undertake to pay an amount not exceeding Rs……. only on demand by the FITT.
2. We ……..…….. do hereby undertake to pay the amounts due (indicate the name of the bank) and payable under this guarantee without any demure, merely on demand from the FITT stating that the amount claimed is required to meet the recoveries due or likely to be due from the said Firm(s). Any such demand made on the bank shall be conclusive as regards the amount due and payable by the bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.……. (Rs ..... only)
3. We, the said bank further undertakes to pay the money so demanded notwithstanding any dispute or disputes raised by the Firm(s) in any suit or proceeding pending before any court or tribunal relating thereto, our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Firm(s) shall have no claim against us for making such payment.
4. We further agree that the guarantee herein (indicate the name of the bank) contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of FITT under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till the Chief Operating Officer on behalf of the FITT certified that the terms and conditions of the said agreement have been fully and properly carried out by the said Firm(s) and accordingly discharges this guarantee.
5. We (indicate the name of the bank) further agree with the that the shall have the fullest liberty without our consent and without effecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Firm(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the against the said Firm(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted

to the said contractor(s) or for any forbearance, act of omission on the part of the or any indulgence by the to the said Firm(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of the bank or the Firm(s).
7. We (indicate the name of the bank) lastly undertake not to revoke this Guarantee except with the previous consent of in writing.
8. This guarantee shall be valid up to ---------- unless extended on demand by FITT. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. (Rupees only) and unless a claim in writing is lodged with us within Six months of the date of expiry or the extended date of expiry of this guarantee, all our liabilities under this guarantee shall stand discharged.

9. Dated the day of

for (Indicate the name of bank) Dated: Signed for and behalf of the Firm /Firm Witnesses:

(Authorized signature of the firm) 1. ----------

(Name and Address)

2. ----------.

(Name and Address)

Annexure 4

<< Organization Letter Head >>

DECLARATION

I / We, hereby declare that all the information and data furnished by our organization with regard to this tender specification are true and complete to the best of our knowledge. I / we have gone through the specification, conditions and stipulations in details and agree to comply with the requirements and intent of specification.

1.	Name & Address of the bidder	
2.	Phone	
3.	E-mail	
4.	Contact person name	
5.	Mobile number	
6.	GSTIN number	
7.	PAN number	
8.	UTR no. [for payment of EMD]	
9.	**BANK DETAILS**	
10.	Bank name	
11.	Branch address	
12.	Branch telephone no.	
13.	MICR Code of the bank	
14.	IFSC code	
15.	Bank Account No.	
16.	Type of account	

We further declare that our organization has not been blacklisted / delisted or put to any holiday by any Institutional agency / Govt. Department / Public Sector Undertaking in the last ten years.

[Signature of the bidder]

Name:

Seal of the bidder

Annexure 5

COMMERCIAL QUESTIONNAIRE

Bidder's reply/ confirmation as furnished in the Commercial Questionnaire (CQ) shall supersede the stipulations mentioned elsewhere in their bid.

SL.NO.	QUERY	BIDDER'S REPLY/ CONFIRMATION
1.	Confirm that your Bid is valid for 90 days from the opening date of the Unpriced Part the of Bid.	
2.	Confirm that Earnest Money Deposit (EMD) as per bid stipulations have been furnished along with the bid.	
3.	Confirm your compliance with the total Scope of Work mentioned in the Bidding Document.	
4.	Confirm that the following documents are submitted with Part-I:	
a)	All documents as per CHECKLIST.	
b)	Master Index as issued is submitted in unpriced part duly signed and stamped on each page.	
c)	Compliance letter for Addendum / Amendments as a token of acceptance (Applicable, if issued).	
5.	Confirm your compliance to critical stipulations of the Bidding Document	
6.	Schedule of Rates/Price	
a)	Confirm that the Price Part of the Bid as per the Price Schedule format enclosed with the Bidding Document has been duly filled.	
b)	Confirm that the quoted price is for the complete scope of work, supply of all material, labour, consumables etc. construction, erection, testing, commissioning, performance guarantee test run(s) and supply of spare parts as applicable as per the Scope of Work.	
7.	Confirm that you have studied the complete Bidding Document and that your Bid is in accordance with the requirements of the Bidding Document.	
8.	Confirm your acceptance of the 'Scope of Supply' mentioned in the Bidding Document and confirm that all materials shall be supplied as per Standards and Specification.	

SIGNATURE OF BIDDER:

NAME OF BIDDER:

COMPANY SEAL:

RFP for Lab Furnishing of Bioincubator, FITT-IIT Delhi

Annexure 6: Financial BID

Our fee for the Scope of Items and Services described in the RFP is as per following:

TOTAL PROJECT COST SHEET		
Sl NO.	**DESCRIPTION**	**Total Cost**
		Rs.
1	Laboratory Fume hood & Accessories	
2	Laboratory Furniture & Accessories	
3	Bio Safety Cabinet & Accessories	
4	Exhaust System with Accessories	
5	Gas Distribution System with Accessories	
6	Electrical System with Accessories	
8	Office chairs	
7	**Ex-works total**	
8	P&F @ 2% on basic value	
9	Freight to Your site	
10	Transit Insurance	
11	**A. Subtotal Supply including Frieght & insurance**	
12	State Goods & Services Tax (SGST) @ 9%	
13	Central Goods & Services Tax (CGST) @ 9%	
14	Integrated Goods & Services Tax (IGST) @ 18%	
15	**Installation & Commissioning**	
16	State Goods & Services Tax (SGST) @ 9%	
17	Central Goods & Services Tax (CGST) @ 9%	
18	Integrated Goods & Services Tax (IGST) @ 18%	
19	**E. Grand total Supply & Installation without Taxes**	

PAYMENT TERMS - SUPPLY		
1	30% advance along with the purchase order	
2	45% against material readiness & before dispatch on Pro-rata basis	
PAYMENT TERMS - INSTALLATION		
1	20% against completion of the work on Pro-rata basis	
2	5% on completion of defect liability period	

List of Items Being Supplied is attached as per the BOQ Format in Chapter 2

(THE BOQ LIST WILL ALSO FORM PART OF THE TECHNICAL BID)

The above-quoted rate shall be inclusive of all other taxes and levies, and no extra payment will be claimed other than the above-quoted rate.

We agree to all the terms and conditions relating to the fee as laid down in the RFP. Thank you.

Yours faithfully,

Signature of Applicant / Authorized signatory: Name of Signatory:

Designation:

Name and address of Applicant:

Contact number:

Email:

INFORMATION REGARDING ELIGIBILITY LETTER OF TRANSMITTAL

From:

To

The Chief Operating Officer

……..

Subject: Submission of bids for the work of ……

Sir,

Having examined the details given in the press notice and bid document for the above work, I/we hereby submit the relevant information.

1. I/we hereby certify that all the statement made, and information supplied in the enclosed forms A to G and accompanying statements are true and correct.
2. I/we have furnished all information and details necessary for eligibility and have no further pertinent information to supply.
3. I/we submit the requisite certified solvency certificate and authorize the Executive Engineer ..... to approach the Bank issuing the solvency certificate to confirm the correctness thereof. I/we also authorize Executive Engineer …… to approach individuals, employers, firms, and corporations to verify our competence and general reputation.
4. I/we submit the following certificates in support of our suitability, technical knowledge, and capability for having successfully completed the following works:

Name of work

Certificate

from

Enclosures:

Seal of bidder

Signature(s) of Bidder(s)

Date of submission:

FORM 'A'

FINANCIAL INFORMATION

Financial Analysis – Details to be furnished duly supported by figures in balance sheet/ profit & loss account for the last Five years duly certified by the Chartered Accountant, as submitted by the applicant to the Income Tax Department (Copies to be attached).

Years

	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Gross Annual turnover on construction works.					
Profit/Loss.					

Signature of Chartered Accountant with Seal

Signature of Bidder(s).

FORM 'B'

DETAILS OF ALL WORKS OF SIMILAR CLASS COMPLETED SINCE JAN 2018

Sr. No	Name of Work/ project and location on	Owner of sponsoring organization	Cost of work in crores of rupees	Date of commencement as per contract	Stipulated date of completion	The actual date of completion	Name & address with contact number of officer to whom reference may be made	Remarks
1)								
2)								
3)								
4)								
5)								
6)								
7)								
8)								

Signature of Bidder(s)

FORM 'C'

PROJECTS UNDER EXECUTION OR AWARDED

Sr. No	Name of Work/ project and location on	Owner of sponsoring organization	Cost of work in crores of rupees	Date of commencement as per contract	Stipulated date of completion	The actual date of completion	Name & address with contact number of officer to whom reference may be made	Remarks
1)								
2)								
3)								
4)								
5)								
6)								

Certified that the above list of works is complete and no work has been left out and that the information given is correct to my knowledge and belief.

Signature of Bidder(s)

FORM "D"

STRUCTURE & ORGANISATION

1. Name & address of the bidder
2. Telephone no./Telex no./Fax no.
3. Legal status of the bidder (attach copies of the original document defining the legal status)
   a) An Individual
   b) A proprietary firm
   c) A firm in partnership
   d) A limited company or corporation
4. Particulars of registration with various Government Bodies (attach attested photocopy)
   Organisation/Place of registration Registration No.
   1. ……
   2. ……
   3. ……
   4. ……
5. Names and titles of Directors & Officers with designation to be concerned with this work.
6. Designation of individuals authorized to act for the organization.
7. Was the bidder ever required to suspend construction for a period of more than six months continuously after he commenced the construction? If so, give the name of the project and reasons of suspension of work.
8. Has the bidder, or any constituent partner in case of partnership firm, ever abandoned the awarded work before its completion? If so, give name of the project and reasons for abandonment.
9. Has the bidder, or any constituent partner in case of partnership firm, ever been debarred/blacklisted for tendering in any organization at any time? If so, give details.
10. Has the bidder, or any constituent partner in the case of a partnership firm, ever been convicted by the court of law? If so, give details.
11. In which field of Civil Engineering construction, the bidder has specialization and interest?
12. Any other information considered necessary but not included above.

Signature of Bidder(s)

FORM 'E'

DETAILS OF TECHNICAL & ADMINISTRATIVE PERSONNEL TO BE EMPLOYED FOR THE WORK

S.No.	Designation	Total Number	Number available for this work	Name	Qualifications	Professional Experience and details of carried out	How these would be involved in this work	Remarks
1.								
2.								
3.								
4.								

Chapter 2: Detailed Scope of work

MAKE LIST

APPROVED MAKE LIST FOR FUME HOOD/BSC

Sr No	Item	Maker Brands
1	Fume hood/BSC	Waldner/ Kotterman/ Kewaunee/ Godrej/ Citizen/Thermofisher/ESCO
2	Fume Hood Valves	Water saver/ Broen
3	Air flow Monitor	TEL, UK/ Phoenix
4	Work Surface - Fume Hood	Granite
5	Fume hood Base Cabinet	Waldner/ Kotterman/ Kewaunee/ Godrej/ Citizen
6	PP Sink	Premier Polymer/ Equivalent
7	Electrical / Data / Voice Sockets	Northwest/ MK/ Legrand
8	Steel Sheet	Jindal /TATA/ SAIL

APPROVED MAKE LIST FOR FURNITURE

Sr No	Item	
1	Furniture	Waldner/ Kotterman/ Kewaunee/ Godrej/ Citizen/Artlabs
2	Work Surface - Benches	18/19mm Thick Jet Black Granite
3	PP Sink	Premier Polymer/ Equivalent
4	Water Tap	Water saver/ Broen
5	Bench Mounted Valves	Water saver/ Broen
6	Spot Extractor	Fumex / Alsident
7	Eye Wash	Water saver /Guardian / Broen
8	Safety Station	Water saver /Guardian/ Broen
9	Electrical / Data / Voice Sockets	Northwest/ MK/ Legrand
10.	FM approved storage cabinets for flammables	Justrite/Köttermann/Kewaunee

APPROVED MAKE LIST FOR EXHAUST SYSTEM

Sr No	Item	Maker Brand
1	PP moulded exhaustBlower	Colasit / Plastifer
2	Blower Motor	ABB / CG
3	VFD	Delta / ABB
4	Face velocity and VAV control	Tel-UK/Schneider/Phoenix

5	Actuator	Schneider/Siemens

APPROVED MAKE LIST FOR GAS DISTRIBUTION SYSTEM

GAS & UTILITY DISTRIBUTION SYSTEM		
1	SS 316 Seamless Tubes	Scoda/Sumitomo/Venus/Ratnamani/Equivalent
2	SS 316 Ball Valve	P-LOK/SG Lok/Equivalent
3	SS 316 Compression/Orbital welded Fittings	P-LOK/SG Lok/Equivalent
4	SS 316 Check Valve	P-LOK/SG Lok/Equivalent
5	SS 316 Semi-Auto Gas Changeover	P-LOK/SG Lok/Equivalent
6	SS 316 Line Pressure Regulator	P-LOK/SG Lok/Equivalent
7	Gas Purification Panels	P-LOK/SG Lok/Equivalent
8	Point Of Use Regulators	P-LOK/SG Lok/Equivalent
9	Pressure Gauge	Baumer/Equivalent
10	SS 316 Connectors	P-LOK/SG Lok/Equivalent
11	SS 316 Union	P-LOK/SG Lok/Equivalent
12	GI Profile	Factory Fabricated
13	GI Supports, Tagging	Factory Fabricated
14	PP Tube Clamps	P-LOK/SG Lok/Equivalent
15	Anchoring Fasteners	Hilti/Equivalent
16	CPVC Pipes & Fittings	Astral/Ashirwad/Supreme/Equivalent
17	Grease/Chemical Trap	Factory Fabricated
18	Gas Detection System	Ambetronics/Equivalent

Section 2.a.

TECHNICAL SPECIFICATIONS FOR LABORATORY FUME HOOD, FURNITURE

INDEX

DESCRIPTION OF THE WORK

1. SUMMARY AND SCOPE

A. Section Includes:
Furnish and install all fume hoods, work tops, and under structures as shown in drawings.

B. Accessorizing:
Furnish and deliver all service outlets, accessory fittings, electrical receptacles, and switches as listed in these specifications, equipment schedules or as shown in drawings. Fittings attached to the fume hood superstructure must be mounted at the factory.

C. Remove all debris, dirt and rubbish accumulated as a result of the installation of the fume hoods to an on-site container provided by others, leaving the premises clean and orderly.

1.1. STANDARD FUME HOOD PERFORMANCE REQUIREMENTS

1. Fume hoods must be of complete air foil design to ensure maximum operating efficiency. Foil sections at the front fascia of the hood must minimize eddying of air currents at the hood face and the rear baffle system must minimize turbulence in the upper portion of the hood interior.
2. Standard Fume Hood Type: The fume hoods must be of the Constant air volume type in which the exhaust air volume varies proportionally to the hood opening when used with a hood face velocity controller system.

2. MATERIALS AND CONSTRUCTION

A. Fume Hood Superstructure Frame:

A free-standing rigid frame structure of steel must be provided to support the exterior panels, interior liner and baffle panels. To allow for maintenance and replacements, the interior liner panels must be removable without disassembly of the frame structure and outer steel panels. Likewise, the exterior steel panels must be removable without the disassembly of the frame structure and inner liner panels. Fume hoods that require disassembly of the superstructure for liner replacement will not be acceptable.

Fume Hood Interior Walls:

Double wall ends, not more than 4” wide, must be provided to maximize interior working area. The area between the double wall ends must be closed to house the remote-control valves. The front vertical fascia section must have a full 135 degree 1” radius (or better) at the front leading edge to provide a streamlined section and ensure smooth and even flow of air into the hood. The vertical facias must contain the required service controls, electrical switches, and receptacles. The hood interior end

panels and sash track must be flush with the fascia to prevent eddy currents and back flow of air.

B. Fume Hood Airfoil:

A streamlined airfoil must be integrated at the bottom of the hood opening on bench and distillation hoods. This foil must provide a nominal 1" open space between the foil and the top front edge of the work surface to direct an air stream across the work surface to prevent back flow of air. The airfoil must extend back under the sash, so that the sash does not close the 1" opening. The foil must be removable to allow large equipment into the hood. The foil must be of 12-gauge steel to resist denting and flexing. PVC cover must be used as an additional protective cover on the metal deflector vane.

C. Fume Hood Top Panel:

Restricted Bypass Configuration: The top front panel must be of the same material as the exterior fascia.

D. Fume Hood Baffles:

A stable, non-adjustable baffle with three fixed horizontal slots must be provided to aid in distributing the flow of air into and through the hood. The baffle must be spaced approximately 2" from the back liner. The baffle must be approximately 18-12" and removable for cleaning.

E. Fume Hood Duct Collar:

A polyethylene or equivalent bell-mouthed duct collar must be located in the top of the hood plenum chamber. Coated common steel duct collars will not be acceptable.

F. Fume Hood Lighting:

Energy-efficient, LED light with light fixtures of the size given below must be provided in the hood roof. Illumination at 13" above the work surface must be at least 500 lux.

The light fixtures must be isolated from the hood interior by a 1/4" thick tempered glass panel sealed from the hood cavity. Fixtures must be UL labeled.

G. Fume Hood Sash:

Combination Sash: A combination sash must be provided. The sash must have horizontal sliding glass panels in a vertical rising steel frame. The bottom of the sash frame must have a full length metal handle. The sash track must be a neutral colored polyvinyl chloride set flush with the interior liner panels to minimize turbulence. The sash must be counterbalanced with a single weight to prevent tilting and binding during the operation. The glass panels must be 1/4" laminated safety float glass mounted on metal rollers in an aluminium track.

H. Fume Hood Plumbing Service:

Utility services must consist of remote control valves located within the end panels, controlled by extension rods projecting through the control panels of the hood, with color coded plastic handles. Interior fitting for gases and water must be nylon panel flanges, angle serrated hose connectors, and color coded. Interior fittings for distilled water must consist of bronze tin lined, white color-coded, panel flange and angle serrated hose connector. Interior fittings for steam must consist of cast bronze flange and angle serrated hose connector with a chemical resistant metallic bronze finish. Water goosenecks must be cast bronze with a chemical resistant metallic bronze finish. All plumbing fittings must be factory installed and piped between the valve and the outlet. Inlet piping must be of 3/8" OD SS304 and must have a single-point connection for each valve provided and carried to a point 150 mm above the fume hood roof. Points of final service connection by other trades must be at the stub provided by the fume hood manufacturer.

I. Fume Hood Electrical Service: The hood superstructure must be pre-wired and contain wire gauge, connections, fixtures, and wire color coding. Wiring electrical services must consist of two duplex receptacles and a light switch. Sockets of 230 Volt AC, and 3-wire polarized grounded with ground fault interruption. The receptacles must be of specification grade, side wired only, to ensure a positive connection. Wiring must terminate in one 6" x 6" x 4" service junction box located on the fume hood roof, which can be connected to a single-phase power supply.

J. Lattice Rod Assemblies:

Epoxy rods of 1/2" dia must be clamped with the Epoxy clamps to form a lattice arrangement to hold the test samples and rotors within the fume hood.

K. Hood Work Surface: Black Granite:

Hood work surface must be 1-1/4" thick jet-black granite made in the form of a watertight pan, not less than 3/8" deep to contain spillage with a 6" wide safety ledge across the front edge. A cup sink flush with the recessed work surface must be provided. The work surface and cup sink must be of the same colour.

L. Cup Sinks:

Molded polypropylene cup drains must be molded in one-piece of acid-resistant polypropylene. They must have an integral mounting flange and an integral tailpiece with a 1- 1/2" I.P.S. male straight thread outlet.

Access Opening:

The interior end liner panels must be furnished with an opening that provides access to the service piping and valves to facilitate installation and maintenance. The openings must be covered with a removable panel with rounded corners. Panels that

require tools to remove will not be acceptable. The panel must provide an overlapping seal on all edges.

M. Fume Hood Finish:

After the component parts have been completely welded together and before finishing, they must be given a pre-paint treatment to provide excellent adhesion of the finish system to the steel and to aid in the prevention of corrosion. Physical and chemical cleaning of the steel must be accomplished by washing with an alkaline cleaner, followed by a spray treatment with a complex metallic phosphate solution to provide a uniform fine grained crystalline phosphate surface that must provide both an excellent bond for the finish and enhance the protection provided by the finish against humidity and corrosive chemicals.

After the phosphate treatment, the steel must be dried and all steel surfaces must be coated with a chemical and corrosion-resistant, environmentally friendly, electrostatically applied powder coat finish. All components must be individually painted, ensuring that no area is vulnerable to corrosion due to the lack of paint coverage. The coating must then be cured by baking at elevated temperatures to provide maximum properties of corrosion and wear resistance.

N. The completed finish system in standard colors must meet the performance test requirements specified under PERFORMANCE TEST RESULTS.

O. Performance Test Results (Chemical Spot Tests):

a. Testing Procedure:

Chemical spot tests for non-volatile chemicals must be made by applying 5 drops of each reagent to the surface to be tested and covering a 1-1/4" of dia. watch glass, convex side down to confine the reagent. Spot tests of volatile chemicals must be tested by placing a cotton ball saturated with the reagent on the surface to be tested and covering with an inverted 2-ounce wide mouth bottle to retard evaporation. All spot tests must be conducted in such a manner that the test surface is kept wet throughout the entire test period, and at a temperature of 77°± 3° F (25 ± 1.5° C). For both methods, leave the reagents on the panel for a period of one hour. At the end of the test period, the reagents must be flushed from the surface with water, and the surface scrubbed with a soft bristle brush under running water, rinsed and dried. Volatile solvent test areas must be cleaned with a cotton swab soaked in the solvent used on the test area. Immediately prior to evaluation, 16 to 24 hours after the reagents are removed, the test surface must be scrubbed with a damp paper towel and dried with paper towels.

b. Test Evaluation:

Evaluation will be based on the following rating system.

Level 0 – No detectable change. Level 1 – Change in color or gloss.

Level 2 – Surface etching or severe staining.

Level 3 – Pitting, cratering, swelling, or erosion of coating. Obvious and significant deterioration.

After testing, the panel must show no more than three (3) Level 3 conditions.

c. Test Reagents

Test No.	Chemical Reagent	Test Method
1.	Acetate, Amyl	Cotton ball & bottle
2.	Acetate, Ethyl	Cotton ball & bottle
3.	Acetic Acid, 98%	Watch glass
4.	Acetone	Cotton ball & bottle
5.	Acid Dichromate, 5%	Watch glass
6.	Alcohol, Butyl	Cotton ball & bottle
7.	Alcohol, Ethyl	Cotton ball & bottle
8.	Alcohol, Methyl	Cotton ball & bottle
9.	Ammonium Hydroxide, 28%	Watch glass
10.	Benzene	Cotton ball & bottle
11.	Carbon Tetrachloride	Cotton ball & bottle
12.	Chloroform	Cotton ball & bottle
13.	Chromic Acid, 60%	Watch glass
14.	Cresol	Cotton ball & bottle
15.	Dichloroacetic Acid	Cotton ball & bottle
16.	Dimethylformamide	Cotton ball & bottle
17.	Dioxane	Cotton ball & bottle
18.	Ethyl Ether	Cotton ball & bottle
19.	Formaldehyde, 37%	Cotton ball & bottle
20.	Formic Acid, 90%	Watch glass
21.	Furfural	Cotton ball & bottle
22.	Gasoline	Cotton ball & bottle
23.	Hydrochloric Acid, 37%	Watch glass
24.	Hydrofluoric Acid, 48%	Watch glass
25.	Hydrogen Peroxide, 3%	Watch glass

26.	Iodine, Tincture of	Watch glass
27.	Methyl Ethyl Ketone	Cotton ball & bottle
28.	Methylene Chloride	Cotton ball & bottle
29.	Mono Chlorobenzene	Cotton ball & bottle
30.	Naphthalene	Cotton ball & bottle
31.	Nitric Acid, 20%	Watch glass
32.	Nitric Acid, 30%	Watch glass
33.	Nitric Acid, 70%	Watch glass
34.	Phenol, 90%	Cotton ball & bottle
35.	Phosphoric Acid, 85%	Watch glass
36.	Silver Nitrate, Saturated	Watch glass
37.	Sodium Hydroxide, 10%	Watch glass
38.	Sodium Hydroxide, 20%	Watch glass
39.	Sodium Hydroxide, 40%	Watch glass
40.	Sodium Hydroxide, Flake	Watch glass
41.	Sodium Sulfide, Saturated	Watch glass
42.	Sulfuric Acid, 33%	Watch glass
43.	Sulfuric Acid, 77%	Watch glass
44.	Sulfuric Acid, 96%	Watch glass
45.	Sulfuric Acid, 77% and Nitric Acid, 70% equal parts	Watch glass
46.	Toluene	Cotton ball & bottle
47.	Trichloroethylene	Cotton ball & bottle
48.	Xylene	Cotton ball & bottle
49.	Zinc Chloride, Saturated	Watch glass

*Concentrations are indicated in percentage by weight.

P. Performance Test Results (Heat Resistance):

Hot water (190° F - 205° F or 89° C- 96° C) must be allowed to trickle (with a steady stream at a rate not less than 6 ounces per minute) on the finished surface, which must be set at an angle of 45° from horizontal, for a period of five minutes. After cooling and wiping dry, the finish must show no visible effect from the hot water treatment.

Q. Performance Test Results (Impact Resistance):

A one-pound ball (approximately 2" diameter) must be dropped from a distance of 12 inches onto the finished surface of the steel panel supported underneath by a solid surface. There must be no evidence of cracks in the finish due to impact upon close eye-ball examination.

R. Performance Test Results (Bending Test):

An 18 gauge steel strip finished as specified, when bent 180° over a 1/2" diameter mandrel, must show no peeling or flaking off of the finish.

S. Performance Test Results (Adhesion):

Ninety or more squares of the test sample must remain coated after the scratch adhesion test. Two sets of eleven parallel lines 1/16" apart must be cut with a razor blade to intersect at right angles thus forming a grid of 100 squares. The cuts must be made just deep enough to go through the coating, but not into the sample. They must then be brushed lightly with a soft brush and examined under 100 foot-candles of illumination. Note: This test is based on ASTM D2197-68, "Standard Method of Test for Adhesion of Organic Coatings".

T. Performance Test Results (Hardness):

The test sample must have a hardness of 4-H using the pencil hardness test. Pencils, regardless of their brand are valued in this way: 8-H is the hardest, and next in order of diminishing hardness are 7-H, 6-H, 5-H, 4-H, 3-H, 2-H, F, HB, B (soft), 2-B, 3-B, 4-B, 5-B (which is the softest).

The pencils must be sharpened on emery paper to a wide sharp edge. Pencils of increasing hardness must be pushed across the paint film in a chisel-like manner until one is found that cuts or scratches the film. The pencil used before that one-that is, the hardest pencil that will not rupture the film-is then used to express or designate the hardness.

U. Fume Hood Liners:

Interior liner panels must be 1/4” thick made from compression moulded cellulose fiber reinforced phenolic resin core with integrally cured white melamine surfaces. Interior liner panels must be fastened using stainless steel screws with plastic covered heads.

Liner Tests – Chemical Spot Tests – 24 Hours

1. Chemical spot tests must be made by applying 10 drops (approximately 1/2 cc) of each reagent to the surface to be tested. Each reagent (except those marked **) must be covered with a 1-1/2” diameter watch glass, convex side down to confine the reagent. Spot tests of volatile solvents marked ** must be tested as follows: A 1” or larger ball of

cotton must be saturated with the solvent and placed on the surfaces to be tested. The cotton ball must then be covered by an inverted 2-ounce, wide-mouth bottle to retard evaporation. All spot tests must be conducted in such a manner that the test surface is kept wet throughout the entire 24-hour test period and at a temperature of 77 degrees F. + 3 degrees F (25 + 1.5 o C).

2. At the end of the test period, the reagents must be flushed from the surfaces with water and the surface scrubbed with a soft bristle brush under running water, rinsed, and dried. Volatile solvent test areas must be cleaned with a cotton swab soaked in the solvent used on the test area. Spots, where dyes have dried, must be cleaned with a cotton swab soaked in alcohol to remove the surface dye. The test panel must then be evaluated immediately after drying.

3. Ratings/Legend:

1 - Epoxy Resin

2 - Glass Reinforced Polyester

3 – Stainless Steel 304

4 – Stainless Steel 316

5 – Reinforced Phenolic Resin

A = No effect

B = Change in gloss or colour

C = Etching or severe staining

D = Swelling, pitting, or severe etching

Results	Reagents	1	2	3	4	5
1.	Acetic Acid 98%	A	B	B	B	A
2.	Acetone **	A	D	A	A	A
3.	Acid Dichromate	A	A	A	A	A
4.	Ammonium Hydroxide** 28%	A	A	B	B	A
5.	Amyl Acetate **	A	A	A	A	A
6.	Benzene **	A	A	A	A	A
7.	Butyl Alcohol **	A	A	A	A	A
8.	Carbon Tetrachloride **	A	A	A	A	A
9.	Chloroform **	A	D	A	A	A
10.	Chromic Acid 60%	B	B	C	C	A
11.	Cresol	A	A	A	A	A
12.	Dichloroacetic Acid	A	D	B	A	A
13.	Dimethylformamide	A	A	A	A	A
14.	Dioxane **	A	A	A	A	A
15.	Ethyl Acetate **	A	A	A	A	A
16.	Ethyl Ether **	A	A	A	A	A
17.	Ethyl Alcohol **	A	A	A	A	A
18.	Formaldehyde	A	A	A	A	A

19.	Formic Acid 90%	A	A	A	A	A
20.	Furfural **	B	B	A	A	C
21.	Gasoline **	A	A	A	A	A
22.	Hydrochloric Acid 37%	A	A	B	B	A
23.	Hydrofluoric Acid 48%	B	D	D	D	A
24.	Hydrogen Peroxide 30%	A	A	A	A	A
25.	Methyl Ethyl Ketone **	A	A	A	A	A
26.	Methyl Alcohol **	A	A	A	A	A
27.	Methylene Chloride **	A	D	A	A	A
28.	Monochlorobenzene **	A	A	A	A	A
29.	Naphthalene **	A	A	A	A	A
30.	Nitric Acid 20%	B	A	B	A	A
31.	Nitric Acid 30%	B	A	B	A	A
32.	Nitric Acid 70%	B	D	B	A	A
33.	Phenol ** 85%	A	C	A	A	A
34.	Phosphoric Acid 85%	A	A	B	A	A
35.	Silver Nitrate	B	C	A	A	C
36.	Sodium Hydroxide 40%	A	D	A	A	A
37.	Sodium Hydroxide 20%	A	D	A	A	A
38.	Sodium Hydroxide 10%	A	D	A	A	A
39.	Sodium Hydroxide Flake	A	B	A	A	A
40.	Sodium Sulfide	A	B	A	A	A
41.	Sulfuric Acid 77%	A	A	C	A	A
42.	Sulfuric Acid 96%	C	D	C	A	C
43.	Sulfuric Acid 33%	A	A	C	A	A
44.	Tincture of Iodine	A	C	B	B	A
45.	Toluene **	A	A	A	A	A
46.	Trichloroethylene **	A	A	A	A	A
47.	Xylene **	A	A	A	A	A
48.	Zinc Chloride	A	A	B	A	A
49.	Nitric 70%/Sulfuric Acid 77%*	B	B	B	A	A

* Equal parts of Nitric Acid 70% and Sulfuric Acid 77%.

** Indicates that these solvents must be tested with cotton and jar method

V. Fume Hood Base Cabinets

Normal Base cabinet: Base units under hoods must be fabricated of cold rolled prime grade roller levelled furniture steel. The steel used in the construction must be 18 gauges except as follows: Corner gussets for levelling bolts and apron corner braces, 12 gauges. Hinge reinforcements, 14 gauges. Top and intermediate front horizontal rails, apron rails and reinforcement Gussets, 16 gauge. Door assemblies and adjustable shelves, 20 gauge. Performance of the painted surfaces must match that of the fume hood outer panels.

3. MATERIAL OF CONSTRUCTION

Fume Hood superstructure Powder coated	18-gauge CRC Sheets, Electrode position 60 microns or better
Tabletop	32 mm Jet Black Granite
Electrical sockets	PVC
Gas fixtures and Gas piping	Brass Lacquer Coated
Vacuum Fixtures	SS304
Vacuum Piping	Brass Lacquer Coated
Water fixtures Water Piping	3/8” OD SS304
Electrical cables	Copper wire with PVC Sheet

4. APPLICABLE CODES & STANDARDS:

ASHRAE Standard 110.1995 or recent - Method of Testing Performance of Laboratory Fume Hoods

NSF STD#49 - Photometric Method of Testing

NIH03-112C - National Institute of Health Specifications UL - Underwriters Laboratories

ASTM D552 - Bending Test

NFPA-45 - National Fire Protection Association

Section 2b. LAB FURNITURE SPECIFICATIONS

DESCRIPTION OF WORK

1. SUMMARY AND SCOPE

A. Section Includes:

a) Furnish all cabinets and casework, including tops, ledges, and supporting structures. Include delivery to the building, set in place, level, and scribe to walls and floors as required. Furnish and install all filler panels, knee space panels and scribes as shown on drawings.
b) Furnish and deliver all utility service outlet accessory fittings, electrical receptacles and switches identified on drawings as mounted on the laboratory furniture. All plumbing and electrical fittings, not pre-installed in equipment, will be packaged separately and properly marked for delivery to the appropriate contractor.
c) Furnish and deliver, for installation by the mechanical contractor, all laboratory sinks, cup sinks or drains, drain troughs, overflows and sink outlets with integral tailpieces, which occur above the floor, and where these items are part of the equipment. All tailpieces must be furnished with the couplings required to connect them to the drain piping system.
d) Furnish service strip supports where specified, and set in place service tunnels, service turrets, supporting structures and reagent racks of the type shown on the drawings.
e) Removal of all debris, dirt and garbage accumulated as a result of the installation of the laboratory furniture to an onsite container provided by others, leaving the premises and room clean and orderly.

1.1. BASIS OF WORK

Laboratory Furniture as the standard of construction for steel laboratory furniture. The construction standards of this product line must provide the basis for quality and functional installation.

2. CABINET STYLE:

Steel:
Cabinet bodies, drawer bodies, shelves, drawer heads and door assemblies must be fabricated from Cold Rolled Steel.

2.1. DRAWER AND DOOR STYLE:

The outer drawer and door head must have a channel formation on all four sides to eliminate sharp raw edges of steel and the top front corners must be welded and

ground smooth. Drawer and door, when closed, must be recessed to create an overall flush face, and with optional pull.

2.2. MATERIALS

General Requirements:
It is the intent of this specification to provide a high-quality steel cabinet specifically designed for the laboratory environment.

A. Steel:

Cold Rolled Steel:

Cold rolled sheet steel must be prime grade 12, 14, 16, 18 and 20 gauge U.S. Standard; roller levelled, and must be treated at the mill to be free of scale, ragged edges, deep scratches or other injurious effects.

B. Glass:

The glass used for framed sliding and swinging doors must be 1/8" float glass. Glass used for unframed sliding doors, must be 1/4" float glass. Glass used in fume hoods or other hazardous locations must be 7/32" laminated safety float glass, except the glass shielding fluorescent lights in fume hoods must be tempered glass to provide greater resistance to heat and impact.

C. Drawer and Door Pull:

The pull must be of modern design, offering a comfortable handgrip, and be securely fastened to doors and drawers with screws. All pulls must be satin finish aluminium, with a clear lacquer finish. Two pulls over 24" long are required on all drawers. Use of plastic pulls (moulded or extruded), or a design not compatible for usage by the handicapped will not be accepted.

D. Hinges:

Hinges must be made of Type 304 stainless steel .089” thick, 2-1/2” high, with a brushed satin finish, and must be the institutional type with a five-knuckle bullet-type barrel. Hinges must be attached to both doors and cases with two screws through each leaf. Welding of hinges to doors or cases will not be accepted. Doors under 36" in height must be hung on one pair of hinges, and doors over 36" high must be hung on 3 hinges.

E. Positive Catch:

A two-piece heavy-duty cam action positive catch must be provided on all base cupboard doors and positioned near the pivoting edge of the door to provide a clean unobstructed opening. The main body of the catch must be confined within an integral cabinet divider rail, while the latching post must be mounted on the hinge side of the door. Nylon roller-type catches will not be accepted.

F. Elbow Catches:

Elbow catches and strike plates must be used on left hand doors of double door cases where locks are used. The elbow catches must be made of burnished cast aluminium, with bright brass finish.

G. Shelf Adjustment Clips:
Shelf adjustment clips must be nickel-plated steel.

H. Base Molding:

Base Molding must be provided on all table legs, unless otherwise specified, to conceal levelling devices. Shoes must be a pliable, black vinyl material. Corner clip must be provided to hold the base molding firmly. Use of a leg shoe, which does not conceal levelling devices, will not be accepted.

I. Sink Supports:

Sink supports must be the hanger type, suspended from top front and top rear horizontal rails of sink cabinet by four 1/4" dia. rods, threaded at bottom end and offset at top to hang from two full length reinforcements welded to the front and rear top rails. Two 3/4" x 1-2/2" x 12 gauge channels must be hung on the threaded rods to provide an adjustable sink cradle for supporting sinks. When sink capacity exceeds 3,750 cu. in., the sink supports must be suspended from full-length reinforcements welded to the two end rails. Two 1" x 2" x 10 gauge full-length channels must be hung from the four 1/4" dia. rods to provide an alternate sink cradle.

2.3. CONSTRUCTION

A. Steel Base Cabinet Construction:

1. General:

a) The steel furniture must be of modern design and constructed in accordance with the best practices of the Scientific Laboratory Equipment Industry. First class quality

casework must be ensured by the use of proper machinery, tools, dies, fixtures and skilled workmanship to meet the intended quality and quantity of the project.

b) All cabinet bodies must be flush front construction with intersection of vertical and horizontal case members, such as end panels, top rails, bottoms and vertical posts in the same plane without overlap. Exterior corners must be spot welded with heavy back up reinforcement at exterior corners. All face joints must be welded and ground smooth to provide a continuous flat plane.
c) Each cabinet must be complete so that units can be relocated at any time without requiring field application of finished ends or other such parts.

d) Case openings must be rabbeted on all four sides for both hinged and sliding doors to provide a dust-resistant case.

e) All cabinets must have a cleanable smooth interior. Bottom edges must be formed down on sides and back to create easily cleanable corners with no burrs or sharp edges, and front edges must be offset to create a seamless drawer and door recess rabbet for dust stop.

2. Steel Gauges:

Gauges of steel used in construction of cases must be 18 gauge, except as follows:

a) Corner gussets for levelling bolts and apron corner braces, 12 gauge.

b) Case and drawer suspension channels, 14 gauge.

c) Top and intermediate front horizontal rails, table aprons, hinge reinforcements, and reinforcement gussets, 16 gauge.

d) Drawer assemblies, door assemblies, bottom, bottom back rail, toe space rail, and adjustable shelves, 20 gauge.

3. Base Cabinets:

a) End uprights must be formed into not less than a channel formation at top, bottom, back and front. The front edge must further offset to form a strike for doors and drawers, and must be perforated for the support of drawer channels, intermediate rails and hinge screws. An upright filler must be screwed in place in all cupboard units to close the back of the channel at the front of the upright and to provide a smooth interior for the cupboard to facilitate cleaning. The upright filler must be perforated

with shelf adjustment holes at not more than 2" centers painted prior to assembly. The inside front of the upright must be further reinforced with a full height 16 gauge hinge reinforcement angle.

b) Top horizontal rail on base cabinets must interlock within the flange at the top of end panels for strength, but must flush as the face of the unit. Top rail must have a full width rabbet for swinging doors and drawers. Reinforcements must be provided at all front corners for additional welded strength between vertical and horizontal case members.

c) Intermediate rails must be provided between doors and drawers, but not between the drawers unless necessary for locks in drawers. When required, intermediate rails must be recessed behind doors and drawer fronts, and designed so that security panels can be added as required.

d) Intermediate vertical uprights must be furnished to enclose cupboards when used in a unit in combination with a half-width bank of drawers. However, to allow storage of large or bulky objects, no upright of any type must be used at the centre of double-door cupboard units.

e) The cabinet bottom, and bottom rail must be formed of one piece of steel except in corner units and must be formed down on sides and back to create a square edge transition welded to cabinet end panels, and the front edge must be offset to create a seamless drawer and door recess rabbet for dust stop.

f) Toe space rail must extend up and forward to engage the bottom rail to form a smooth surface fully enclosed toe space, 3" deep x 5" high. Whenever the toe space base is omitted for units to set on building bases on separate steel bases, then the toe space rail must extend back 4-1/2".

g) Back construction must consist of a top and bottom rail, channel formed for maximum strength and welded to the back and top flange of end uprights, open for access to plumbing lines.

Cupboard units must be provided with removable back panels.

h) Die formed gussets, with multiple ends for strength, must be furnished in each bottom corner of base units to ensure rigidity, and a 3/8"-16 levelling bolt, 3" long, and must engage a clinch nut in each gusset. Access to the levelling bolts must be through plug

buttons in the bottom pan. Each levelling bolt and gusset must be capable of supporting 500 lbs. Access to levelling bolts through toe space or levelling bolts requiring special tools to adjust will not be accepted.

i) Adjustable shelves must be formed down 3/4", returned 7/8" and up 1/4" into a channel formation front and rear; formed down 3/4" at each end, shelves over 42" long, which must be further reinforced with a channel formation welded to the underside of the shelf.

j) Drawer bodies must be made in one-piece construction including the bottom, two sides, back and front. They must be fully covered at the interior bottom on all four sides for easy cleaning. The top front of the inner drawer body must be offset to interlock with the channel formation in the drawer head providing a 3/4" thick drawer head.

k) Drawer suspension assembly must consist of 2 sections providing a quiet, smooth operation on Telescopic channels. All drawers must be self-closing from a point 5" open. Cabinet channels must maintain alignment of the drawer and provide an integral drawer stop, but the drawer must be removable without the use of tools. Drawers must provide 13-5/8" front to back clearance when fully extended. Drawers must rise when opened thus avoiding friction with lower drawers and/or doors. Drawer suspension system must incorporate a double stop, lock open feature. Case suspension channels must be Galvanized Steel, drawer suspension channels must be Cold Rolled Steel. Drawer suspension channels on Stainless Steel Cabinets must be zinc plated after they are formed.

l) Steel Door assembly (two-piece) for solid pan swinging doors must consist of an inner and outer door pan. Outer door pan must be formed at all four sides. The corners on the pull side of the outer door pan must be welded and ground smooth to prevent exposure of sharp edges of steel at these critical points. Inner door pan must be flanged at all four sides with hinge reinforcements welded in place. The door assembly must be 3/4" thick and contains sound deadening material.

m) Steel Drawer/door assemblies must be painted prior to assembly. Both must be punched for attaching drawer pulls. Likewise, inner pan formation of door and drawer body must be indented for in-field installation of locks when required.

n) Doors must be readily removable and hinges easily replaceable. Hinges must be applied to the cabinet and door with screws. Welding of hinges to either cabinet or door will not be accepted.

o) Knee space panels, where shown or specified, must be 20 gauge, finished same as casework cabinets, and easily removable for access to mechanical service areas.

2.4. PERFORMANCE REQUIREMENTS

A. Steel Casework Construction Performance:

1. Base cabinets must be built to support a uniformly distributed load of at least 200 lbs. per square foot of cabinet top area, including working surface without objectionable distortion of interference with door and drawer operation.

2. Base cabinet corner gussets with levelling bolts must support 500 lbs. per corner, at 1-1/2" projection of the levelling bolt below the gusset.

3. Each adjustable and fixed shelf 4 ft. or shorter in length must support an evenly distributed load of 40 lbs. per square ft. up to a maximum of 200 lbs., with nominal temporary deflection, but without permanent set.

4. Drawer construction and performance must allow 13-5/8" clear when in an extended position and suspension system must prevent friction contact with any other drawer or door during opening or closing. All drawers must operate smoothly, a minimum of 10,000 cycles with an evenly distributed load of 150 lbs.

5. Swinging doors on floor-mounted casework must support 200 lbs. suspended at a point 12" from the hinged side, with doors swung through an arc of 160 degrees.

Weight load test must allow only a temporary deflection without permanent distortion or twist. Door must operate freely after the test and assume a flat plane in a closed position.

B. Steel Paint System Finish and Performance Specification:

Steel Paint System Finish:

After Cold Rolled Steel and Textured Steel component parts have been completely welded together and before finishing, they must be given a pre-paint treatment to provide excellent adhesion of the finish system to the steel and to aid in the prevention of corrosion. Physical

and chemical cleaning of the steel must be accomplished by washing with an alkaline cleaner, followed by a spray treatment with a complex metallic phosphate solution to provide a uniform fine grained crystalline phosphate surface that must provide both an excellent bond for the finish and enhance the protection provided by the finish against humidity and corrosive chemicals.

After the phosphate treatment, the steel must be dried and all steel surfaces must be coated with a chemical and corrosion-resistant, environmentally friendly, electrostatically applied powder coat finish. All components must be individually painted, ensuring that no area is vulnerable to corrosion due to lack of paint coverage. The coating must then be cured by baking at elevated temperatures to provide maximum properties of corrosion and wear resistance.

The completed finish system in standard paints must meet the performance test requirements specified under PERFORMANCE TEST RESULTS.

I. Performance Test Results (Chemical Spot Tests):

a) Testing Procedure:
Chemical spot tests for non-volatile chemicals must be made by applying 5 drops of each reagent to the surface to be tested and covered with a 1-1/4" of dia. watch glass, convex side down to confine the reagent. Spot tests of volatile chemicals must be tested by placing a cotton ball saturated with reagent on the surface to be tested and covering with an inverted 2-ounce wide mouth bottle to retard evaporation. All spot tests must be conducted in such a manner that the test surface is kept wet throughout the entire test period, and at a temperature of 77° ± 3° F. For both methods, leave the reagents on the panel for a period of one hour. At the end of the test period, the reagents must be flushed from the surface with water, and the surface scrubbed with a soft bristle brush under running water, rinsed and dried. Volatile solvent test areas must be cleaned with a cotton swab soaked in the solvent used on the test area. Immediately prior to evaluation, 16 to 24 hours after the reagents are removed, the test surface must be scrubbed with a damp paper towel and dried with paper towels.

b) Test Evaluation:

Evaluation must be based on the following rating system. Level 0 – No detectable change.

Level 1 – Change in color or gloss.

Level 2 – Surface etching or severe staining.

Level 3 – Pitting, cratering, swelling, or erosion of coating. Obvious and significant deterioration.

After testing, the panel must show no more than three (3) Level 3 conditions.

c) Test Reagents

Test No.	Chemical Reagent	Test Method
1.	Acetate, Amyl	Cotton ball & bottle
2.	Acetate, Ethyl	Cotton ball & bottle
3.	Acetic Acid, 98%	Watch glass
4.	Acetone	Cotton ball & bottle
5.	Acid Dichromate, 5%	Watch glass
6.	Alcohol, Butyl	Cotton ball & bottle
7.	Alcohol, Ethyl	Cotton ball & bottle
8.	Alcohol, Methyl	Cotton ball & bottle
9.	Ammonium Hydroxide, 28%	Watch glass
10.	Benzene	Cotton ball & bottle
11.	Carbon Tetrachloride	Cotton ball & bottle
12.	Chloroform	Cotton ball & bottle
13.	Chromic Acid, 60%	Watch glass
14.	Cresol	Cotton ball & bottle
15.	Dichloroacetic Acid	Cotton ball & bottle
16.	Dimethylformamide	Cotton ball & bottle
17.	Dioxane	Cotton ball & bottle
18.	Ethyl Ether	Cotton ball & bottle
19.	Formaldehyde, 37%	Cotton ball & bottle
20.	Formic Acid, 90%	Watch glass
21.	Furfural	Cotton ball & bottle
22.	Gasoline	Cotton ball & bottle
23.	Hydrochloric Acid, 37%	Watch glass
24.	Hydrofluoric Acid, 48%	Watch glass
25.	Hydrogen Peroxide, 3%	Watch glass
26.	Iodine, Tincture of	Watch glass
27.	Methyl Ethyl Ketone	Cotton ball & bottle
28.	Methylene Chloride	Cotton ball & bottle
29.	Mono Chlorobenzene	Cotton ball & bottle
30.	Naphthalene	Cotton ball & bottle
31.	Nitric Acid, 20%	Watch glass
32.	Nitric Acid, 30%	Watch glass
33.	Nitric Acid, 70%	Watch glass
34.	Phenol, 90%	Cotton ball & bottle

35.	Phosphoric Acid, 85%	Watch glass
36.	Silver Nitrate, Saturated	Watch glass
37.	Sodium Hydroxide, 10%	Watch glass
38.	Sodium Hydroxide, 20%	Watch glass
39.	Sodium Hydroxide, 40%	Watch glass
40.	Sodium Hydroxide, Flake	Watch glass
41.	Sodium Sulfide, Saturated	Watch glass
42.	Sulfuric Acid, 33%	Watch glass
43.	Sulfuric Acid, 77%	Watch glass
44.	Sulfuric Acid, 96%	Watch glass
45.	Sulfuric Acid, 77% and Nitric Acid, 70%, equal parts	Watch glass
46.	Toluene	Cotton ball & bottle
47.	Trichloroethylene	Cotton ball & bottle
48.	Xylene	Cotton ball & bottle
49.	Zinc Chloride, Saturated	Watch glass

*Where concentrations are indicated in percentages by weight.

II. Performance Test Results (Heat Resistance):
Hot water (190° F - 205° F or 89 o C - 96o C) must be allowed to trickle (with a steady stream at a rate not less than 6 ounces per minute) on the finished surface, which must be set at an angle of 45° from horizontal, for a period of five minutes. After cooling and wiping dry, the finish must show no visible effect from the hot water treatment.

III. Performance Test Results (Impact Resistance):
A one-pound ball (approximately 2" diameter) must be dropped from a distance of 12 inches onto the finished surface of the steel panel supported underneath by a solid surface. There must be no evidence of cracks or checks in the finish due to impact upon close eye-ball examination.

IV. Performance Test Results (Bending Test):
An 18 gauge steel strip finished as specified, when bent 180° over a 1/2" diameter mandrel, must show no peeling or flaking off of the finish.

V. Performance Test Results (Adhesion):

Ninety or more squares of the test sample must remain coated after the scratch adhesion test. Two sets of eleven parallel lines 1/16" apart must be cut with a razor blade to intersect at right angles thus forming a grid of 100 squares. The cuts must be made just deep enough to go through the coating, but not into the sample. They must then be brushed lightly with a soft brush and examined under 100 foot-candles of illumination. Note: This test is based on ASTM D2197-68, "Standard Method of Test for Adhesion of Organic Coatings".

VI. Performance Test Results (Hardness):

The test sample must have a hardness of 4-H using the pencil hardness test. Pencils, regardless of their brand are valued in this way: 8-H is the hardest, and next in order of diminishing hardness are 7-H, 6-H, 5-H, 4-H, 3-H, 2-H, F, HB, B (soft), 2-B, 3-B, 4-B, 5-B (which is the softest).

The pencils must be sharpened on emery paper to a wide sharp edge. Pencils of increasing hardness shall be pushed across the paint film in a chisel-like manner until one is found that will cut or scratch the film. The pencil used before that one-that is, the hardest pencil that will not rupture the film-is then used to express or designate the hardness.

4. Worktops:

   The worktops must be of 18/19 mm Jet black Granite of an even surface and the level Tolerance less than 1 mm. The front edge of the granite must be chamfered at an angle of 28 degree and smoothened. The back splash for the wall bench must be granite 18/19 mm thick material for a height of 4” from the finished table top level.

5. Polypropylene Molded Sinks:

   Sinks must be injection molded from Poly(propylene) resin. Polypropylene must have very high resistance to attack from a wide range of chemicals and ability to withstand temperatures up to 100° C (212° F). The impact resistance must be high which will minimize damage during and after installation. Sinks must be with self-draining base and must be suitable for mounting on top or underside of the work benches. Sinks must be compatible to a vast number of acids, alkalis and reagents. The size of the sink must be 600L x 450D x 315H mm AND BOWL SIZE: 550L x 400D x 315H mm. Sinks must have a bottle trap with a reducing coupler of size 51 x 31 mm, with 38 mm polypropylene pipe of one foot length. All gaskets and O-rings must be made from Nitrile.

6. Reagent Rack in Island Bench:

   Reagent racks must be designed to fix to the worktop.

It must be 14.5" wide & 24" ht, vertical Uprights made of 1.2 mm thick CRCA provided with granite supports and must be designed to have 2 Tier at 12" gap b/w the shelves.

Each Upright must have provision for fixing the 2 nos Sockets with switch and it will be b/w the bottom shelf & worktop. 12" wide shelves must be made up of ¾" thick granite with ¾" edge lip all around & placed over the granite supports.

2 Nos Horizontal & 2 Nos Vertical 12 mm dia epoxy rods must be fixed to the uprights to create a grid for holding the apparatus.

7. Dual Purpose Eyewash/Drench Hose Units:

Deck mounted eyewash/drench hose units must be capable of use as a fixed eye wash with hands-free operation or as a drench hose. Units must have two Gentle Spray outlet heads mounted parallel and angled forward, each with a self-regulating volume control, reticulated polyurethane filter and removable spray cover. Dust covers must be hinged swing-away style and must be permanently attached to the spray head with a stainless steel pin. The valve must be self-closing type with a stainless steel squeeze handle and a locking clip to hold the valve open once activated. Units must be furnished with a deck flange with locator guide to hold the unit facing forward and an 8 ft. reinforced PVC hose.

8. Safety Shower:

Ceiling mounted Safety Shower consisting of 10" diameter orange ABS plastic shower head. 1" IPS chrome plated brass stay-open ball valve. Valve must be made with chrome plated brass ball and Teflon seals. Furnished with stainless steel actuating arm and 29" stainless steel pull rod.

Supply with 1" NPT female inlet and with ANSI-compliant identification sign.

9. Solvent Storage Cabinets for flammable liquid storage

- Fusible links hold doors wide open and melt at 165° F (or 74°C) for automatic closure (on self-close models).
- Sturdy, 18-gauge double wall steel with 1 ½" insulating air space.
- Minimal air-gaps to provide better protection.
- Easy close, self-latching door; handle must not require manual rotation to engage mandatory three-point latch for protection under fire conditions.
- Fully welded (not riveted) construction holds square ness for longer life, offering greater protection in a fire since air gaps are reduced.
- Continuous piano hinge providing smooth closure.

- Built-in grounding connector (on outside side panel) for easy grounding.
- Dual vents with built-in flame arresters strategically placed at bottom and opposite top must be welded and not screwed in place.
- Durable and chemical resistant, lead-free powder coat paint finish, inside-and-out, retrains high gloss look and minimizes the effects of corrosion and humidity.
- Adjustable levelling feet for stability on uneven surfaces.
- Concealed self-close mechanism providing obstruction-free access to top shelf space. Self-indexing doors that close in sequence and assure a tight closure from top to bottom (on self-close models).
- Rounded safety corners and doors to reduce accidental nicks or cuts and potential hand injury.
- Exclusive “spill-catcher” shelves with built-in troughs to catch incidental drips and easily adjust on 2¼ “centers for versatile storage. Heavy-gauge galvanized steel must be ribbed for extra strength to support a substantial 350-lb weight capacity.
- Welded shelf hangers must interlock with the shelf to offer maximum “no slip” stability.
- Fully painted interior with no thin spots – minimal air gaps at the seams.
- 2” liquid-tight containment sump with up to a 5-gallon capacity on 60-gallon models holds leaks, meeting EPA requirements.
- Keyed, fail-safe closing mechanisms must be provided to ensure the three-point latching system works the first time, every time. Available in Lever or Sure-Grip handle styles to safely secure contents. Double key set included.
- Highly visible trilingual warning label “Flammable Keep Fire Away” must be provided
- Must comply with OSHA 29 CFR 1910.106 and NFPA Code 30, section 6.3.3 FM approved.

* used in laboratories.

10. Wall Units:

- Upper cabinets shall have a completely finished interior same as the exterior and shall be designed so that no mounting hardware is visible when installed.
- End uprights shall be formed at front, bottom and back to provide maximum strength and rigidity. The front edge of end upright shall be 3/4” wide. A pilaster shall be added to the inside front of the upright for cabinet and hinge reinforcement and shall be perforated for hinge screws, and shelf adjustment holes.
- Cabinet tops shall be formed with a 7/8" high C formation at the front edge and turned down at the back to engage a wall-hanging rail.
- Cabinet flush bottoms shall be formed with a 7/8" high C formation at the front edge.
- Cabinet false bottoms shall be formed down on all four edges and shall be removable.
- Cabinet backs shall be welded to the top, bottom and ends. Backs shall be perforated for shelf adjustment holes. End uprights shall enclose holes.
- Adjustable shelves shall be formed down 3/4", returned back 7/8" and up 1/4" into a channel formation front and rear, formed down 3/4" at each end. Shelves over 42"

long shall be further reinforced with a channel formation welded to underside of shelf. Shelves shall be adjustable on not more than 1" increments.

Glazed doors shall be 3/4" thick and consist of an inner and outer door pan welded together to form a single unit. Outer door pan shall be 18 gauge steel, formed into a channel or flanged shape at all four sides. It shall be pierced and formed to create a 3" wide frame with a beveled edge around the glass opening in the center of the door. Inner door pan shall be 18 gauge steel, flanged at all four sides, and pierced for a glass opening in center of the door. Glass shall be held in place by a rubber or vinyl gasket around the entire edge of the glass. Doors shall be glazed with 1/8" float glass.

Swinging doors under 36" high shall be hung on one pair of hinges, doors over 36" high shall be hung on three hinges.

11. Tall Unit for Chemical Storage:

The cabinet is to be flush face Construction, with doors in the same plane as the cabinet face frame, with or without overlap. The doors are to be 3/4" thick with square edges, and with pull handle. The height of tall unit will be of 84” & Depth 22” & length varies 24”, 30” & 36”. It will have 2” dia hole in the top of cabinet at centre for venting and will be connected to exhaust ducting. Acid Storage Tall unit will have Phenolic Resin liner inside of the cabinet. Each unit will have 5 Nos. adjustable Phenolic Resin shelves. Door front panel will have 2 set of Louvers for air circulation.

12. Laboratory Service fixtures:

I. General

a. All laboratory service fixtures must have the construction and must meet the performance requirements set forth in this specification. Fixture types must be as indicated in the fixture schedule or fixture details included in either the project drawings or these specifications.
b. All service fixtures must be factory assembled (including the assembly of valves and shanks to turrets, flanges and other mounting accessories), and each fixture must be individually factory tested. Fixtures must be tested in the manner and at the pressures set forth below.
c. Except as otherwise indicated, faucet and valve handles must be forged brass Nylon type and must have a color coded screw-on index disc. Color code requirements for indexing service fixtures must follow DIN Standard 12920:1995.

II. Finish

1. General

a) Laboratory service fixtures and safety equipment must be furnished with a powder-coated finish to enhance the appearance of the fitting and to protect against corrosion.

The coating material must be a blend of epoxy and polyurethane. The hybrid blend must ensure a finish coating with an optimum combination of chemical resistance, mar and abrasion resistance and resistance to fading under ultraviolet (UV) light.

b) Fittings inside fume hoods must have an epoxy finish colour-coded to match the fixture service index color. The coating material must be free-flowing epoxy powder with a particle size of 35 microns or better.

2. Mar and Abrasion Resistance
   Finishes must have a pencil hardness of 2H-4H with adhesion substantial enough to withstand both direct and reverse impacts of 160-inch pounds. The finish must have excellent mar resistance and be capable of withstanding scuffing, marring and other ordinary wear.

3. Reparability
   Finish must be capable of surface repair in the event that a fixture is scratched or a surface rupture occurs. The service fixture manufacturer must have available an air-drying aerosol coating, specially formulated to match the existing epoxy coating color, which must be applied in the field to repair coated surfaces.

III. Water Faucets and Valves

A. All faucets and valves for water service must have a renewable unit containing all working components subject to wear, including a stainless-steel replaceable seat and an integral adjustable volume control (designated by the suffix “AC”). The renewable unit must be interchangeable among all faucets and valves for water service. The renewable unit must be broached for position locking in the valve body. The unit must have a high durometer thermoplastic valve disc and a molded PTFE stem packing. The unit must be capable of being readily converted from compression to self-closing, and vice versa, without disturbing the faucet body.

B. Goosenecks must have a separate outlet coupling with a 3/8" IPS female thread securely brazed to the gooseneck for attachment of serrated hose ends, aspirators and other outlet fittings. Rigid goosenecks must have a 3/8" IPS male inlet thread and be threaded directly into the faucet body so as to be absolutely rigid. Swing goosenecks must utilize a PTFE packing with an externally adjustable packing nut.

C. Water faucets and valves must be fully assembled and individually tested at 80 pounds per square inch (PSI) water pressure.

APPLICABLE CODES & STANDARDS

a. SEFA 3 – Scientific Equipment and Furniture Association

b. SEFA 8 - Scientific Equipment and Furniture Association

c. NFPA 30 - National Fire Protection Association

d. NFPA-45 - National Fire Protection Association

e. UL - Underwriters Laboratories

f. ASTM D552 – Bending Test

BOQ (Tentative)

Changes, if any, may be highlighted by the bidder

LAB FUMEHOOD AND ACCESSORIES

SL NO.	DESCRIPTION	UNIT	QTY
	BIOTECHNOLOGY LAB-3		
	4 FEET BENCHTOP FUMEHOOD		
1	4 FEET BENCHTOP HOOD S=SWINGING TYPE FRONT PANEL COMBINATION SASH, SASH OPENING 28", 36" INTERNAL DEPTH, 48" LENGTH, PHENOLIC RESIN LINER, WITH INSERT TYPE WORKTOP	Nos.	1
2	PP CUPSINK 3x6x4	Nos.	1
3	BASE MOLDING 4 FT.	Nos.	2
4	FUMEHOOD ELECTRICAL SYSTEM-2+2 NOS 6/16A SOCKETS WITH SWITCH & 01 NOS 32A 3 PHASE INDUSTRIAL SOCKET, NON FLAME PROOF LIGHT FIXTURE ALONG WITH LED & 15 INTENSITY WITH 3 COLOR SETTINGS CONTROL SWITCH, FUMEHOOD DB AND INTERNAL WIRING WITHIN THE HOOD	Nos.	1
5	FUME HOOD MICROPROCESSOR BASED AIRFLOW MONITOR AND ALARM -VERTICAL - C/W SM7 SENSOR, SUITABLE POWER ADAPTOR	Nos.	1
6	FUMEHOOD FRONT CONTROL VALVE FOR COMPRESSED AIR	Nos.	1
7	FUMEHOOD FRONT CONTROL VALVE FOR NITROGEN	Nos.	1
8	FUMEHOOD FRONT CONTROL VALVE FOR RAW WATER	Nos.	1
9	FUMEHOOD FRONT CONTROL VALVE FOR VACUUM	Nos.	1
10	FUMEHOOD SS304 INTERNAL TUBING UNTIL 150MM ABOVE THE HOOD WITH CAPPED END (1/2 FOR RW,VA, 1/2 WITH INSULATION CWI,CWO, 1/4 FOR N2,CA)	Nos.	4
11	BASE UNIT FH ACID 2 DOOR-35Hx22Dx48L	Nos.	1
12	4 FT FUME HOOD CEILING ENCLOSURE WITH ACCESS DOOR, SIZE:18H x 36D x 48L,	Nos.	1
13	EPOXY LATTICE ASSMBLY FOR 4' BENCHTOP FUMEHOOD	Nos.	1
14	4 FEET BENCH TOP FUME HOOD INSERT TYPE GRANITE WORKTOP.	Nos.	1
	6 FEET BENCHTOP FUMEHOOD		
1	6 FEET BENCHTOP HOOD S=SWINGING TYPE FRONT PANEL COMBINATION SASH, SASH OPENING 28", 36" INTERNAL DEPTH, 72" LENGTH, PHENOLIC RESIN LINER, WITH INSERT TYPE WORKTOP	Nos.	1
2	32A THREE PHASE 5 PIN METAL TYPE INDUSTRIAL SOCKET WITH PLUG TOP & 32A TP MCB.	Nos.	1
3	PP CUPSINK 3x6x4	Nos.	1
4	BASE MOLDING 4 FT.	Nos.	4
5	FUMEHOOD ELECTRICAL SYSTEM-2+2 NOS 6/16A SOCKETS WITH SWITCH & 01 NOS 32A 3 PHASE INDUSTRIAL SOCKET, NON FLAME PROOF LIGHT FIXTURE ALONG WITH LED & 15 INTENSITY WITH 3 COLOR SETTINGS CONTROL SWITCH, FUMEHOOD DB AND INTERNAL WIRING WITHIN THE HOOD	Nos.	1

6	FUME HOOD MICROPROCESSOR BASED AIRFLOW MONITOR AND ALARM -VERTICAL - C/W SM7 SENSOR, SUITABLE POWER ADAPTOR	Nos.	1
7	FUMEHOOD FRONT CONTROL VALVE FOR COMPRESSED AIR	Nos.	1
8	FUMEHOOD FRONT CONTROL VALVE FOR NITROGEN	Nos.	1
9	FUMEHOOD FRONT CONTROL VALVE FOR RAW WATER	Nos.	1
10	FUMEHOOD FRONT CONTROL VALVE FOR VACUUM	Nos.	1
11	FUMEHOOD SS304 INTERNAL TUBING UNTIL 150MM ABOVE THE HOOD WITH CAPPED END (1/2 FOR RW,VA, 1/2 WITH INSULATION CWI,CWO, 1/4 FOR N2,CA)	Nos.	4
12	BASE UNIT FH SOLVENT 2 DOOR-35Hx22Dx36L	Nos.	1
13	BASE UNIT FH ACID 2 DOOR-35Hx22Dx36L	Nos.	1
14	6 FT FUME HOOD CEILING ENCLOSURE WITH ACCESS DOOR, SIZE:18H x 36D x 72L,	Nos.	1
15	EPOXY LATTICE ASSMBLY FOR 6' BENCHTOP FUMEHOOD	Nos.	1
16	6 FEET BENCH TOP FUME HOOD INSERT TYPE GRANITE WORKTOP.	Nos.	1
	TOTAL OF ANNEXURE		

LAB FURNITURE AND ACCESSORIES

SL NO.	DESCRIPTION	UNIT	QTY
	BIOTECHNOLOGY LAB-1		
1	6/16A, 3M, BENCH MOUNT, SOCKET & SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	6
2	6/16A, 3M, BENCH MOUNT SOCKET & SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	6
3	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	6
4	DOUBLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	3
5	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	3
6	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	3
7	DOUBLE SIDE SOCKET BOX 04Hx08Dx06L	Nos.	6
8	BASE MOLDING 4 FT.	Nos.	18
9	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	94
10	SERVICE ENCLOSURE -12x6x112	Nos.	1
11	GRANITE SKIRTING. 4x1	Rft	4
12	**BIOTECHNOLOGY LAB-2**		
13	6/16A, 3M, BENCH MOUNT, SOCKET & SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	24
14	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	3
15	6/16A, 3M, BENCH MOUNT SOCKET & SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	24
16	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	2
17	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	25
18	DOUBLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	12
19	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
20	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	12

21	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	12
22	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx36L	Nos.	3
23	DOUBLE SIDE SOCKET BOX 04Hx08Dx06L	Nos.	24
24	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	5
25	ALPHA 12IN PARTITION SYSTEM, ISLAND MODULE W/UPPER CARRIER, ELEC C/O, OPEN ACCESS, 37INH X 12IND X 54INL	Nos.	3
26	ALPHA 12IN PARTITION SYSTEM, ISLAND MODULE W/UPPER CARRIER, ELEC C/O, OPEN ACCESS, 37INH X 12IND X 60INL	Nos.	9
27	UPPER HANGING BRACKET, 24L	Nos.	6
28	UPPER HANGING BRACKET, 30L	Nos.	42
29	BASE MOLDING 4 FT.	Nos.	70
30	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	368
31	SERVICE ENCLOSURE -12x6x112	Nos.	4
32	GRANITE SKIRTING. 4x1	Rft	30
33	WALL UNIT SWINGING GLAZED - 24Hx16Dx24L	Nos.	3
34	WALL UNIT SWINGING GLAZED - 24Hx16Dx24L	Nos.	3
35	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	44
36	**BIOTECHNOLOGY LAB-3**		
37	6/16A, 3M, BENCH MOUNT, SOCKET & SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	30
38	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	4
39	6/16A, 3M, BENCH MOUNT SOCKET & SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	30
40	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	3
41	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	4
42	BIO SAFETY INTERNAL PIPING FOR 1NO SERVICE	Nos.	2
43	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	4
44	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	30
45	DOUBLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	3
46	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	20
47	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	19
48	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx36L	Nos.	3
49	DOUBLE SIDE SOCKET BOX 04Hx08Dx06L	Nos.	6
50	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	7
51	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	4
52	ALPHA 12IN PARTITION SYSTEM, ISLAND MODULE W/UPPER CARRIER, ELEC C/O, OPEN ACCESS, 47INH X 12IND X 66INL	Nos.	12
53	UPPER HANGING BRACKET, 30L	Nos.	24
54	UPPER HANGING BRACKET, 36L	Nos.	24
55	Alpha 12in Partition System, Module Ledge, Upper Carrier, Granite top, 1inH x 12inD x 66inL	Nos.	12
56	BASE MOLDING 4 FT.	Nos.	116
57	TALL UNIT CEILING ENCLOSURE ASSEMBLY 24Hx22Dx30L	Nos.	2
58	BASE UNIT SINK 2 DOOR-35Hx22Dx58L,	Nos.	4
59	SAFETY CABINET FOR SOLVENT STORAGE 90 GAL (FM)(SELF CLOSE) SIZE: 65(H)x34(D)x43(L).	Nos.	1

60	THE INTERCEPTOR CLASS II, A2 BIOLOGICAL SAFETY CABINET WITH MANUAL ADJUSTMENT STAND OF L=1400MM, D=815MM, H=1610MM WITH 1+1 NO 230 V ELECTRICAL SOCKETS WITH FLAP	Nos.	2
61	BIOSAFETY CABINET CASTER SET 102MM (40) (DURATEX PHENOLIC WHEEL WITH FRONT LOCKING WHEELS)	Nos.	2
62	BIOSAFETY CABINET UV GERMICIDAL LIGHT	Nos.	2
63	PANEL MOUNTED SERVICE FITTING FOR GAS	Nos.	2
64	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	556
65	MS STAND FOR SAFETY CABINETS SIZE=126MM (H) x 863mm(D) x 1092mm(L) , EXACT DIMENSION AS PER SAFETY CABINET SIZE	Nos.	1
66	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	4
67	WASTE, 1 1/2" BSP X 76mm	Nos.	4
68	ANTI SIPHON BOTTLE TRAP	Nos.	4
69	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	4
70	TALL UNIT SWINGING GLAZED - 84Hx22Dx36L	Nos.	1
71	TALL UNIT SWINGING PANEL DOOR WITH BOTTOM LOUVERS & VENT HOLE, PHENOLIC RESIN LINER INSIDE, WITH 5 NOS. 16mm THICK PHENOLIC SHELVES- 84Hx22Dx30L	Nos.	2
72	SERVICE ENCLOSURE -12x6x112	Nos.	6
73	GRANITE SKIRTING. 4x1	Rft	42
74	SLOPING TOP -14Hx22Dx36L	Nos.	1
75	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	24
76	WALL UNIT SWINGING GLAZED - 24Hx16Dx36L	Nos.	24
77	**CELL CULTURE LAB-1**		
78	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	2
79	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
80	BIO SAFETY INTERNAL PIPING FOR 1NO SERVICE	Nos.	1
81	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
82	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
83	BASE UNIT 1 DOOR 1 DRAWER-29Hx22Dx24L	Nos.	1
84	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	2
85	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	3
86	BASE MOLDING 4 FT.	Nos.	10
87	THE INTERCEPTOR CLASS II, A2 BIOLOGICAL SAFETY CABINET WITH MANUAL ADJUSTMENT STAND OF L=1400MM, D=815MM, H=1610MM WITH 1+1 NO 230 V ELECTRICAL SOCKETS WITH FLAP	Nos.	1
88	BIOSAFETY CABINET CASTER SET 102MM (40) (DURATEX PHENOLIC WHEEL WITH FRONT LOCKING WHEELS)	Nos.	1
89	BIOSAFETY CABINET UV GERMICIDAL LIGHT	Nos.	1
90	PANEL MOUNTED SERVICE FITTING FOR GAS	Nos.	1
91	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	36
92	SERVICE ENCLOSURE -12x6x112	Nos.	1
93	GRANITE SKIRTING. 4x1	Rft	20
94	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
95	**CELL CULTURE LAB-2**		
96	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	1

97	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
98	BIO SAFETY INTERNAL PIPING FOR 1NO SERVICE	Nos.	1
99	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
100	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
101	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	3
102	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	2
103	BASE MOLDING 4 FT.	Nos.	10
104	THE INTERCEPTOR CLASS II, A2 BIOLOGICAL SAFETY CABINET WITH MANUAL ADJUSTMENT STAND OF L=1400MM, D=815MM, H=1610MM WITH 1+1 NO 230 V ELECTRICAL SOCKETS WITH FLAP	Nos.	1
105	BIOSAFETY CABINET CASTER SET 102MM (40) (DURATEX PHENOLIC WHEEL WITH FRONT LOCKING WHEELS)	Nos.	1
106	BIOSAFETY CABINET UV GERMICIDAL LIGHT	Nos.	1
107	PANEL MOUNTED SERVICE FITTING FOR GAS	Nos.	1
108	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	36
109	SERVICE ENCLOSURE -12x6x112	Nos.	1
110	GRANITE SKIRTING. 4x1	Rft	16
111	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
112	**CLEAN ROOM**		
113	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	2
114	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	2
115	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	2
116	BASE UNIT 2 DOOR-35Hx22Dx30L,	Nos.	3
117	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	1
118	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	2
119	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	2
120	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	2
121	BASE MOLDING 4 FT.	Nos.	10
122	BASE UNIT SINK 2 DOOR-35Hx22Dx30L,	Nos.	2
123	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	72
124	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	2
125	WASTE, 1 1/2" BSP X 76mm	Nos.	2
126	ANTI SIPHON BOTTLE TRAP	Nos.	2
127	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	2
128	SERVICE ENCLOSURE -12x6x112	Nos.	1
129	GRANITE SKIRTING. 4x1	Rft	36
130	**DRYING/WASHING ROOM WASHING ROOM**		
131	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	2
132	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	2
133	BASE UNIT 2 DOOR-35Hx22Dx30L,	Nos.	3
134	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	2
135	BASE MOLDING 4 FT.	Nos.	6
136	BASE UNIT SINK 2 DOOR-35Hx22Dx30L	Nos.	2
137	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	34

138	OPEN RACK WITH 5 SHELVES ,SIZE: 84Hx22Dx36L WITH 4 SIDE METAL LIPPING.	Nos.	1
139	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	2
140	WASTE, 1 1/2" BSP X 76mm	Nos.	2
141	ANTI SIPHON BOTTLE TRAP	Nos.	2
142	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	2
143	SERVICE ENCLOSURE -12x6x112	Nos.	1
144	GRANITE SKIRTING. 4x1	Rft	18
145	**PHOTOGRAPHY ROOM**		
146	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
147	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
148	BASE UNIT 2 DOOR-35Hx22Dx30L,	Nos.	1
149	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx18L	Nos.	1
150	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
151	BASE MOLDING 4 FT.	Nos.	4
152	BASE UNIT SINK 2 DOOR-35Hx22Dx30L,	Nos.	1
153	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	18
154	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
155	WASTE, 1 1/2" BSP X 76mm	Nos.	1
156	ANTI SIPHON BOTTLE TRAP	Nos.	1
157	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
158	SERVICE DROPPER OF SIZE: 4x4x112	Nos.	1
159	GRANITE SKIRTING. 4x1	Rft	12
160	**RT-PCR**		
161	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	1
162	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
163	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
164	BASE UNIT 2 DOOR-35Hx22Dx30L,	Nos.	1
165	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	1
166	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	1
167	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
168	BASE MOLDING 4 FT.	Nos.	8
169	BASE UNIT SINK 2 DOOR-35Hx22Dx30L,	Nos.	1
170	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	36
171	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
172	WASTE, 1 1/2" BSP X 76mm	Nos.	1
173	ANTI SIPHON BOTTLE TRAP	Nos.	1
174	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
175	SERVICE ENCLOSURE -12x6x112	Nos.	1
176	GRANITE SKIRTING. 4x1	Rft	16
177	**SL01**		
178	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	2

179	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
180	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
181	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
182	BASE UNIT 1 DOOR-35Hx22Dx24L,	Nos.	1
183	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
184	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
185	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	3
186	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	3
187	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
188	BASE MOLDING 4 FT.	Nos.	10
189	BASE UNIT SINK 2 DOOR-35Hx22Dx30L,	Nos.	1
190	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	82
191	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
192	WASTE, 1 1/2" BSP X 76mm	Nos.	1
193	ANTI SIPHON BOTTLE TRAP	Nos.	1
194	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
195	SERVICE DROPPER OF SIZE: 4x4x112	Nos.	2
196	GRANITE SKIRTING. 4x1	Rft	44
197	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
198	**SL02**		
199	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	4
200	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
201	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
202	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
203	BASE UNIT 1 DOOR-35Hx22Dx24L,	Nos.	1
204	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
205	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
206	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	4
207	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	5
208	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
209	BASE MOLDING 4 FT.	Nos.	10
210	BASE UNIT SINK 2 DOOR-35Hx22Dx30L,	Nos.	1
211	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	82
212	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
213	WASTE, 1 1/2" BSP X 76mm	Nos.	1
214	ANTI SIPHON BOTTLE TRAP	Nos.	1
215	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
216	SERVICE DROPPER OF SIZE: 4x4x112	Nos.	2
217	GRANITE SKIRTING. 4x1	Rft	44
218	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
219	**SL03**		

220	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	3
221	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
222	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
223	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
224	BASE UNIT 1 DOOR-35Hx22Dx24L,	Nos.	1
225	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
226	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
227	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx18L	Nos.	1
228	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	2
229	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	1
230	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	4
231	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
232	BASE MOLDING 4 FT.	Nos.	10
233	BASE UNIT SINK 2 DOOR-35Hx22Dx30L,	Nos.	1
234	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	82
235	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
236	WASTE, 1 1/2" BSP X 76mm	Nos.	1
237	ANTI SIPHON BOTTLE TRAP	Nos.	1
238	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
239	SERVICE DROPPER OF SIZE: 4x4x112	Nos.	2
240	GRANITE SKIRTING. 4x1	Rft	40
241	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
242	**SL04**		
243	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	4
244	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
245	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
246	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
247	BASE UNIT 1 DOOR-35Hx22Dx24L,	Nos.	1
248	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
249	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
250	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	4
251	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	5
252	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
253	BASE MOLDING 4 FT.	Nos.	10
254	BASE UNIT SINK 2 DOOR-35Hx22Dx30L,	Nos.	1
255	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	82
256	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
257	WASTE, 1 1/2" BSP X 76mm	Nos.	1
258	ANTI SIPHON BOTTLE TRAP	Nos.	1
259	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1

260	SERVICE DROPPER OF SIZE: 4x4x112	Nos.	2
261	GRANITE SKIRTING. 4x1	Rft	44
262	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
263	**SL05**		
264	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	4
265	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
266	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
267	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
268	BASE UNIT 1 DOOR-35Hx22Dx24L,	Nos.	1
269	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
270	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
271	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	4
272	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	5
273	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
274	BASE MOLDING 4 FT.	Nos.	10
275	BASE UNIT SINK 2 DOOR-35Hx22Dx30L,	Nos.	1
276	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	82
277	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
278	WASTE, 1 1/2" BSP X 76mm	Nos.	1
279	ANTI SIPHON BOTTLE TRAP	Nos.	1
280	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
281	SERVICE DROPPER OF SIZE: 4x4x112	Nos.	2
282	GRANITE SKIRTING. 4x1	Rft	42
283	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
284	**SL06**		
285	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	3
286	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
287	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
288	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
289	BASE UNIT 1 DOOR-35Hx22Dx24L,	Nos.	1
290	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
291	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
292	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	3
293	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	1
294	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	4
295	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
296	BASE MOLDING 4 FT.	Nos.	10
297	BASE UNIT SINK 2 DOOR-35Hx22Dx30L,	Nos.	1
298	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	82
299	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
300	WASTE, 1 1/2" BSP X 76mm	Nos.	1

301	ANTI SIPHON BOTTLE TRAP	Nos.	1
302	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
303	SERVICE DROPPER OF SIZE: 4x4x112	Nos.	2
304	GRANITE SKIRTING. 4x1	Rft	40
305	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
306	**SL07**		
307	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	1
308	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
309	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
310	BASE UNIT 2 DOOR-35Hx22Dx36L,	Nos.	1
311	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	1
312	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
313	BASE MOLDING 4 FT.	Nos.	6
314	BASE UNIT SINK 2 DOOR-35Hx22Dx30L,	Nos.	1
315	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	32
316	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
317	WASTE, 1 1/2" BSP X 76mm	Nos.	1
318	ANTI SIPHON BOTTLE TRAP	Nos.	1
319	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
320	SERVICE ENCLOSURE -12x6x112	Nos.	1
321	GRANITE SKIRTING. 4x1	Rft	16
322	**SL08**		
323	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	5
324	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
325	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
326	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
327	BASE UNIT 2 DOOR-35Hx22Dx36L,	Nos.	1
328	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
329	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
330	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx18L	Nos.	1
331	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	1
332	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	1
333	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx36L	Nos.	1
334	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	6
335	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
336	BASE MOLDING 4 FT.	Nos.	10
337	BASE UNIT SINK 2 DOOR-35Hx22Dx30L,P= WITH PP TRAY	Nos.	1
338	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	80
339	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
340	WASTE, 1 1/2" BSP X 76mm	Nos.	1
341	ANTI SIPHON BOTTLE TRAP	Nos.	1

342	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
343	SERVICE ENCLOSURE -12x6x112	Nos.	1
344	GRANITE SKIRTING. 4x1	Rft	40
345	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
346	**SL09**		
347	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	5
348	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
349	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
350	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
351	BASE UNIT 2 DOOR-35Hx22Dx36L,	Nos.	1
352	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
353	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
354	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx18L	Nos.	1
355	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	1
356	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	1
357	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx36L	Nos.	1
358	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	6
359	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
360	BASE MOLDING 4 FT.	Nos.	10
361	BASE UNIT SINK 2 DOOR-35Hx22Dx30L	Nos.	1
362	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	80
363	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
364	WASTE, 1 1/2" BSP X 76mm	Nos.	1
365	ANTI SIPHON BOTTLE TRAP	Nos.	1
366	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
367	SERVICE ENCLOSURE -12x6x112	Nos.	1
368	GRANITE SKIRTING. 4x1	Rft	40
369	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
370	**SL10**		
371	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	5
372	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
373	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
374	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
375	BASE UNIT 2 DOOR-35Hx22Dx36L,	Nos.	1
376	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
377	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
378	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx18L	Nos.	1
379	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	1
380	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	1
381	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx36L	Nos.	1

382	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	6
383	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
384	BASE MOLDING 4 FT.	Nos.	10
385	BASE UNIT SINK 2 DOOR-35Hx22Dx30L,	Nos.	1
386	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	80
387	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
388	WASTE, 1 1/2" BSP X 76mm	Nos.	1
389	ANTI SIPHON BOTTLE TRAP	Nos.	1
390	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
391	SERVICE ENCLOSURE -12x6x112	Nos.	1
392	GRANITE SKIRTING. 4x1	Rft	40
393	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
394	**SL11**		
395	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	5
396	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
397	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
398	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
399	BASE UNIT 2 DOOR-35Hx22Dx36L,	Nos.	1
400	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
401	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
402	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx18L	Nos.	1
403	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	1
404	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	1
405	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx36L	Nos.	1
406	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	6
407	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
408	BASE MOLDING 4 FT.	Nos.	10
409	BASE UNIT SINK 2 DOOR-35Hx22Dx30L,	Nos.	1
410	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	80
411	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
412	WASTE, 1 1/2" BSP X 76mm	Nos.	1
413	ANTI SIPHON BOTTLE TRAP	Nos.	1
414	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
415	SERVICE ENCLOSURE -12x6x112	Nos.	1
416	GRANITE SKIRTING. 4x1	Rft	40
417	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
418	**SL12**		
419	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	6
420	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
421	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
422	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1

423	BASE UNIT 2 DOOR-35Hx22Dx30L	Nos.	1
424	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
425	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
426	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	4
427	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	7
428	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
429	BASE MOLDING 4 FT.	Nos.	14
430	BASE UNIT SINK 2 DOOR-35Hx22Dx30L	Nos.	1
431	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	90
432	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
433	WASTE, 1 1/2" BSP X 76mm	Nos.	1
434	ANTI SIPHON BOTTLE TRAP	Nos.	1
435	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
436	SERVICE ENCLOSURE -12x6x112	Nos.	1
437	GRANITE SKIRTING. 4x1	Rft	44
438	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
439	**SL13**		
440	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	5
441	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
442	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
443	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
444	BASE UNIT 2 DOOR-35Hx22Dx30L	Nos.	1
445	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
446	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
447	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx18L	Nos.	1
448	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	3
449	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	6
450	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
451	BASE MOLDING 4 FT.	Nos.	14
452	BASE UNIT SINK 2 DOOR-35Hx22Dx30L	Nos.	1
453	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	90
454	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
455	WASTE, 1 1/2" BSP X 76mm	Nos.	1
456	ANTI SIPHON BOTTLE TRAP	Nos.	1
457	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
458	SERVICE ENCLOSURE -12x6x112	Nos.	1
459	GRANITE SKIRTING. 4x1	Rft	44
460	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
461	**SL14**		
462	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	5
463	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1

464	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
465	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
466	BASE UNIT 2 DOOR-35Hx22Dx30L	Nos.	1
467	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
468	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
469	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx18L	Nos.	1
470	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	3
471	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	5
472	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
473	BASE MOLDING 4 FT.	Nos.	14
474	BASE UNIT SINK 2 DOOR-35Hx22Dx30L	Nos.	1
475	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	90
476	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
477	WASTE, 1 1/2" BSP X 76mm	Nos.	1
478	ANTI SIPHON BOTTLE TRAP	Nos.	1
479	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
480	SERVICE ENCLOSURE -12x6x112	Nos.	1
481	GRANITE SKIRTING. 4x1	Rft	44
482	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
483	**SL15**		
484	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	5
485	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
486	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
487	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
488	BASE UNIT 2 DOOR-35Hx22Dx30L	Nos.	1
489	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
490	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
491	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx18L	Nos.	1
492	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	3
493	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	6
494	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
495	BASE MOLDING 4 FT.	Nos.	14
496	BASE UNIT SINK 2 DOOR-35Hx22Dx30L	Nos.	1
497	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	90
498	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
499	WASTE, 1 1/2" BSP X 76mm	Nos.	1
500	ANTI SIPHON BOTTLE TRAP	Nos.	1
501	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
502	SERVICE ENCLOSURE -12x6x112	Nos.	1
503	GRANITE SKIRTING. 4x1	Rft	44
504	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
505	**SL16**		

506	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	5
507	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
508	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
509	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
510	BASE UNIT 2 DOOR-35Hx22Dx30L	Nos.	1
511	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
512	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
513	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx18L	Nos.	1
514	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	3
515	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	5
516	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
517	BASE MOLDING 4 FT.	Nos.	14
518	BASE UNIT SINK 2 DOOR-35Hx22Dx30L	Nos.	1
519	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	90
520	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
521	WASTE, 1 1/2" BSP X 76mm	Nos.	1
522	ANTI SIPHON BOTTLE TRAP	Nos.	1
523	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
524	SERVICE ENCLOSURE -12x6x112	Nos.	1
525	GRANITE SKIRTING. 4x1	Rft	44
526	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
527	**SL17**		
528	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	5
529	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
530	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
531	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
532	BASE UNIT 2 DOOR-35Hx22Dx30L	Nos.	1
533	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
534	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
535	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx18L	Nos.	1
536	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	3
537	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	6
538	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
539	BASE MOLDING 4 FT.	Nos.	14
540	BASE UNIT SINK 2 DOOR-35Hx22Dx30L	Nos.	1
541	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	90
542	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
543	WASTE, 1 1/2" BSP X 76mm	Nos.	1
544	ANTI SIPHON BOTTLE TRAP	Nos.	1
545	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1

546	SERVICE ENCLOSURE -12x6x112	Nos.	1
547	GRANITE SKIRTING. 4x1	Rft	44
548	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
549	**SL18**		
550	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	3
551	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
552	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
553	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
554	BASE UNIT 1 DOOR-35Hx22Dx24L	Nos.	1
555	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
556	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
557	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx18L	Nos.	1
558	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	2
559	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx36L	Nos.	1
560	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	4
561	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
562	BASE MOLDING 4 FT.	Nos.	14
563	BASE UNIT SINK 2 DOOR-35Hx22Dx30L	Nos.	1
564	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	88
565	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
566	WASTE, 1 1/2" BSP X 76mm	Nos.	1
567	ANTI SIPHON BOTTLE TRAP	Nos.	1
568	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
569	SERVICE DROPPER OF SIZE: 4x4x112	Nos.	2
570	GRANITE SKIRTING. 4x1	Rft	42
571	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
572	**SL19**		
573	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	5
574	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
575	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
576	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
577	BASE UNIT 1 DOOR-35Hx22Dx24L	Nos.	1
578	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
579	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
580	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	2
581	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	1
582	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	2
583	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	6
584	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
585	BASE MOLDING 4 FT.	Nos.	14
586	BASE UNIT SINK 2 DOOR-35Hx22Dx30L	Nos.	1

587	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	84
588	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
589	WASTE, 1 1/2" BSP X 76mm	Nos.	1
590	ANTI SIPHON BOTTLE TRAP	Nos.	1
591	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
592	SERVICE DROPPER OF SIZE: 4x4x112	Nos.	2
593	GRANITE SKIRTING. 4x1	Rft	40
594	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
595	**SL20**		
596	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	5
597	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
598	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
599	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
600	BASE UNIT 1 DOOR-35Hx22Dx24L	Nos.	1
601	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
602	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
603	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	3
604	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	1
605	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx36L	Nos.	1
606	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	6
607	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
608	BASE MOLDING 4 FT.	Nos.	14
609	BASE UNIT SINK 2 DOOR-35Hx22Dx30L	Nos.	1
610	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	84
611	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
612	WASTE, 1 1/2" BSP X 76mm	Nos.	1
613	ANTI SIPHON BOTTLE TRAP	Nos.	1
614	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
615	SERVICE DROPPER OF SIZE: 4x4x112	Nos.	2
616	GRANITE SKIRTING. 4x1	Rft	42
617	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
618	**SL21**		
619	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	5
620	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
621	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
622	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
623	BASE UNIT 1 DOOR-35Hx22Dx24L	Nos.	1
624	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
625	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1

626	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	2
627	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	1
628	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	1
629	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx36L	Nos.	1
630	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	6
631	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
632	BASE MOLDING 4 FT.	Nos.	14
633	BASE UNIT SINK 2 DOOR-35Hx22Dx30L	Nos.	1
634	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	84
635	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
636	WASTE, 1 1/2" BSP X 76mm	Nos.	1
637	ANTI SIPHON BOTTLE TRAP	Nos.	1
638	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
639	SERVICE DROPPER OF SIZE: 4x4x112	Nos.	2
640	GRANITE SKIRTING. 4x1	Rft	42
641	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
642	**SL22**		
643	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	5
644	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
645	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
646	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
647	BASE UNIT 1 DOOR-35Hx22Dx24L	Nos.	1
648	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
649	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
650	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	3
651	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	1
652	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx36L	Nos.	1
653	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	6
654	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
655	BASE MOLDING 4 FT.	Nos.	14
656	BASE UNIT SINK 2 DOOR-35Hx22Dx30L	Nos.	1
657	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	84
658	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
659	WASTE, 1 1/2" BSP X 76mm	Nos.	1
660	ANTI SIPHON BOTTLE TRAP	Nos.	1
661	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
662	SERVICE DROPPER OF SIZE: 4x4x112	Nos.	2
663	GRANITE SKIRTING. 4x1	Rft	42
664	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
665	**SL23**		
666	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	5
667	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1

668	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
669	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
670	BASE UNIT 1 DOOR-35Hx22Dx24L	Nos.	1
671	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
672	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
673	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	2
674	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	1
675	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	1
676	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx36L	Nos.	1
677	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	6
678	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
679	BASE MOLDING 4 FT.	Nos.	14
680	BASE UNIT SINK 2 DOOR-35Hx22Dx30L	Nos.	1
681	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	84
682	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
683	WASTE, 1 1/2" BSP X 76mm	Nos.	1
684	ANTI SIPHON BOTTLE TRAP	Nos.	1
685	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
686	SERVICE DROPPER OF SIZE: 4x4x112	Nos.	2
687	GRANITE SKIRTING. 4x1	Rft	42
688	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
689	**SL24**		
690	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (RAW POWER)	Nos.	5
691	6/16A, 6M, BENCH MOUNT, 2NOS OF SOCKET & 2NOS OF SWITCH WITH POLYCARBONATE FRONT PLATE FOR NORMAL AREA (UPS POWER)	Nos.	1
692	ACRYLIC PEG BOARD WITH 23 PEGS WITH SS 316L TRAY, 610L x 610mm(H) WITH 90 DEGREE BEND TUBE UPTO SINK	Nos.	1
693	BENCH MOUNTED 1-WAY WATER FITTING WITH 8" RIGID/SWING GOOSENECK WITH AERATOR FOR RAW WATER	Nos.	1
694	BASE UNIT 1 DOOR-35Hx22Dx24L	Nos.	1
695	CAT 6A INFORMATION OUTLETS WITH POLYCARBONATE I/O FACE PLATE (DATA)	Nos.	1
696	SINGLE SIDE DATA SOCKET BOX, 04Hx04Dx06L	Nos.	1
697	BASE UNIT 1 DOOR 1 DRAWER-35Hx22Dx24L	Nos.	3
698	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx30L	Nos.	1
699	BASE UNIT 2 DOOR 1 DRAWER-35Hx22Dx36L	Nos.	1
700	SINGLE SIDE SOCKET BOX 04Hx04Dx12L,WITH 6 MODULE CUTOUT.	Nos.	6
701	DECK MOUNTED DOUBLE HEAD EYE WASH/DRENCH	Nos.	1
702	BASE MOLDING 4 FT.	Nos.	14
703	BASE UNIT SINK 2 DOOR-35Hx22Dx30L	Nos.	1
704	18/19mm THK. GRANITE WORKTOP IN SFT	Sqft	84
705	PP SINK, SIZE: 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmm	Nos.	1
706	WASTE, 1 1/2" BSP X 76mm	Nos.	1
707	ANTI SIPHON BOTTLE TRAP	Nos.	1
708	REDUCING COUPLER IN PP 51 X 31MM + PP PIPE LENGTHS - ONE FEET LENGTH - DIA. 38MM	Nos.	1
709	SERVICE DROPPER OF SIZE: 4x4x112	Nos.	2

710	GRANITE SKIRTING. 4x1	Rft	40
711	WALL UNIT SWINGING GLAZED - 24Hx16Dx30L	Nos.	2
712	**Block C**		
713	Lab Monitoring system comprises of 10" HMI and IP based controller monitoring and recording Lab Temp, RH, DP, integrate and monitor Fumehoods. Includes required sensor and connecting cables.	Lot	1
	TOTAL OF ANNEXURE		

SI. NO.	CODE	DESCRIPTION	UNIT	QTY
A		**CENTRIFUGAL BLOWER & MOTOR**		
1		Medium Pressure Direct Driven PP Centrifugal Blower CMVeco315 (1600-2600cfm @ 30-120mm static) with clamp adapter, Electro galvanized stand base frame and fasteners.	No	1
1.1		G1 M8x50 bolts with nuts & washer (Motor and Blower pedestal)	No.	8
1.2		Vibration Isolators.	No.	4
1.3		M10x100 pin type anchor fasteners	No.	8
2		Motor 2.2KW/4P(3HP/4P) TEFC B5/Flange mounted 3phase 50Hz, IE2.Terminal box should be on top side. Motor Shall be compatible for VFD Operation. Refer Cluster details.	No.	1
2.1		PP Weather cowl Dia 350 mm. (1.48 sqm).	No.	1
2.2		MS Stack support for CMVeco-315 Model, (Kg:- 90 Kgs).	No.	1
2.3		Motor Guard with accessories for 0.55-5.0HP, refer motor capacity.	No.	1
2.4		25x25x14g thk PP Bird mesh for dia 250 mm Bypass end connection, refer drawing.	No.	1
2.5		Dia 315 mm and 3mm thickness PVC Transparent flexible connection for inlet & outlet of the blower, refer cluster details.	No.	2
B		**PP-FRP DUCTING & ACCESSORIES**		
1		PP-FRP ducting using 3mm thick PPGL sheets 3mm thick FRP lining using isothelic resin including flanges & bends, gasket, support with threaded rod, clamps, anchor fasteners, washer nuts and bolts including UV resistant painting.	Sqm	60
2		MS Support for Ducts like threded rod,anchor bolts,c-chanels, clamps,angles,bolts & nuts.Within Shaft & outside the building.	Kg.	100
3		PP moulded 300mm dia. single leaf Butterfly Manual damper with Both side flanges.Refer drawing.	No.	2
4		PP moulded 250mm dia. single leaf Butterfly Manual damper with Both side flanges.Refer drawing.	No.	1
5		PP moulded 100mm dia. single leaf Butterfly Manual damper with Both side flanges.Refer drawing.	No.	2
6		PVC Coated Collapsable hose 300mm Dia with 350mm Dia Clips.	Rm	3
7		PVC Coated Collapsable hose 100mm Dia with 150mm Dia Clips.	Rm	3
8		Fumehood Base cabinet vent connection & Accessories	Set	2
8.1		40 mm PP Slip x Slip x Slip Tee	No.	2
8.2		40mm CTS Slip x MPT Male Adapter 50mm with Chuck Nut	No.	4
8.3		40mm CTS 90-Degree Slip x Slip Elbow	No.	4

8.4		40mm. x 2500mm PP Exhaust Pipe	No.	2
		TOTAL OF ANNEXURE-III		

	(BOQ For GDS)		
SR. NO.	**Description**	**QTY**	**Unit**
1	Single cylinder fire rated gas cabinet With Cylinder Holding Bracket & Chain (Size 600W X 450D X 2100H)	**2**	**Nos**
2	**Manual Change Over Gas Manifold System**	**2**	**Nos**
	DIAPHRAGM :- STAINLESS STEEL WITH TEFLON SEAL		
	BODY:- BRASS CHROMPLATED		
	DIAPHRAGM :- STAINLESS STEEL WITH TEFLON SEAL		
	INLET PRESSURE :- 0 to 200kg/cm2		
	OUTLET PRESSURE :- 0 to 16kg/cm2		
	Service:-Nitrogen, Zero Air		
	1/4" OD SS Flexible Hose(Internal SS) with Safety Wire, Approx 1.0 Meter length for Hose ends= Tube end fittings	**2**	**Nos**
	1/4" OD SS Check Valves, Cracking pressure-1 PSIG & Tube end fittings. MOC: SS	**2**	**Nos**
	1/4" OD SS 0.5 micron filter , Ends= Tube end fittings	**2**	**Nos**
	Cylinder connection bullnose.	**2**	**Nos**
	Panel Inlet Connectors of size 1/2" or 1/4"	**4**	**Nos**
	Panel Outlet Connectors of size 1/2" or 1/4"	**4**	**Nos**
	Purge Gas Outlet Connectors	**4**	**Nos**
	Safety Relief Valve 1/4" OD	**2**	**Nos**
	Non-Return Valve 1/4" OD	**6**	**Nos**
3	**SS 316 Ball Valves**		
	1/4" OD	**8**	**Nos**
4	**Line Pressure Regulator(Flow rate of 250 LPM)-**Wall Mounting (brackets and accessories), MOC:SS316 ,Inlet Pressure= 14 Bar, Outlet Pressure= 1 to 10 Bar, With Hastelloy/ Alloy X-750 Diaphragm/SS316, Safety Relief Valve, Inlet & Outlet Pressure Gauge & Inlet/Outlet Ports suitable for the flow as mentioned below. **Note : The rate quoted shall include for necessary compression fittings (like unions, reducers, threaded connections) suitable for Pipe OD and inlet/outlet ports of Pressure regulators, mounting brackets and accessories etc**	**2**	**Nos**
5	**SS 316 Tube Fittings(Compression End)**		
	1/4" OD Equal Tee	**8**	**Nos**
6	**SS 316 Tubes (Weldable End)**		
	1/4" OW	**150**	**Mtrs**

7	Supply, laying, joining, testing and commissioning of **CPVC 4120 SDR 11/SCH40 plastic pipe** as per ASTM D-2846/ASTM F 441 pipeline with necessary slope. The rate quoted shall include for (All fittings shall be heavy duty type SCH80 as per ASTM F439)necessary Unions,Reducer,Coupling,Tee, Reducer tee, Elbow, Male adapter, Female adapter, End cap, Brass couplings, Flange, Gaskets, clamps Male/Female Adapter brass threaded coupling, connectors for sink, eyewash, fumehood, Adhesives solution(ASTM F-493), Wall bores cutting through walls, U clamps etc. as per dwg to be considered for all sizes of every 1.5 mts distance. **Note:** Mode of Pipe measurement will be centreline measurement without any additional measurement for bends, Tee, reducers and fittings, supports etc		
	1" dia	**150**	**Mtrs**
	1/2" dia	**600**	**Mtrs**
8	Supply, erection,testing & commissioning of **CPVC ball valves** of approved make as per detailed specification with bolts, nuts, gaskets, washers, etc.		
	1" dia	**6**	**Nos**
	1/2" dia	**70**	**Nos**
9	**Pipe Fittings**		
	Fumehood connectors(CPVC+Brass)	**2**	**Nos**
	Sink connectors(CPVC+Brass)	**35**	**Nos**
	Eyewash connectors(CPVC+Brass)	**35**	**Nos**
10	Supply of Stainless Steel Grease/Chemical trap of size 24x18x18 with inbuilt filter basket system, along with inlet and outlet flexible hoses that has to be connected from sink bottle trap to trap and dropping to floor/core-cut, with necessary faucet and inner seal ring system, tapes and other required accessories for complete set-up.	**37**	**Set**
11	**Box Clamp Unistrut Rail, PP Clamp With Rail Nut**(For all size of tubes as per BOQ), STAUFF Clamp Rail Channel PP End Caps, M10 GI Threaded Rod, M10 GI Plane Washer & nut, M10 GI Anchor Bolt For Threaded Rod, Channel GI ,MS ISA , Anchored Plate MS(IS 2062 steel), M12 Bolts, Nuts & Expansion Bolts (High tension HILTI)with red oxide painting one coat & 2 coat epoxy painting including drilling, wall bores, cutting through walls, fixing support, welding, cutting etc. The rate quoted shall include for all above mentioned items & accessories. **Note:** Mode of measurement will be centerline measurement Unistrut rail without any additional measurement for mentioned items	**1**	**Lot**
12	**Gas Leak Detection & Low Gas Annunciation System**		
	GMS Panel- 4 channel with display along with inbuilt hooter and alarm system.	**1**	**Nos**
	O2 Detectors with Mounting Bracket (Non-Flame proof)	**2**	**Nos**
	LGA Panel wall mounted 10 channel	**1**	**Nos**
	Contact gauges	**2**	**Nos**
	Cable 3 Core 1.5 Sq.mm	**150**	**Mtrs**
	Cable 2 Core 1.5 Sq.mm	**150**	**Mtrs**
	Explosion proof cable gland	**6**	**Nos**
	Junction box	**2**	**Nos**
	Cable Tray along with stud rods, anchor bolts, washers, clamps, nuts and complete accessories	**1**	**Lot**
	Total		

(BOQ For Electrical)

Sr.No.	Description	Units	Quantity
1.0	**LT CABLES & END TERMINATIONS**		
	Note : Quantity given in the BOQ are tentatvive Vendor/Contaractor to procure the Material as per the actual site requirement, and the same will be considered in JMS.		
	1.1 kV grade armoured XLPE sheathed, aluminium / Copper conductor, power cables. The cables shall be laid in tray /hume pipe /in ready made trenches etc., as required. Rate shall exclude cost of tray/hume pipe/trench. Cables will not be procured based on BOQ only. True measurements will be taken by CONTRACTOR before ordering, based on Site. The make of the cables shall be as per approved make of materials.		
	Manufacturing Standards: IS 9968-1, 7098, BS 6724& 7655, IEC 60502, 60332, 60754, IEEE 383 and ASTM D - 2843& D 2863.		
	Testing of cables as per IS 10810 with latest amendment		
	Voltage Grade : 650. - 1100Volts		
	Operating voltgae of system : 380-10% to 480+10%		
	Cable shall be clamped using metal clamps and interspacing distance for clamping the cables are 1.2m. No PV tie shall be used.		
	Conductor Material: Al/Cu.		
	Conductor Type : Class II		
	Insulation material :XLPE		
	Armouring : Round wire armour for cables upto 10 sq.mm and above 10 sq.mm GI Strip armour.		
	Outer sheath : Extruded ST2		
	Temperature rise limit : 90 Deg C		
	Max. Permissible Conductor temperature during short circuit: 250 Deg C		
	ARMORED **FRLS -** CABLES MAKE SHALL BE AS PER MAKE OF METERIAL SUBMITTED ALONG WITH TENDER.		
	End Termination (All end terminations for cables to be of brazz double compression .)		
	All metal Glands shall be properley earthed using circlips and quote shall also include the cost of the gland earthing.		
1.1	**Cu. Ar. XLPE Cables**		
1.1.1a	3C x 2.5 Sqmm FRLS Flexible cable.	Mtrs.	800
1.1.1b	End terminations	Nos.	100
1.1.2a	3C x 4 Sqmm FRLS Flexible cable.	Mtrs.	4,800
1.1.2b	End terminations	Nos.	1,200

1.1.3a	3C x 6 Sqmm FRLS Flexible cable.	Mtrs.	650
1.1.3b	End terminations	Nos.	20
1.1.11a	4C x 6 Sqmm FRLS Flexible cable.	Mtrs.	300
1.1.11b	End terminations	Nos.	50
1.1.12a	4C x 10 Sqmm FRLS Flexible cable.	Mtrs.	150
1.1.12b	End terminations	Nos.	50
1.1.13a	4C x 16 Sqmm FRLS Flexible cable.	Mtrs.	800
1.1.13b	End terminations	Nos.	18
2.0	**EARTHING SYSTEM**		
	MAT EARTHING		
2.1	25 x 3mm GI flat	Mtrs	630
2.2	1 Core, 6 Sqmm FRLS Cable. (Green) (Un Armoured)- EARTHING	Mtrs	2,200

3.0	**DISTRIBUTION BOARDS**		
	RPDB / UPSDB		
3.1	**RPDB- 3 Phase with Sub incomer**		
	Incoming: 1 No. 63A, TPN MCB.		
	Sub incomer: 3 No. 40A, DP, RCBO (300mA)		
	Outgoing: 36Nos. 16/20A ,SP, MCB	Nos	5
3.2	**UPSDB 3 Phase with Sub incomer**		
	Incoming: 1 No. 63A, TPN MCB.		
	Sub incomer: 3 No. 40A, DP, RCBO (300mA)		
	Outgoing: 36Nos. 16/20A ,SP, MCB	Nos	3
	VTPN DB		
3.3	**LAB VTPNDB - 3 Phase.**		
	Incoming: 1 No. 160A, 4P, MCCB.		
	Outgoing: 12 Nos. 16/20/32/63A TP MCB	Nos	1
4.0	**INTERNAL ELECTRICAL WORKS**		
	Point wiring using (3C x 1.5) Sqmm 1100V grade stranded **FRLS cable** of approved make drawn in 25mm dia PVC conduit of approved make including all conduit accessories such as bends, junction boxes etc., complete. The wiring shall be done in complete looping in system. The switches used shall be moulded fixed in factory made integral GI box units with clear earthing facility.The wiring shall be complete with ceiling junction box, switches and all consumables. rate shall includes the GI box earthing using 1.5sqmm FRLS cable.		

	Supply, Installation, Testing & Commissioning of light points using necessary materials like 25mm dia **PVC FRLS Conduit for concealed/Surface**, 3C x 1.5 sqmm FRLS category & insulated MSCC wires, **10/16A switch with Polycarbonate face plate**, 16G GI box and other point wiring accessories & carrying out surface wiring. The rate shall include earthing of all points. The quoted rates shall also include PVC flexible & all accessories, tools, labour etc. No separate payment will be made for wall chasing. The rate shall include looping between points. The wiring size is limited to lighting circuits (Max.800W). All accessories shall be IS approved. (Rought plastering and finishes will be part of civil vendor)		
4.1	6/16A, 1ϕ, 3M, Power socket with 1no. of switch & socket with poly-carbonate front plate suitable for normal area.	Nos	150
4.2	6/16A, 1ϕ, 6M, Power socket with 2no. of switch & 2no. of socket with poly-carbonate front plate suitable for normal area.	Nos	200
4.3	32A, 1phase, wall mounting (Plastic moulded) socket outlet with interlock & switch along with suitable enclosure,	Nos	20
4.4	32A, 3phase, wall mounting (Plastic moulded) socket outlet with interlock & switch along with suitable enclosure,	Nos	10
5.0	**DATA & NETWORKING**		
5.1	CAT-6A UTP four pair cable in Existing PVC conduit /GI floor raceways with required ferruling, cable dressing, testing etc. complete.with test certificates (excluding cost of conduit/ floor raceways & laying) & whereas end terminations to be included for lab furniture I/O ports	Mtrs	1,700
5.2	Supply, Installation, testing & commissioning of Cat 6A information outlets with Polycarbonate I/O face plate, MS box, etc., as required **(DATA)**	Nos	70
5.3	Supply, Installation, testing & commissioning of Cat 6A information outlets with Polycarbonate I/O face plate, MS box, etc., as required **(VOICE)**	Nos	10
5.4	Faceplate kit, labeled, 1-gang, 1-port suitable for normal area	**Nos**	70
5.5	Fully loaded 24 port patch panel for data outlets.	Nos	3
5.6	24U floor mounting rack with pre wired & power sockets	Nos	2
5.7	FLUKE TEST with calibrated equipment	Nos	70
6.0	**MISCELLANEOUS ITEMS.**		
6.1	Danger board in 3 languages English / Hindi / Local Language in red colour radium reflector sticker with 440V marks.	Nos	3
6.2	Supply, Fabrication, Erection of structural steel including 2 coats of polyurithene main coat & 2 coats of fire rated paint .Items including all channels and angles, suspension supports, steel plate, anchor bolts, cross angles, brackets, etc. including grouting, welding, tools, tackles as required etc. The payment shall be made for the actual quantities measured. This item shall be operated for tray supports in cable trenches, Mounting frames for panels and DBs., vertical tray supports etc. After surface preperation with manual sanding and solvent cleaning , two coats of polyurithene coat followed by three coats of fire rated paint top coat shall be provided.	Kg	500

6.3	Liasoning charges for CEIG, Local electricity board approval for LT works Installation. This is inclusive of all coordination, sumbission of drawings as required by CEIG and all complete,	L/S	1
6.4	25 mm dia ,2mm Thickness **PVC FRLS** conduit, excluding wiring but with all required clamps, bends, suspensions etc.	Mtrs	2,500
6.5	32 mm dia ,2mm Thickness **GI conduit**, excluding wiring but with all required clamps, bends, suspensions etc.	Mtrs	150
6.6	25 mm dia ,2mm Thickness **FLEXIBLE conduit**, excluding wiring but with all required clamps, bends, suspensions etc.	Mtrs	1,200
6.7	**RCC hume pipes**		
	Providing and laying the RCC hume pipe for cable laying at the road crossing or wherever necessary as per site condition. Cost to include RCC collar and necessary civil works and necessary cementing of joints as required.		
6.8	**FLP push button station / junction box** on wall / structure / individual structural stand with all kind of hard wares. The push button station should have 1no of Start, stop and lock.	Nos	4

Main power with DB to be given by FITT at one point in main electrical shaft. Further Drawing till Lab area under vendor scope including further distribution

BOQ for office Chairs

SR. NO.	Description	QTY	Unit
1	Medium back revolving chair Hydraulic height adjustment and tilting. Mesh backrest Adjustable armrests.	**100**	**No.s**
2	High back revolving chair Hydraulic height adjustment and tilting. Mesh backrest Adjustable armrests.	**60**	**No.s**

1 1.PLAN TENDER
1 : 100

Notes:

1.All dimensions are in mm

2.All Wall to wall dimensions are verified at side

3.All Floor Mounted casework should be with 100mm height toe space

TENDER

Owner: M/s, IIT-FITT,Delhi.

Consultant / Architect:

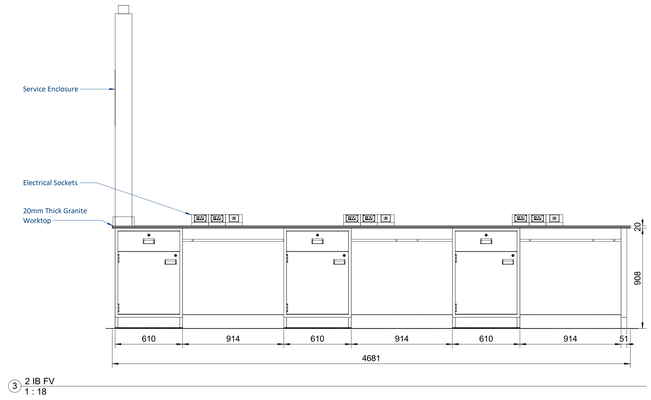
Project Title:

Drawing Title:
LAB FURNITURE AND FUMEHOOD LAYOUT
PLAN VIEW
FOURTH FLOOR

Issue Date: 21.06.2023

Drawing No: IIT FITT-TEND-1001-23

Revision: 0



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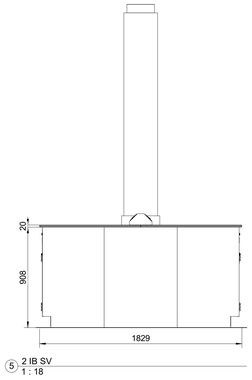

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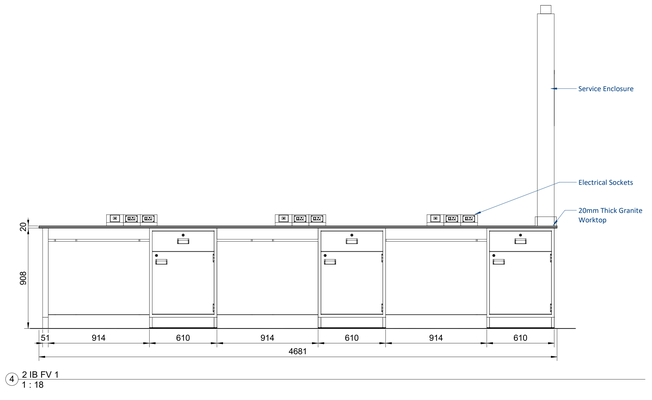

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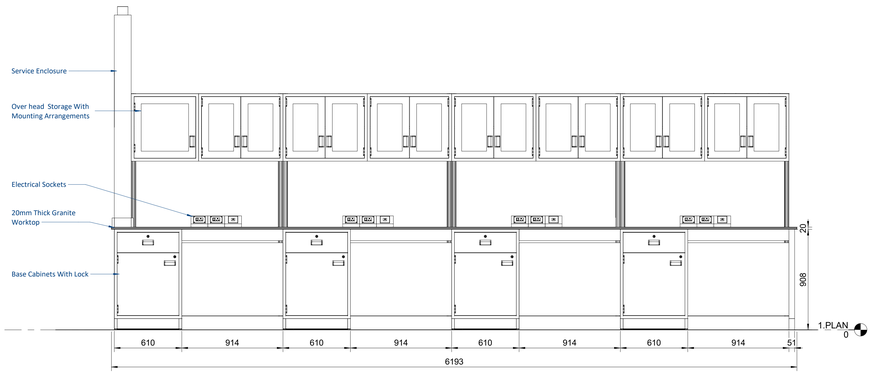

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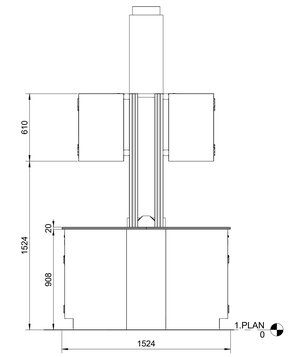

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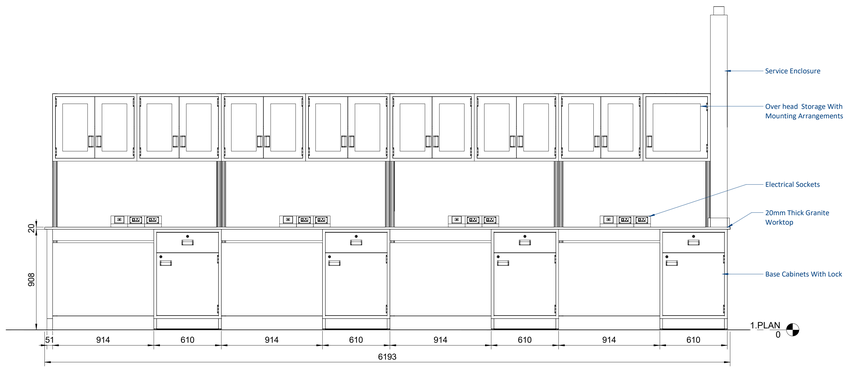

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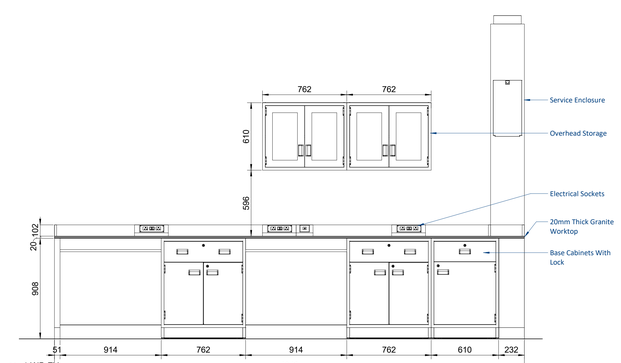

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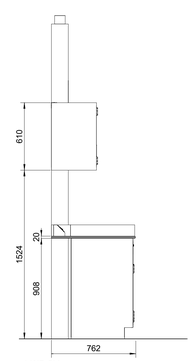

2 1 WB SV
1 : 18

Notes:

1.All dimensions are in mm

2.All Wall to wall dimensions are verified at side

3.All Floor Mounted casework should be with 100mm height toe space

TENDER

Owner: M/s, IIT-FITT,Delhi.

Consultant / Architect:

Project Title:

Drawing Title:
LAB FURNITURE AND FUMEHOOD LAYOUT
ELEVATION VIEW
FOURTH FLOOR

Issue Date: 21.06.2023

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Revision: 0