Notice Inviting Tender

Name of Work: Setting up dry labs in Academic Complex East (99C) and Academic Complex West (99B) at IIT Delhi.

Sub Head: Laboratory Furniture and associated Civil and Electrical Works.

1. Laboratory Furniture	**:**	**Rs.8,11,74,566/-**
2. Civil Work	**:**	**Rs.1,10,17,216/-**
3. Electrical Work	**:**	**Rs.3,99,26,948/-**
Total	**:**	**Rs.13,21,18,730/-**

(WORKS DEPARTMENT)
INDIAN INSTITUTE OF TECHNOLOGY DELHI

HAUZ KHAS, NEW DELHI

INDIAN INSTITUTE OF TECHNOLOGY DELHI
HAUZ KHAS, NEW DELHI-110016
INDEX

Name of work : Setting up dry labs in Academic Complex East (99C) and Academic Complex West (99B) at IIT Delhi.

Sub Head : Laboratory Furniture and associated Civil and Electrical Works.

It is certified that this document contains three parts i.e., Part A, Part B & Part C containing page no. **1 - 87.**

EXECUTIVE ENGINEER (ED-I) **EXECUTIVE ENGINEER (CD-II)**

NIT approved for Rs. 13,21,18,730/- (Rupees Thirteen Crore Twenty-One Lakh Eighteen Thousand Seven Hundred and Thirty Only)

INSTITUTE ENGINEER

INDIAN INSTITUTE OF TECHNOLOGY DELHI
HAUZ KHAS, NEW DELHI-110016

Notice Inviting e -Tender

The Executive Engineer (CD-II), IIT DELHI, HAUZ KHAS, New Delhi-16 (**Phone No 011-26591450**) on behalf of Board of Governors invite online **Item Rate Tender** from the **manufacturers of Laboratory Furniture** for the following work:

NIT No.	:	**IITD/EE(CD-II)/2024-25**
Name of Work	:	**Setting up dry labs in Academic Complex East (99C) and Academic Complex West (99B) at IIT Delhi** **Sub Head: - Laboratory Furniture and associated Civil and Electrical Works.**
Estimated cost	:	**Rs. 13,21,18,730/-**
Earnest Money	:	**Rs. 23,21,188/-**
Performance Guarantee	:	**5% of Tendered value**
Security Deposit	:	**2.5% of Tendered Value**
Warranty	:	**1 Year for all works.**
Period for completion	:	**06 Months**
Late date & time for submission of bids	:	**11/02/2025 upto15.00 Hrs.**
Date & Time of opening of Bids	:	**12/02/2025 at 15.00 Hrs.**

The bid forms and other details can be obtained from the website **www.iitd.ac.in or e-Procure.gov.in** free of cost**.** For more clarification you may visit the above website.

Executive Engineer (CD-II),
For & on Behalf of BOG, IIT Delhi

Copy to: -

1. Institute Engineer
2. Executive Engineer (CD-II) for information.
3. A.R. (Works Accounts)
4. D.R. (A/Cs) – for opening of uploaded documents **at 3:00 PM on 12/02/2025** in the office of D.R. Store
5. Notice Boards.
6. Office Copy
7. Web site Administrator, IITD

PART 'A'
INDIAN INSTITUTE OF TECHNOLOGY DELHI
HAUZ KHAS: NEW DELHI – 110016
IITD/WORKS (SP-4893)/2025

INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR e-TENDERING (Tender Notice)

The Executive Engineer (CD-II), IIT DELHI, HAUZ KHAS, New Delhi-16 (**Phone No 011-26591450**) on behalf of Board of Governors invite online **Item Rate Tender** from the **manufacturers of Laboratory Furniture** for the following work:

SL. No.	NIT No.	Name of Work	Estimated Cost (Rs.)	Earnest Money (Rs.)	Tender Fees (Rs.)	Time for Completion
1	/IITD/EE (CD-II)/2024-25	**Setting up dry labs in Academic Complex East (99C) and Academic Complex West (99B) at IIT Delhi** **Sub Head: - Laboratory Furniture and associated Civil and Electrical Works.**	**13,21,18,730/-**	**23,21,188/-**	**NIL/-**	**06 Months**

Last date and time of submission of financial & Technical bid : 11/02/2025 up to 3:00 pm (online)

Date and time of opening of Technical bid : 12/02/2025 at 3.00 pm (office of D.R Store) Price bids of eligible bidders as per NIT shall be opened at a later date after scrutiny of Technical bids.

1. The successful bidders shall be required to submit a performance guarantee of **5%** of the tendered amount in the form of Bank Guarantee or F.D.R. from a Nationalized/Scheduled Bank within **15** days of issue of letter of intent before award of work. In case of failure by the Contractor to supply the performance guarantee within the specified period, full earnest money will be forfeited, and the tender shall be treated as void. The performance guarantee shall be initially valid up to the date of completion plus 60 (Sixty) days beyond that.

2. Contractors who fulfill the following requirements shall be eligible to apply. **Joint ventures are not accepted.**

i. Firms/Contractors must have completed satisfactorily one similar work of value not less than **Rs.10,56,94,984/-** or Two similar works each of value not less than **Rs.7,92,71,238/-** or three similar works each of value not less than **Rs.5,28,47,492/-** during last 7 years ending on the previous day of last day of submission of bid.

ii. **Earnest money of Rs. 23,21,188/- in** the form of Banker's cheque or Demand draft or fixed deposit receipt of a scheduled bank or through online mode i.e. RTGS/ NEFT in favor of **Registrar, IIT Delhi** with UTR details. No relaxation in EMD will be allowed for MSMEs and MSEs as per the CPWD Manual.

iii. **The bidder/ OEM of furniture should be an official member with SEFA (Scientific Equipment's Furniture Association) on a continuous basis at least for the past 5 years. Documentary evidence to be submitted.**

iv. The bidder should have an Average Annual Turnover certificate (for the last three financial years) from the Registered Chartered Accountant for atleast 30% of the Estimated Cost i.e., Rs.3.94 Crores. The value of annual turnover figures shall be brought to current value by enhancing the actual turnover figures at simple rate of 7% per annum.

v. The bidder should have a Solvency Certificate of 40% of the Estimated Cost i.e., for Rs.5.28 Crores from any registered / nationalized bank. The certificate should be issued in the current financial year.

vi. Bidding Capacity: A bidder should have bidding capacity equal to or more than the estimated cost of the work put to tender. The bidding capacity shall be worked out by the following formula: Bidding Capacity = {[AxNx1.5]-B} Where, A = Maximum turnover in construction works executed in any one year during the last seven years taking into account the completed as well as works in progress. The value of completed works shall be brought to current costing level by enhancing at a simple rate of 7% per annum. N = Number of years prescribed for completion of work for which bids have been invited. B = Value of existing commitments of ongoing works during the period of execution of work for which bids have been invited.

vii. The bidder should not have incurred any loss (profit after tax should be positive) in more than two years during available last five consecutive balance sheets (standalone financial statement), duly certified and audited by the Chartered Accountant.

3. Similar work means Composite work consisting of **Composite Lab furniture work along with associated Civil, Electrical works etc. (at least one component other than lab furniture should be there in composite work)**

4. The intending bidder must read the terms and conditions of IITD-6 carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.

5. Information and Instructions for bidders posted on website shall form part of bid document.

6. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website http://eprocure.gov.in/eprocure/app.in free of cost.

7. Completion certificates issued by an officer not below the rank of Executive Engineer of similar works completed by the Agency.

8. Work means, work done only under Government/ Central Public Sector Undertaking / State Public Sector Undertaking / Central Autonomous bodies / State Autonomous bodies / City Development Authority / Municipal Cooperation of City formed under any act by Central / State Government and published in Central / State Gazette.

9. The value of executed work shall be brought to the current costing level by enhancing the actual value of work at a simple rate of 7% per annum calculated from the date of completion to last date of submission of financial bid.

10. IITD is committed to follow the principle of transparency, equity, and competitiveness in public procurement. Before submission of bid each bidder should sign integrity pact at respective places and submit the bid, if duly signed integrity pact is not submitted by bidder such bid shall not be considered.

11. Those contractors not registered on the website mentioned above are required to get registered beforehand. If needed they can be imparted training on online bidding process as per details available on the website

12. The intending bidder must have a valid class-III digital signature to submit the bid.

13. On the opening date, the contractor can login and see the bid opening process. After opening the bids, he will receive the competitor bid sheets.

14. The contractor can upload documents in the form of JPG format and PDF format.

15. Contractor must ensure to quote rate of each item, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0". Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (ZERO).

16. The department reserves the right to reject any prospective application without assigning any reason and to restrict the list of qualified contractors to any number deemed suitable by it, if too many bids are received satisfying the laid down criterion.

17. In e-Tendering intending bidder can quote his rates in figures only. The rates in words against amount of each item and total is generated automatically. Therefore, the rate quoted by the bidder in figures will be taken as final.

18. The bid can only be submitted after uploading the mandatory scanned documents such as Demand Draft or Pay order or Banker`s Cheque or Deposit at call Receipt or Fixed Deposit Receipts and towards cost of EMD in favor of **Registrar IIT Delhi** to be deposited with http://eprocure.gov.in/eprocure/app / NEFT facility.

19. The physical EMD of the scanned copy of EMD uploaded shall be deposited by the lowest tenderer within a week after opening of financial bid failing which the tender shall be rejected.

20. The following undertaking in this regard shall be up-loaded by the intending bidders: **"the physical EMD shall be deposited by me / us with the Authority inviting the tender, in case I / we become the lowest tenderer, within a week of the opening of financial bid, otherwise, department may reject the tender and also take action to debar me / us from tendering in any form in IIT Delhi."**

21. **Copy of enlistment / Registration order and certificate of work experience and other documents as specified in the Press Notice / web notice shall be scanned and up-loaded to the e-Tendering website within the period of bid submission. However, certified / original copy of all the scanned and up-loaded documents as specified in press notice web / notice shall have to be submitted by the lowest bidder only along with physical EMD of the scanned copy of EMD uploaded within a week physically in the office of e-tendering authority and it shall be sole responsibility of lowest bidder.**

22. **Online bid documents submitted by intending bidders shall be opened only of those bidders, who has deposited EMD and other documents scanned and uploaded are found in order.**

23. When bids are invited in two /three stages systems and if it is desired to submit a revised financial bid it shall be mandatory to submit revised financial bid. If not submitted, then the bid submitted earlier shall become invalid – Not applicable.

24. **The bid submitted shall become invalid if:**

a) The bidder is found ineligible if he fails to upload documents from 1 to 11 on tender notice page 6.

b) The bidder does not upload all the documents (including GST registration) as stipulated in the bid document including the undertaking about deposition of physical EMD of the scanned copy of EMD uploaded etc.

c) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest tenderer in the office of tender opening authority.

d) The lowest bidder does not deposit physical EMD within a week of opening of tender.

e) The Bidder does not upload ESI & EPF Registration.

25. Bid validity shall be 90 **days** from the last date of submission of bid.

26. The rate of bidders shall be considered inclusive of GST.

List of Documents to be scanned and uploaded within the period of bid submission:

1. Demand Draft/Pay order or Banker`s Cheque /Deposit at Call Receipt/FDR of any Scheduled Bank against EMD.
2. Enlistment / Registration order of contractor, if applicable in this tender, as per NIT Form 6 Tender notice.
3. Certificate of work experience.
4. Certificate of Registration for GST and acknowledgement of up to date filed return of GST.
5. **Affidavit on Rs.100/- Non-judicial Stamp paper as per Notice Inviting Tender Condition 1.3 at page 8 of NIT. (Stamp Paper shall be purchased/ notarized between date of publishing and last date of submission of bids beside this NIT/Tender ID and name of work must be mentioned on the affidavit).**
6. Acceptance to execute INTEGRITY PACT.
7. Undertaking as per 'Sl. No. 20 on page No.6 on firm's letter head.

The physical EMD shall be deposited by me / us with the Authority inviting the tender, in case I / we become the lowest tenderer, within a week of the opening of financial bid, otherwise, department may reject the tender and also take action to debar me / us from tendering in any form in IIT Delhi.

8. ESI & EPF registration.
9. FORM "F" (Duly filled with all required details).
10. In the case of a Partnership firm, if all the tender papers are not signed by all the partners, a power of attorney authorizing the person who has signed the tender paper must be uploaded with the tender documents.
11. **The bidder/ OEM of furniture should be an official member with SEFA (Scientific Equipment's Furniture Association) on a continuous basis at least for the past 5 years. Documentary evidence to be submitted.**
12. Average annual turnover certificate (for the last three financial years) from the Registered Chartered Accountant for at least 30% of the Estimated Cost as per the tender notice.
13. Solvency certificate of 40% of the estimated cost from any registered/ nationalized bank issued in the current financial year.
14. Profit and Loss statements as per clause 2 (vii) at page no. 5 of the NIT.
15. Annexure-I (duly filled & signed by the bidders)
16. Annexure-II (duly filled & signed by the bidders)
17. Annexure-III (duly filled & signed by the bidders)
18. Annexure -IV (duly filled & signed by the bidders)

Note: - All Documents mentioned S. No. 1 to 18 are mandatory for technical qualification.

Executive Engineer (CD-II),
For & on Behalf of BOG, IIT Delhi
Hauz Khas, New Delhi-110016

Copy to: -

1. **Institute Engineer, for information**
2. **Executive Engineer (ED-1), for information.**
3. **A.R. (Works Accounts)**
4. **D.R. (A/Cs) – for opening of tenders on 12/02/2025 at 3:00 PM in the office of D.R. Store**
5. **Notice Boards.**
6. **Office Copy**
7. **Web site Administrator, IITD**
8. **NIT: - Publicity on Website on Institute as well as on CPP portal http://eprocure.gov.in may be ensured as per instruction issued.**
9. **E-tendering Web.** http://eprocure.gov.in/eprocure/app or wwww.iitd.ac.in

INDIAN INSTITUTE OF TECHNOLOGY DELHI
HAUZ KHAS: NEW DELHI – 110016
IITD-6 FOR e-TENDERING AND TERM & CONDITIONS

Item rate tenders are invited on behalf of Board of Governors from the **manufacturers of Laboratory Furniture**, as per NIT Form 6 Tender notice.

1. The enlistment / Registration of the contractors should be valid on the last date of submission of tenders. In case the last date of submission of tender is extended, the enlistment of contractor should be valid on the original date of submission of tenders, if applicable in this tender, as per NIT Form 6 Tender notice.

   1.1 The work is estimated to cost **as per tender notice.** This estimate, however, is given merely as a rough guide.

   1.2 Details of criteria for eligibility As Indicated in "INFORMATION AND INSTRUCTIONS FOR CONTRACTORS FOR e- TENDERING FORMING PART OF NIT AND TO BE POSTED ON WEBSITE"

   1.3 To become eligible for issue of tender, the tenderer shall have to furnish an affidavit as under: -

   I/We undertake and confirm that eligible similar works(s) has/have not been got executed through another contractor on back-to-back basis. Further that, if such a violation comes to the notice of Department, then I/we shall be debarred for tendering in IITD in future forever. Also, if such a violation comes to the notice of the Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee. (Scanned copy to be uploaded at the time of submission of bid)

2. Agreement shall be drawn with the successful bidders on prescribed Form No. IITD - 8 (or other Standard Form as mentioned) which is available as a Govt. of India Publication. Bidders shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.
3. The time allowed for carrying out the work will be **as per tender notice** from the date of start as defined in schedule 'F' or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the tender documents.
4. The site for the work shall be made available in parts as and when site will be available.
5. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except Standard General Conditions of Contract Form can be seen from the web Site http://eprocure.gov.in/eprocure/appor iitd.ac.in or e-procure.gov **free** of cost.
6. After submission of the bid the contractor can re-submit a revised bid any number of times but before the last time and date of submission of tender as notified.
7. While submitting the revised bid, the contractor can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of tender as notified.
8. If it is desired to submit a revised financial bid, then it shall be mandatory to submit a revised financial bid. If not submitted, then the tender submitted earlier shall become invalid.
9. Earnest Money in the form of Demand Draft or Pay order or Banker`s Cheque or Deposit at Call Receipt (drawn in favour of Registrar IIT Delhi, Hauz Khas, New Delhi) as specified of any Scheduled/ Nationalized Bank and shall be scanned & uploaded to the e- tendering website within the period of tender submission or through RTGS/ NEFT with UTR details and original should be deposited by lowest bidder within a week after the opening of financial bid in office of **Executive Engineer (CD-II), IIT Delhi, Hauz Khas, New Delhi**
   A part of earnest money is acceptable in the form of bank guarantee also. In such case, 50% of earnest money or Rs.20 lakh, whichever is less, will have to be deposited in shape prescribed above, and balance in shape of Bank Guarantee of any scheduled bank which is to be scanned and uploaded by the intending

bidders.

Interested contractor who wish to participate in the bid has also to make following payments in the form of Demand Draft/Pay order or Banker's Cheque of any Scheduled Bank and to be scanned and uploaded to the e-Tendering website within the period of bid submission:

http://eprocure.gov.in/eprocure/app.

10. The bid submitted shall become invalid if:
    (i) The bidders are found not eligible.
    (ii) The bidders do not upload all the documents (including GST registration/ **other documents as per Tender Notice**) as stipulated in the bid document.
    (iii) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically in the office of tender opening authority.
    (iv) The lowest bidder does not deposit physical EMD within a week of opening of tender.
    (v) The Bidder does not upload ESI & EPF Registration.
11. The time & date of submission & opening of financial bid of contractors qualifying the **criteria as per Tender Notice** shall be communicated to them at a later date.
12. The contractor whose bid is accepted will be required to furnish a performance guarantee of 5% (Five Percent) of the tendered and accepted of the bided amount within the period specified in Schedule F. This guarantee shall be in the form of cash (in case guarantee amount is less than Rs. 10000/-) or Deposit at Call receipt of any scheduled bank/Banker's cheque of any scheduled bank/ Demand Draft of any scheduled bank/Pay order of any Scheduled Bank (in case guarantee amount is less than Rs. 1,00,000/-) or Government Securities or Fixed Deposit Receipts or irrevocable Bank Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F' including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor.
13. Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The tenderer shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a tender by a tenderer implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.
14. The competent authority on behalf of the Board of Governors does not bind itself to accept the lowest or any other tender and reserves to itself the authority to reject any or all the tenders received without the assignment of any reason. All tenders in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the tenderer shall be summarily rejected.
15. Canvassing, whether directly or indirectly, in connection with tenderers is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection.
16. The competent authority on behalf of Board of Governors reserves to himself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.
17. The contractor shall not be permitted to tender for works in the IITD responsible for award and execution of contracts, in which his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazetted officer in the Central Public Works Department or in the Ministry of Urban Development. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.
18. No Engineer of gazetted rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period

of one year after his retirement from Government service, without the previous permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as afore said before submission of the tender or engagement in the contractor's service.

19. The tender for the works shall remain open for acceptance for a period of **Ninety (90)** days from last date of submission of bid, if any tenderer withdraws his tender before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the tender which are not acceptable to the department, then the Government shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the tenderer shall not be allowed to participate in the retendering process of the work.

20. This notice inviting Tender shall form a part of the contract document. The successful tenderer / contractor, on acceptance of his tender by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of: -

    a) The Notice Inviting Tender, all the documents including additional conditions, specifications and drawings, if any, forming part of the tender as uploaded at the time of invitation of tender and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.

    b) Standard IITD Form - 8 or other Standard IITD Form as mentioned.

21. In case any discrepancy is noticed between the documents as uploaded at the time of submission of the bid online and hard copies as submitted physically in the office of Executive Engineer, then the bid submitted shall become invalid.

Executive Engineer (CD-II)
IIT Delhi, Hauz Khas
New Delhi - 110016

NOTICE INVITING TENDER

INDIAN INSTITUTE OF TECHNOLOGY DELHI

HAUZ KHAS, NEW DELHI-110016

Terms & Conditions

Indian Institute of Technology Delhi is in the process of purchasing following item(s) as per details as given as under.

Details of the item	**As per Tender Notice**
Earnest Money Deposit to be submitted	**Rs. 23,21,188/-**
Warranty	**As per Tender Notice, NIT & IITD form 8**
Performance security	**As per Tender Notice, NIT & IITD form 8**

Tender Documents may be downloaded from Central Public Procurement Portal http://eprocure.gov.in/eprocure/app.Aspiring Bidders who have not enrolled / registered in e-procurement should enroll / register before participating through the website http://eprocure.gov.in/eprocure/app . The portal enrolment is free of cost. Bidders are advised to go through instructions provided at 'Instructions for online Bid Submission '.

Tenderers can access tender documents on the website (For searching in the NIC site, kindly go to Tender Search option and type 'IIT'. Thereafter, click on "GO" button to view all IIT Delhi tenders). Select the appropriate tender and fill them with all relevant information and submit the completed tender document online on the website http://eprocure.gov.in/eprocure/app as per the schedule given in the next page.

No manual bids will be accepted. All quotes (both Technical and Financial should be submitted in the E-procurement portal).

Schedule

Name of Organization		Indian Institute of Technology, Delhi
Tender Type (Open/Limited/EOI/Auction/Single)		Open
Tender Category (Services/Goods/works)		Works
Type/Form of Contract (Work/Supply/ Auction/Service/Buy/Empanelment/ Sell)		Works
Product Category (Civil Works/Electrical Works/Fleet Management/ Computer Systems)		Laboratory Furniture and associated Civil and Electrical Works.
Source of Fund (Institute/Project)		
Is Multi Currency Allowed		No
Date of Issue/Publishing		22/01/2025 (15.00 Hrs)
Document Download/Sale Start Date		22/01/2025 (15.00 Hrs)
Document Download/Sale End Date		11/02/2025 (15.00 Hrs)
Date for Pre-Bid Conference		29/01/2025 (11.00 Hrs)
Venue of Pre-Bid Conference		O/o of the Institute Engineer, Room No. AD- 220, Admin Block, IIT Delhi Campus, Hauz Khas, Delhi - 110016
Last Date and Time for Uploading of Bids		11/02/2025 (15.00 Hrs)
Date and Time of Opening of Technical Bids		12/02/2025 (15.00 Hrs)
Tender Fee	**NIL**	(To be paid through RTGS/NEFT or OFFLINE MODE in favor of Registrar IIT Delhi.) Name of the Bank A/C: Registrar IIT Delhi SBI A/C No. 10773572622 Name of the Bank : State Bank of India, IIT Delhi, Hauz Khas, New Delhi-110016 IFSC Code : SBIN0001077 MICR Code :110002156 Swift No. : SBININBB547 (This is mandatory that UTR Number is provided in the on-line quotation / bid. Kindly refer to the UTR Column of the Declaration Sheet at Annexure-II) **or as per NIT/ Tender notice**
EMD	**Rs. 23,21,188/-**	
No. of Covers (1/2/3/4)		**02**
Bid Validity days (30/75)		**90 days (From the last date of Submission of bid)**
Address for Communication		**Office of the Executive Engineer (Civil Division-II), Room No- MZ-140, Main Building, IIT Delhi, Hauz Khas, New Delhi-110016**
Contact No.		**011-26591450, 011-26597339**
Fax No.		**Nil**
Email Address		**a26791@admin.iitd.ac.in** **a26926@admin.iitd.ac.in**

Instructions for Online Bid Submission:

As per the directives of Department of Expenditure, this tender document has been published on the Central Public Procurement Portal (URL:http://eprocure.gov.in/eprocure/app). The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at: http://eprocure.gov.in/eprocure/app

REGISTRATION

1. Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL:http://eprocure.gov.in/eprocure/app) by clicking on the link "Click here to Enroll". Enrolment on the CPP Portal is free of charge.
2. As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
3. Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
4. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / TCS / nCode / eMudhra etc.), with their profile.
5. Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse.
6. The bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / eToken.

SEARCHING FOR TENDER DOCUMENTS

1. There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, organization name, location, date, value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords etc. to search for a tender published on the CPP Portal.
2. Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
3. The bidder should make a note of the unique Tender ID assigned to each tender; in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS

1. Bidder should take into account any corrigendum published on the tender document before submitting their bids.
2. Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the documents that need to be submitted. Any deviations from these may lead to rejection of the bid.
3. The bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF formats. Bid documents may be scanned with 100 dpi with black and white option.
4. To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g., PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid and need not be uploaded again and again. This will lead to a reduction in the time required for the bid submission process.

SUBMISSION OF BIDS

1. Bidder should log into the site well in advance for bid submission so that he/she upload the bid in time i.e., on or before the bid submission time. Bidder will be responsible for any delay due to other issues.

2. The bidder must digitally sign and upload the required bid documents one by one as indicated in the tender document.
3. Bidder has to select the payment option as "on-line" to pay the tender fee / EMD as applicable and enter details of the instrument. Whenever, EMD / Tender fees is sought, bidders need to pay the tender fee and EMD separately on-line through RTGS (Refer to Schedule, Page No.11).
4. A standard BoQ format has been provided with the tender document to be filled in by all the bidders. Bidders are requested to note that they should submit their financial bids in the format provided and no other format is acceptable. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.

   OR

   In some cases, Financial Bids can be submitted in PDF format as well (in lieu of BOQ).
5. The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
6. All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128-bit encryption technology. Data storage encryption of sensitive fields is done.
7. The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
8. Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
9. Kindly add scanned PDF of all relevant documents in a single PDF file of compliance sheet.

ASSISTANCE TO BIDDERS

1. Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
2. Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is 1800 233 7315.

General Instructions to the Bidders

1. The tenders will be received online through portal http://eprocure.gov.in/eprocure/app . In the Technical Bids, the bidders are required to upload all the documents in .pdf format.
2. Possession of a Valid Class II/III Digital Signature Certificate (DSC) in the form of smart card/e-token in the company's name is a prerequisite for registration and participating in the bid submission activities through http://eprocure.gov.in/eprocure/app. Digital Signature Certificates can be obtained from the authorized certifying agencies, details of which are available in the web site https://eprocure.gov.in/eprocure/app under the link "Information about DSC".
3. Tenderer are advised to follow the instructions provided in the 'Instructions to the Tenderer for the e- submission of the bids online through the Central Public Procurement Portal for e-Procurement at https://eprocure.gov.in/eprocure/app.

Terms & Conditions Details

S.No.	Specification
1.	**Due date**: The tender has to be submitted on-line before the due date. The offers received after the due date and time will not be considered. No manual bids will be considered.
2.	**Preparation of Bids**: The offer/bid should be submitted in two bid systems (i.e.) Technical bid and financial bid. The technical bid should consist of all technical details along with commercial terms and conditions. Financial bid should indicate item wise price for the items mentioned in the technical bid in the given format i.e BOQ_XXXX. OR Financial Bids to be submitted in Excel. The Technical bid and the financial bid should be submitted Online.
3.	**EMD (if applicable)**: **As per NIT**
4.	**Refund of EMD:- As per NIT**
5.	**Opening of the tender**: **As per Tender Notice, NIT & IITD form 8**
6.	**Acceptance/ Rejection of bids:** The competent authority of IIT Delhi reserves the right to reject any or all offers without assigning any reason.
7.	**Pre-qualification criteria: - Mentioned in Tender notice**
8.	**Performance Security**: -**Mentioned in Tender notice**
9.	**Force Majeure: - As per IITD form 8**
10.	**Risk & Cost Clause: As per IITD form 8**
11.	**Delivery and Documents: As per Tender Notice & NIT & IITD form 8**
12.	**Delayed delivery: As per Tender Notice & NIT & IITD form 8**
13.	**Prices**: **As per Tender Notice & NIT & IITD form 8**
14.	**Progress of Work: As per Tender Notice & NIT & IITD form 8**
15.	**Inspection and Tests: As per Tender Notice & NIT & IITD form 8**
16.	**Resolution of Disputes**: **As per Tender Notice & NIT & IITD form 8**
17.	**Applicable Law: As per Tender Notice & NIT & IITD form 8**
18.	**Supplier Integrity: As per Tender Notice & NIT & IITD form 8**
19.	**Training: As per Tender Notice & NIT & IITD form 8**
20.	**Installation & Demonstration: As per Tender Notice & NIT & IITD form 8**
21.	**Incidental services: As per Tender Notice & NIT & IITD form 8**
22.	**Defect liability Period: As per Tender Notice & NIT & IITD form 8**
23.	**Governing Language: As per Tender Notice & NIT & IITD form 8**
24.	**Applicable Law: As per Tender Notice & NIT & IITD form 8**
25.	**Notices: As per Tender Notice & NIT & IITD form 8**
26.	**Taxes: As per Tender Notice & NIT & IITD form 8**
27.	**Termination for Default: As per Tender Notice & NIT & IITD form 8**
28.	**Disputes and Jurisdiction**: **As per Tender Notice & NIT & IITD form 8**
29.	**Completion certificate**: **As per Tender Notice & NIT & IITD form 8**

Bid Submission

Online Bid Submission:

The Online bids (complete in all respect) must be uploaded online in two Envelops as explained below: -

Bid Document – 1 (Following documents to be provided as single PDF file)			
Sl. No.	**Documents**	**Content**	**File Type**
1.	Technical Bid	Compliance Sheet as per Annexure – I	.PDF
2.		Organization Declaration Sheet as per Annexure – II	.PDF
3.		List of organizations/ clients where the same products have been supplied (in last two years) along with their contact number(s). (Annexure-III)	.PDF
		Format for "OEM authorization certificate" (ANNEXURE-IV)	.PDF
4.		Technical supporting documents in support as per Page-6 and 7 of the NIT	.PDF
Bid Document – 2			
Sl. No.	**Documents**	**Content**	**File Type**
1.	Financial Bid	The price bid should be submitted in Excel format.	.xls

IITD – 6 FOR E-TENDERING	IITD

INDIAN INSTITUTE OF TECHNOLOGY, DELHI
HAUZ KHAS, NEW DELHI - 110016
NOTICE INVITING TENDER

Item rate tenders are invited on behalf of The Board of Governors, IIT Delhi, Hauz Khas, New Delhi - 16 from the **manufacturers of Laboratory Furniture** for **"Setting up dry labs in Academic Complex East (99C) and Academic Complex West (99B) at IIT Delhi. Sub Head: - Laboratory Furniture and associated Civil and Electrical Works.**

1. The enlistment / Registration of the contractors should be valid on the last date of submission of tenders. In case only the last date of submission of tender is extended, the enlistment of contractor should be valid on the original date of submission of tenders. if applicable in this tender, as per NIT Form 6 Tender notice.

1.1 The work is estimated to cost **Rs.13,21,18,730/-** This estimate, however, is given merely as a rough guide.

1.1.1 The authority competent to approve NIT for the combined cost and belonging to the major discipline will consolidate NITs for calling the bids. He will also nominate Division which will deal with all matters relating to the invitation of bids.

For composite bid, besides indicating the combined estimated cost put to tender, should clearly indicates the estimated cost of each component separately. The eligibility of bidders will correspond to the combined estimated cost of different components put to bid.

1.2 Intending bidder is eligible to submit the bid provided he has definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority, of having satisfactorily completed similar works of magnitude specified below: -

Criteria of eligibility for submission of bid documents.

1.2.1 Criteria of eligibility for CPWD as well as non-CPWD contractors.

Three similar works each of value not less than 40% of estimated cost (Rs.5,28,47,492/-) or two similar work each of value not less than 60% of estimated cost (Rs.7,92,71,238/-) or one similar work of value not less than 80% of estimated cost (Rs.10,56,94,984/-) (rounded to nearest Rs.1000/-) during last 7 years ending on previous day of last day of submission of bids.

The value of executed works shall be brought to the current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated during last 7 years ending on previous day of last day of submission of bids.

1.2.2 To become eligible for issue of bid, the bidders shall have to furnish an affidavit as under:

I/We undertake and confirm that eligible similar works(s) has/have not been got executed through another contractor on back-to-back basis. Further that, if such a violation comes to the notice of the Department, then I/we shall be debarred for tendering in IITD in future forever. Also, if such a violation comes to the notice of the Department before the date of start of work, the Engineer-In-Charge shall be free to forfeit the entire amount of EMD / PG.

1.2.3 Bidding Capacity: A bidder should have bidding capacity equal to or more than the estimated cost of the work put to tender. The bidding capacity shall be worked out by the following formula: Bidding Capacity = {[AxNx1.5]-B} Where, A = Maximum turnover in construction works executed in any one year during the last seven years taking into account the completed as well as works in progress. The value of completed works shall be brought to current costing level by enhancing at a simple rate of 7% per annum. N = Number of years prescribed for completion of

work for which bids have been invited. B = Value of existing commitments of ongoing works during the period of execution of work for which bids have been invited.

1.2.4 The bidder should not have incurred any loss (profit after tax should be positive) in more than two years during available last five consecutive balance sheets (standalone financial statement), duly certified and audited by the Chartered Accountant.

1.2.5 The bidder/ OEM of furniture should be an official member with SEFA (Scientific Equipment's Furniture Association) on a continuous basis at least for the past 5 years. Documentary evidence to be submitted.

2. An agreement shall be drawn up with the successful bidders on prescribed Form No. IITD 7/8 which is available as IITD Publication. Bidders shall quote their rates as per various terms and conditions of the said form which will form part of the agreement.
3. The time allowed for carrying out the work will be **as per Tender Notice** from the date of start as defined in schedule 'F' or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the bid documents.
4. **The site for the work shall be made available in parts as and when the site will be available.**
5. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except Standard General Conditions of Contract Form can be seen from the website www.iitd.ac.in or e-procure.gov.in free of cost.
6. After submission of the bid the contractor can re-submit a revised bid any number of times but before the last time and date of submission of tender as notified.
7. While submitting the revised bid, the contractor can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of tender as notified.
8. If it is desired to submit a revised financial bid, then it shall be mandatory to submit a revised financial bid. If not submitted, then the tender submitted earlier shall become invalid.
9. Copy of Enlistment Order and certificate of work experience and other documents as specified in the press notice / web notice shall be scanned and uploaded to the tender website within the period of bid submission. However, certified copy of all the scanned and uploaded documents as specified in press notice / web notice shall have to be submitted by the lowest bidder in the office of tendering authority, if applicable in this tender, as per NIT Form 6 Tender notice.
10. Online bid documents submitted by intending bidders shall be opened only of those bidders, who has deposited tender online fees with, and earnest money deposit and other documents scanned and uploaded are found in order. The bid submitted shall become invalid &Tender fees shall not be refunded if:
    i. The bidder is found ineligible.
    ii. The bidder does not upload all the documents as stipulated in the bid documents.
    iii. If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest tenderer in the office of tender opening authority.
    iv. **The lowest bidder does not deposit physical EMD within a week of opening of tender.**
11. The contractor whose bid is accepted will be required to furnish a performance guarantee of **5% (Five Percent)** of the bid amount within the period specified in Schedule F. This guarantee shall be in the form of cash (in case guarantee amount is less than Rs. 10000/-) or Deposit at Call receipt of any scheduled bank/Banker's cheque of any scheduled bank/ Demand Draft of any scheduled bank/Pay order of any Scheduled Bank (in case guarantee amount is less than Rs.1,00,000/-) or Government Securities or Fixed Deposit Receipts or irrevocable Bank Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F' including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor.
12. Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy

themselves before submitting their bids as to the nature of the ground and subsoil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidders shall be responsible, for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.

13. The competent authority on behalf of the Board of Governors does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidder shall be summarily rejected.
14. Canvassing, whether directly or indirectly, in connection with bidders is strictly prohibited and the bids submitted by the contractors who resort to canvassing will be liable to rejection.
15. The competent authority on behalf of Board of Governors reserves to himself the right of accepting the whole or any part of the bid and the bidder shall be bound to perform the same at the rate quoted.
16. The contractor shall not be permitted to bid for works in the IITD responsible for award and execution of contracts, in which his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazetted officer in the IIT Delhi. Any breach of this condition by the contractor would render him liable to be debarred from the bidding process in future in IIT Delhi.
17. No Engineer of gazetted rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the bid or engagement in the contractor's service.
18. The bid for the works shall remain open for acceptance for a period of **Ninety (90)** days from the last date of submission of bid, if any bidder withdraws his bid before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the bid which are not acceptable to the department, then the IIT Delhi shall, without prejudice to any other right or remedy, the bidder shall be debarred for tendering in IIT Delhi for a period of one year.
19. This notice inviting bid shall form a part of the contract document. The successful bidder / contractor, on acceptance of his bid by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of: -
    a) The Notice Inviting Bid, all the documents including additional conditions, specifications, and drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.
    b) Standard IITD Form –7/8 or other Standard IITD Form as mentioned.
20. In case any discrepancy is noticed between the documents as uploaded at the time of submission of the bid online and hard copies as submitted physically in the office of Executive Engineer, then the bid submitted shall become invalid and the IIT Delhi shall without prejudice to any other

right or remedy, the bidder shall be debarred for tendering in IIT Delhi for a period of one year

21. **For composite Bid:**

21.1 The **Executive Engineer (CD-II)** shall be Engineer-in-charge of the major component and will call the bids for the composite work, Earnest Money will be fixed with respect to the combined estimate cost put to tender for the composite bid.

21.2 The bid document will include following three components: -

PART A : IITD-6, IITD-7 including schedule A to F for the major component of the work. Standard General Conditions of contract for CPWD 2023 for Construction Works as corrected/modified up to date.

PART B : General/Specific conditions, specifications and schedule of quantities applicable to major component of the work.

PART C : Schedule A to F for minor component of the work (Competent authority under clause 2 and clause 5 shall be same authority as mentioned in schedule A to F for major components), General/ specific conditions, specifications and schedule of quantities applicable to minor component(s) of the work.

21.3 The bidder must associate himself with experienced agencies of the appropriate class eligible of bid for each of the minor component individually.

21.4 The eligible bidders shall quote rates for all items of major component as well as for all items of minor component of work.

21.5 After acceptance of the bid by Competent authority, the EE [CD-II] i.e., Engineer in charge of the work shall issue letter of award on behalf of the Board of Governors, IIT Delhi, After the work is awarded, the main contractor will have to enter into one agreement with EE [CD-II] and has also to sign two or more copies of agreement. On such a signed set of agreement shall be handed over to EE (ED-I) in charge of minor component. EE of major component will operate part A and EE (ED-I) in charge of minor component shall operate part B along with Part A of the agreement.

21.6 Entire work under the scope of composite bid including major and all minor components shall be executed under one agreement.

21.7 Security Deposit will be worked out separately for each component corresponding to the estimated cost of the respective component of works. The Earnest Money will become part of security deposit of the major component of work.

21.8 The main contractor has to associate agencies for specialized / Minor component(s) conforming to eligibility criteria as defined in the bid document and has to submit details of such agency(s) to Engineer-in-Charge of relevant component(s) within prescribed time. The name of the agency(s) to be associated shall be approved by the Engineer-in-Charge of relevant component(s).

21.9 In case the main contractor intends to change any of the above agency/agencies during the operation of the contract, he shall obtain prior approval of Engineer-in Charge of relevant specialized component(s). The new agency/agencies shall also have to satisfy the laid down eligibility criteria. In case the Engineer-in-Charge is not satisfied with the performance of any agency, he can direct the contractor to change the agency executing such items of work and this shall be binding on the contractor.

21.10 The main contractor must enter into MoU with agency(s) associated by him for execution of the specialized component(s), in case the main contractor does not have the capability to execute the Specialized / Minor components of the work. Copy of such MoU shall be submitted to **EE (CD-II) and EE(ED-1),** in charge of each relevant component as well as to EE-in-charge of major component. In case of change of associate contractor, the main agency(s) has to enter into MoU/agreement with the new contractor associated by him.

21.11 Running payment for the major component shall be processed by EE(CD-II) of major discipline to the main contractor. Running payment of minor components shall be made by EE [ED-I], discipline of minor component directly to the main contractor.

21.12 The composite work shall be treated as completed when all the components of the work are complete and certified. The completion certificate of the composite work shall be

recorded by Engineers-in-charge of major component after record of completion certificate of all other components.

21.13 The final bill of the whole work shall be finalized and paid by the EE(CD-II) of major component. EE (ED-I), in charge of minor component(s) will prepare and pass the final bill for their respective component of work and pass on the same to the EE(CD-II) of the major component for including in the final bill for composite contractor.

INTEGRITY PACT E-TENDERING	IITD

To,

……..,

……..,

……..

NIT No. /IITD/EE (CD-II)/2024-25

Name of Work : Setting up dry labs in Academic Complex East (99C) and Academic Complex West (99B) at IIT Delhi.

Sub Head : Laboratory Furniture and associated Civil and Electrical Works.

Dear Sir,

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

The subject Notice Inviting Tender (NIT) is an invitation to offer made on the condition that the Bidder will sign the integrity Agreement, which is an integral part of tender/bid documents, failing which the tenderer / 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 the IITD

Yours faithfully

Executive Engineer (CD-II)

ACCEPTANCE TO EXECUTE INTEGRATITY PACT	IITD

(To be signed by bidder and upload the scanned copy)

To,

Executive Engineer (CD- II)
IIT Delhi, Hauz Khas, New Delhi – 110016.

Subject: -Submission of Bid for the "Setting up dry labs in Academic Complex East (99C) and Academic Complex West (99B) at IIT Delhi"
Sub Head: - Laboratory Furniture and associated Civil and Electrical Works.

Dear Sir,

I/We acknowledge that IITD 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 Tender (NIT) 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 NIT.

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 tender/bid is finally accepted by IITD 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, IITD shall have unqualified, absolute, and unfettered right to disqualify the tender / bidder and reject the tender/bid is in accordance with terms and conditions of the tender/bid.

Yours faithfully

(Duly authorized signatory of the Bidder)

INTEGRATY PACT E-TENDERING	IITD

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

INTEGRITY AGREEMENT

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

BETWEEN

The Board of Governors, IIT Delhi, Hauz Khas, New Delhi - 16 represented through Executive Engineer (Civil) IIT Delhi. (hereinafter referred to as the Principal/Owner, which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assignees)

AND

.....
....

(Name and Address of the Bidder)

(Hereinafter referred to as the Bidder/Contractor and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assignees)

PREAMBLE

WHEREAS the Principal has floated the tender (NIT No…..……) (hereinafter referred to as the Tender) and intends to award, under laid down organizational procedure, contract for ..... (Name of work) ..... hereinafter referred to as the Contract.

AND WHEREAS the Principal 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), 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 the mutual covenants contained in this Pact, the parties hereby agree as follows and this Integrity Pact witnesses as under:

INTEGRATY PACT E-TENDERING	IITD

Article 1: Commitment of the Principal/Owner

1. The Principal/Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:
   a) 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
   b) 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.
   c) 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 (PC 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 initiate disciplinary actions as per its internal laid down policies and procedures.

Article 2: Commitment of the Bidder(s)/Contractor(s)

3. 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.
4. 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:
   a) 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.
   b) 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.
   c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s)/Contract(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.

INTEGRATY PACT E-TENDERING	IITD

d) 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 participates 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.

e) 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.

5. The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

6. The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice **means a willful 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**.

7. 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 of 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.

INTEGRATY PACT E-TENDERING	IITD

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 an 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 09 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, IITD

Article 7- Other Provisions

1. This Pact is subject to Indian Law, place of performance and jurisdiction is the Headquarters 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 the 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.

INTEGRATY PACT E-TENDERING	IITD

Article 8- LEGAL AND PRIOR RIGHTS

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 following witnesses:

.....
(For and on behalf of Principal / Owner)

.....
(For and on behalf of Bidder/Contractor)

WITNESSES:

1. .....
   (signature, name and address)

   s
2. .....
   (signature, name and address)

Place:

Dated:

Note: To be signed by the Bidder and the Engineer-in-Charge.

BANK GURANTEE BOND	IITD

Form of Earnest Money Deposit Bank Guarantee Bond

WHEREAS, contractor.. ……..(Name of contractor) (hereinafter called "the contractor") has submitted his tender dated (date) for the construction of(name of work) (hereinafter called "the Tender")

KNOW ALL PEOPLE by these presents that we .....….(name of bank) having our registered office at.....(hereinafter called "the Bank") are bound unto.....
(Name and division of Executive Engineer) (hereinafter called "the Engineer-in-Charge") in the sum of Rs. ..... (Rs. in words.....) for which payment well
and truly to be made to the said Engineer-in-Charge the Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this .....day of ..... 20....
THE CONDITIONS of this obligation are:

(1) If after tender opening the Contractor withdraws, his tender during the period of validity of tender (including extended validity of tender) specified in the Form of Tender;

(2) If the contractor having been notified of the acceptance of his tender by the Engineer-in-Charge:

(a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to contractor, if required;

OR

(b) fails or refuses to furnish the Performance Guarantee, in accordance with the provisions of tender document and Instructions to contractor,

OR

(c) fails or refuses to start the work, in accordance with the provisions of the contract and Instructions to contractor,

OR

(d) fails or refuses to submit fresh Bank Guarantee of an equal amount of this Bank Guarantee, against Security Deposit after award of contract.

We undertake to pay to the Engineer-in-Charge either up to the above amount or part thereof upon receipt of his first written demand, without the Engineer-in-Charge having to substantiates his demand, provided that in his demand the Engineer-in-Charge will note that the amount claimed by his is due to him owing to the occurrence of one or any of the above conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date*..... after the deadline for
submission of tender as such deadline is stated in the Instructions to contractor or as it may be extended by the Engineer-in-Charge, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

DATE .....

SIGNATURE OF THE BANK

WITNESS .....SEAL

(SIGNATURE, NAME AND ADDRESS)

*Date to be worked out on the basis of validity period of 6 months from last date of receipt of tender.

PERFORMANCE GUARANTEE

1. The contractor shall submit an irrevocable Performance Guarantee of 5% (Five percent) of the tendered amount in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement (not withstanding and/or without prejudice to any other provisions in the contract) within period specified in Schedule 'F' from the date of issue of letter of acceptance. This period can be further extended by the Engineer-in-Charge up to a maximum period as specified in schedule 'F' on the written request of the contractor stating the reason for delays in procuring the Performance Guarantee, to the satisfaction of the Engineer-in-Charge. This guarantee shall be in the form of Cash (in case guarantee amount is less than Rs. 10,000/-) or Deposit at Call receipt of any scheduled bank/Banker's Cheque of any scheduled bank/Demand Draft of any scheduled bank/Pay Order of any scheduled bank (in case guarantee amount is less than Rs. 1,00,000/-) or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the form annexed hereto. In case a fixed deposit receipt of any Bank is furnished by the contractor to the Government as part of the performance guarantee and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the Government to make good the deficit.
2. The Performance Guarantee shall be initially valid up to the stipulated date of completion plus 60 Days beyond that. In case the time for completion of work gets enlarged, the contractor shall get the validity of Performance Guarantee extended to cover such enlarged time for completion of work. After recording the completion certificate for the work by the competent authority, the performance guarantee shall be returned to the contractor, without any interest.
3. The Engineer-in-Charge shall not make a claim under the performance guarantee except for the amounts to which the BOG is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:
   a) Failure by the contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer-in-Charge may claim the full amount of the Performance Guarantee.
   b) Failure by the contractor to pay BOG any amount due, either as agreed by the contractor or determined under any of the Clauses/Conditions of the agreement, within 30 days of the service of notice to this effect by Engineer-in-Charge.
4. In the event of the contract being determined or rescinded under provision of any of the Clause/Condition of the agreement, the performance guarantee shall stand forfeited in full and shall be absolutely at the disposal of the BOG.

FORM "F"

STRUCTURE & ORGANISATION

1. Name & Address of the bidder
2. Telephone no./ Telex no./ Fax no.
3. Legal status of the bidder (attach copies of 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) Organization/ Place of registration and Registration No.

   1.

   2.

   3.

5. Name and titles of Directors & Officers with designation to be concerned with this work……!
6. Designation of individuals authorized to act for the organization…….!
7. 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……..!
8. 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
9. Past work experience in IIT Delhi will be considered in deciding the Technical bid…!

Signature of Bidder(S)

ANNEXURE-I
COMPLIANCE SHEET

TECHNICAL SPECIFICATION:

S.No.	Technical Bid Requirement As per Tender Notice & NIT & IITD form 8	Compliance Y/N
1.	Demand Draft / Pay order or Banker`s Cheque / Deposit at Call Receipt / FDR of any Scheduled Bank against EMD.	
2.	Enlistment / Registration order of contractor, if applicable in this tender, as per NIT Form 6 Tender notice.	
3.	Certificate of work experience.	
4.	Certificate of Registration for GST and acknowledgement of up to date filed return of GST.	
5.	**Affidavit of Rs.100/- on Non-judicial Stamp paper as per Notice Inviting Tender Condition 1.3 at page 8 of NIT. (Stamp Paper shall be purchased/ notarized between date of publishing and last date of submission of bids beside this NIT/Tender ID and name of work must be mentioned on the affidavit).**	
6.	Acceptance to execute INTEGRITY PACT.	
7.	Undertaking as per **page 5/ Sl. No. 20'** on firm's letter head. **"The physical EMD shall be deposited by me / us with the Authority inviting the tender, in case I / we become the lowest tenderer, within a week of the opening of financial bid, otherwise, department may reject the tender and also take action to debar me / us from tendering in any form in IIT Delhi"**	
8.	ESI & EPF registration.	
9.	FORM "F" (Duly filled with all required details).	
10.	In case of Partnership firm if all the papers of tender not signed by all the partners than a power of attorney authorizing the person who has signed the tender paper must be uploaded with the tender documents.	
11.	The bidder/ OEM of furniture should be an official member with SEFA (Scientific Equipment's Furniture Association) on a continuous basis at least for the past 5 years. Documentary evidence to be submitted.	
12.	Average annual turnover certificate (for the last three financial years) from the Registered Chartered Accountant for at least 30% of the Estimated Cost as per the tender notice.	
13.	Solvency certificate of 40% of the estimated cost from any registered/ nationalized bank issued in the current financial year.	
14.	Profit and Loss statements as per clause 2 (vii) at page no. 5 of the NIT.	
15.	Annexure-1 (Duly Filled & signed by the bidders)	
16.	Annexure 2 (Duly Filled & signed by the bidders)	
17.	Annexure 3 (Duly Filled & signed by the bidders)	
18.	Annexure 4 (Duly Filled & signed by the bidders)	
19.	Any other documents given in NIT	

I have also enclosed all relevant documents in support of my claims, (as above) in the following pages.

Signature of Bidder(S)

ANNEXURE-II

<< Organization Letter Head >>
DECLARATION SHEET

We,_____hereby certify 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 have gone through the specification, conditions and stipulations in detail and agree to comply with the requirements and intent of specification.
This is certified that our organization has been registered as per Tender Notice & NIT & IITD form 8Tender.We further certified that our organization meets all the conditions of eligibility criteria laid down in this tender document.

We, further specifically certify that our organization has not been Blacklisted/De Listed or put to any Holiday by any Institutional Agency/ Govt. Department/ Public Sector Undertaking in the last three years.	NAME & ADDRESS of the Vendor/ Manufacturer / Agent
1. Phone	**As per Tender Notice & NIT**
2. Fax	
3. E-mail	
4. Contact Person Name	
5. Mobile Number	
6. GST Number	
7. PAN Number	
8.(In case of on-line payment of Tender Fees) UTR No. (For Tender Fee)	
9.(In case of on-line payment of EMD) UTR No. (For EMD)	

(Signature of the Tenderer)

Name:

Seal of the Company

Annexure-III

List of Govt. Organization/Deptt.

List of Government Organizations for whom the Bidder has undertaken similar works As per Tender Notice & NIT & IITD form 8		
Name of the organization	**Name of Contact Person**	**Contact No.**
AS PER TENDER NOTICE		

Signature of

Bidder Name:_____

Designation:_____

Organization Name: _____

Contact No. : _____

PART-B

IITD – 7/8 E-TENDERING	IITD

INDIAN INSTITUTE OF TECHNOLOGY DELHI
HAUZ KHAS, NEW DELHI - 110016
Item Rate Tender & Contract for Composite Work

Tender for the work of: **As per NIT Form-6 Tender Notice**

To be submitted by **as per tender notice** to
……
(i) To be opened in presence of bidders who may be present at **as per tender notice** ……
in the office of **D.R. (Store)**
Issued to …….
Signature of officer issuing the documents ……..……
Designation..……..……
Date of Issue …….

TENDER

I/We have read and examined the notice inviting tender, schedule, A, B, C, D, E & F Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, Special conditions, Schedule of Rate & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified for the The Board of Governors, IIT Delhi, Hauz Khas, New Delhi - 16 within the time specified in Schedule 'F' viz., schedule of quantities and in accordance in all respect with the specifications, designs, drawing and instructions in writing referred to in Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of contract and with such materials as are provided for, by, and in respect of accordance with, such conditions so far as applicable.

We agree to keep the tender open for **ninety (90)** days from the last date of submission of bid.

A sum of **as per tender notice** is hereby forwarded in Banker Cheque or Demand Draft or Fixed Deposit receipt of a schedule bank drawn in favor of IIT Delhi as earnest money. If I/We fail to furnish the prescribed performance guarantee within prescribed period. I/We agree that the said The Board of Governors,
IIT Delhi, Hauz Khas, New Delhi - 16 or his successors, in office 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 Board of Governors, IIT Delhi, Hauz Khas, New Delhi - 16 or the successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely, otherwise the said 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 those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.5 of the tender form. Further, I/We agree that in case of forfeiture of Earnest Money & Performance Guarantee as aforesaid. I/We shall be debarred for participation in the re-tendering process of the work.

IITD – 7/8 E-TENDERING	IITD

I/We undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back-to-back basis. Further that, if such a violation comes to the notice of the Department, then I/We shall be debarred for tendering in IITD in future forever. Also, if such a violation comes to the notice of the Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.

I/We hereby declare that I/We shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived there from to 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 Contractor

Witness:

Postal Address

Address:

Occupation:

IITD – 7/8 E-TENDERING	IITD

ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for an on behalf of The Board of Governors, IIT Delhi, Hauz Khas, New Delhi - 16 for a sum of (Rupees……..).

The letters referred to below shall form part of this contract agreement: -

(a)

(b)

(a)

For & on behalf of Board of Governors, IIT Delhi Signature

……..

Dated:

Designation …….

PROFORMA OF SCHEDULES	IITD

SCHEDULES (A to F)

(For Civil & Electrical Component)

SCHEDULE 'A'

Schedule of quantities for Laboratory Furniture and associated Civil and Electrical Works as attached.

SCHEDULE 'B'

Schedule of materials to be issued to the contractor.

S.No.	Description of item	Quantity	Rates in figures & words at which the material will be charged to the contractor	Place of issue
1	2	3	4	5
----------NIL----------				

SCHEDULE 'C'

Tools and plants to be hired to the contractor.

S.No.	Description	Hire charges per day	Place of Issue
1	2	3	4
----------NIL----------			

SCHEDULE 'D'

Extra schedule for specific requirement/document for the work, if any.	Nil.

SCHEDULE 'E'

Reference to General Conditions of contract :	CPWD GCC for Construction Works 2023 along with correction on slips / amendments issued up to last date of submission of bid.

Name of Work	:	**Setting up dry labs in Academic Complex East (99C) and Academic Complex West (99B) at IIT Delhi. Sub Head: Laboratory Furniture and associated Civil and Electrical Works.**
Estimated cost of work:	:	**Rs.13,21,18,730/-**
Earnest Money:	:	**Rs.23,21,188/-**
Performance Guarantee	:	5% of the tender value.
Security deposit	:	2.5% of the tender value.

SCHEDULE 'F'

GENERAL RULES & DIRECTIONS:

1. Officer inviting tender	:	Executive Engineer [CD-II]
2. Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with the clauses 12.2 & 12.3	:	See Below

Definitions:

2(i)	Engineer-in-Charge	:	Executive Engineer [CD-II]
2(ii)	Accepting Authority	:	Institute Engineer
2(iii)	Percentage on cost of materials and Labour to cover all overheads and profits:	:	15%
2(iv)	Standard Schedule of Rates:	:	DSR 2023 for civil works with 3% cost index, DSR 2022 for E & M works with up-to-date correction slip on date of submission of bid + Market Rate items & 0.973 GST factor.
2(v)	Department:	:	**Works department at IIT Delhi**
2(vi)	Standard IITD Form & CPWD contract form GCC for Construction Works 2023 modified & corrected up to the last date last date of submission of bid.		

Clause 1

(i) Time allowed for submission of Performance Guarantee from the date of issue of letter of acceptance : 15 days

(ii) Maximum allowable extension with late fee @ 0.1 % per day of Performance guarantee amount beyond the period provided in (i) above, : 7 days

Clause 2

Authority for fixing compensation under clause 2: : Institute Engineer

Clause 5

Number of days from the date of issue of letter of acceptance for reckoning date of start: : 10 (Ten) days

MILE STONE CHART

Sl. No.	Description of milestone (financial terms)	Period for completion from date of start in days/months	Withheld amount for non- achievement of milestone.
1	Submission & Approval of shop drawings.	15 days	1% of the Tender Amount
2	Supply of furniture of 10 labs.	90 days	1% of the Tender Amount
3	Supply of furniture of 30 labs.	120 days	1% of the Tender Amount
4	Supply and Installation of furniture of 100% of labs.	180 days	1% of the Tender Amount

Time Allowed for execution of work : **6 Months**

Authority to decide:

(i) Extension of Time : Director

(ii) Rescheduling of mile stones : Director

(iii) Shifting of Date of start in case of Delay in handing over of site : Institute Engineer

Clause 6 : Clause 6

Clause 7

Gross work to be done together with net payment /adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment: : Minimum Rs. 100 Lakhs

Clause -7A : Applicable a**s per Institute Policy**

No running account bill shall be paid for the work till the applicable labour licences, registration with EPFO, ESIC and BOCW Welfare Board, whatever applicable are submitted by the contractor to the Engineer-in-Charge.

Clause 10A

List of testing equipment to be provided by the contractor at site lab : **Not Applicable**

Clause 10B : **Applicable**

Clause 10C

Component of labour expressed as a percentage of value of work**:** **25%** for Civil work

15% for Electrical work

Clause 10CA **:** **Not Applicable**

S. No.	**Material Covered under this clause**	**Nearest Materials (other than cement, reinforcement bars and the structural steel) for which All India Wholesale Price Index to be. followed**	**Base Price of all Materials covered under clause 10 CA***
1.	Cement	**Not Applicable**	
2.	Cement		
3.	Reinforcement bars		
4.	Structural steel		

Clause 10CC

Clause 10 CC to be applicable in contracts with stipulated period of completion exceeding the period shown in next column	**:**	**Not Applicable**

Clause 11

Specifications to be followed for execution of work	:	**CPWD specifications (Civil) 2019 Vol. I and Vol. II** with upto date correction slips. **CPWD Specification 2023 for Electrical works** with up to date correction slips and manufacturers Specifications up to the last date of bid submission / uploading of tender. **Laboratory Furniture work:** Specifications as specified at page no. 50 to 64 of the NIT

Clause 12

	Type of work	**New / Original Work**
12.2 & 12.3	Deviation limit beyond which clauses 12.2 & 12.3 shall apply for building work :	100%
12.4 (i)	Deviation Limit beyond which clauses 12.2 & 12.3 shall applicable for foundation work (Except items mentioned in earthwork subhead of DSR and related items) **:**	100%
12.4 (ii)	Deviation Limit for Items in earth work subhead of DSR and related items	100%

Clause 16

Competent Authority for deciding reduced rates : Institute Engineer

Clause 18

List of mandatory machinery, tools & plants to be deployed by the contractor at site : As per requirement

Clause 25

Constitution of Dispute Redressal Committee (DRC)	
Chairman	To be notified at appropriate stage.
Member	
Member	

Note: The above constitution of the Dispute Redressal Committee is subject to change, for which necessary notification shall be issued by the competent authority of the department, if required.

Clause 32

Requirement of Technical Staff(s) & Recovery Rate

Cost of Work (Rs. In Crores)	**Requirement of Technical Staff**		**Minimum experience (Years)**	**Designation of the Technical Staff**	**Rate at which recovery shall be made from contractor in the event of not fulfilling the provision of clause 32**
	Qualification	**Number (of Major + Minor Component)**			
More than 10 to 20	Graduate Engineer	1	10 (and having experience of one similar nature of work)	Project Manager	Rs.30,000/- per month
	Graduate Engineer or Diploma Engineer	1	5 or 10 respectively	Project / Site Engineer	Rs.25,000/- per month
	Graduate Engineer or Diploma Engineer	1+1	2 or 5 respectively	Planning / Quality / Billing Engineer	Rs.15,000/- per month per person
	Graduate Engineer or Diploma Engineer	1+1	2 or 5 respectively	Project Planning / Quality / Billing Engineer	Rs.15,000/- per month per person

Assistant Engineers retired from Government services that are holding Diploma will be treated at par with Graduate Engineers.

Diploma Holder with minimum 10 years relevant experience with a reputed construction company can be treated at par with graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50 % of requirement of degree Engineer.

Clause 38

i)	Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of Delhi Schedule of Rates 2021with up to date correction printed by C.P.W.D.	
ii)	Variations permissible on theoretical quantities	
a)	Cement:	
	For works with estimated cost put to tender not more than Rs.5 lakh.	5% plus/minus. (Three percent)
	For works with estimated cost put to tender more than Rs.5 lakh	2% plus/minus. (Two percent)
b)	Bitumen all works.	2.5% plus & only & nil on minus side
c)	Steel Reinforcement and structural steel sections for each diameter, section and category	2% plus/minus (Two percent)
d)	All other materials	
e)	Schedule for determining theoretical consumption of Brick work on the basis of DSR 2021	

SPECIAL CONDITIONS

1. Non-judicial stamp paper worth **Rs.100/- (Hundred Rupees only)** will be submitted by the contractor which will have to be signed as a token of acceptance.
2. No T & P will be supplied by the Institute and the contractor will have to make his own arrangements.
3. The contractors are advised to get acquainted with the proposed work including specifications & its site and additional conditions carefully before quoting. No claim of any sort shall be entertained or account of any site conditions and ignorance of specifications & additional conditions. The work shall be carried out as per the availability of the site.
4. The work shall be carried out as per CPWD specifications for civil and electrical work with up–to–date correction slips unless otherwise specified in the nomenclature of individual items or in the specification, additional conditions where specifications are silent, the decision of Engineer-in-Charge shall be final and binding on contractor.
5. The rates quoted by the contractor shall be taken as net and nothing extra shall be paid on any account i.e. Royalty, Cartage, GST & stacking of material required at places, etc. The rates for different items of work shall apply for all Heights & Depths, Leads & Lifts unless otherwise specified in the agreement or specifications applicable in the agreement.
6. Any damage done by the contractor to any existing item / any part of the building during the execution of work shall be made good at his own cost.
7. Articles manufactured by the reputed firms as per the approved make list and as approved by the Engineer-in-charge shall only be used at work.
8. The sample of material required in the work brought at site shall be submitted prior technical specification of individual items and got the approval of material from Engineer –in-Charge before use in the execution of work.
9. All expenditures to be incurred for testing of samples e.g. packaging, sealing, transportation, loading, unloading, etc. including testing charges shall be borne by the contractor.
10. The contractor shall submit a detailed program of work within 3 days of the date of award of work. The engineer–in–charge can modify the program, and the contractors must work accordingly.
11. The contractor shall make his own arrangement to get permission with respect to trucks from the Traffic Police.
12. No payment shall be made to the contractor for any damage caused by the rain, snowfall or any other natural causes whatsoever during the execution of work.
13. Some restrictions may be imposed by the security staff of IIT Delhi etc. on the working and or movement of labor & material. No labor camps/ huts shall be allowed on the IIT Campus. The contractor shall make his own arrangement for labor huts outside the campus. However, the construction of a cement godown and Chowkidar's hut on the Campus shall be permitted. The contractor shall be bound to follow all such restrictions/ instructions, and nothing shall be payable on this account.
14. The contractor shall be fully responsible for the safe custody of the material issued or brought at site by him for doing the work.
15. The Malba / Garbage generated at the site due to construction activities shall be removed from the site immediately & shall be disposed off by the contractor to the approved dumping site of MCD and all statutory approvals from local bodies shall be the sole responsibility of the contractor.
16. The contractor shall clean the site thoroughly of scaffolding materials, rubbish, equipment's left out of his work & dress the site around the building to the complete satisfaction of the Engineer-in-Charge before the work is treated as completed.

17. Contractor must quote against the item of schedule of credit of material. The contractor cannot quote either minus rate or zero rate for these items.
18. Income tax and other taxes as applicable shall be deducted from the bills of the contractor.
19. 1% labour cess or as applicable will be deducted from the bills of the contractor.
20. **Water charges @1% and Electricity charges @0.50% of gross work done shall be deducted from bills of contractor, if electricity and water provided by IIT Delhi.**
21. Agency must take proper safety major during the execution of work.
22. **GCC form 7/8 shall form part of NIT, and the bidder shall go through CPWD GCC 2023 for construction works before quoting rates and the same shall be deemed to be accepted by the bidder if he participates in the tender.**
23. The contractor shall submit the program of execution of work as per clause 5 of GCC of IIT form 7/8 of NIT including a list of workers to be deployed by the contractor for this work.
24. The contractor shall be responsible for keeping the site free of any kind of mosquito breeding. If it is found that breeding is taking place the entire responsibility shall be of contractor to bear challan etc. done by local bodies.
25. GST shall be considered as inclusive in the quoted rate of the agency.
26. The work shall be executed as per the architectural drawings and instructions of the Engineer-In-Charge / Architect shall be strictly adhered.
27. Electrical work will be executed only through the agency that has having valid electrical license, and a copy of the valid electrical license will be submitted before the start of work.
28. In addition to the security deposit already deducted under clause-1A of GCC -**2023**, an amount of 10% of the total amount of waterproofing work shall be deducted from the final bill of the contractor as an additional security deposit which will be refunded only after completion of the period of Guarantee Bond and Warranty period of five years. However, this can be released on submission of Bank guarantee/FDR issued from a scheduled bank in favor of Registrar, IIT Delhi.)
29. Original warranty certificate of 5 Years for Audiovisual work, fire alarm and detection system, CCTV, and LED lighting fixtures will be submitted by the agency before the final bill to the Engineer in charge.
30. The following Specialized works shall be carried out by specialized agencies/ agency on their own if they have experience of

    a) 3 similar works of 40 % value of specialized work component of tendered amount.
    b) 2 similar works of 60 % value of specialized work component of tendered amount.
    c) 1 similar work of 80 % value of specialized work component of tendered amount.

31. **Specialized work / Associate Works:**

    The bidder should either meet the eligibility conditions for the work as above or otherwise he will have to associate with an agency meeting the eligibility requirements for specialized works after award of work and has to submit details of such agency(s) conforming eligibility conditions as defined in the bid document to the Engineer in charge before taking up specific component. The names of the agency(s) to be associated shall be approved by the competent authority. The contractor of the appropriate class shall have to associate other agency(s) for execution of each of the work(s), which fulfils the eligibility criteria as defined after taking prior approval. The Composite Contractor and the associated specialized agencies shall give the required affidavit to confirm their association. Tender accepting authority may approve change of sub agency in case it is required during the currency of contract. However, the composite category contractor shall also be eligible to carry out himself any or all these works without associating any specialized agency provided: -

    A. He fulfills the prescribed eligibility criteria respectively for these work(s).

OR

He directly procures the equipment of approved make from manufacturers and gets it installed from authorized agency / service provider of the manufacturer or specialized agency as per criteria mentioned.

The main contractor, if does not fulfil the criteria himself, shall have to associate with specialized agency fulfilling the following eligibility criteria having successfully completed during last seven years ending up to previous day of last date of submission of tender as given below with completion certificate issued by an officer not below the rank of Executive Engineer or Equivalent duly attested. The Completion certificate should contain the name of the contractor with address, Name of work and location, date of start of work, actual date of completion, amount of work done, satisfactory performance etc.

The following works are considered as specialized work.

S. No.	Specialized work(s) / item of work(s)	Criteria of associate agencies
1.	Civil Works	The associate agency should have successfully completed works, as mentioned under during the last 7 years ending previous day of last date of submission of tender. (i) Three similar work each costing not less than Rs.44.07 lacs or (ii)Two similar works each costing not less than Rs. 66.10 lacs or (iii) One similar work costing not less than Rs.88.14 lacs. The value of executed similar work shall be brought to the current costing level by enhancing the actual value of work at a simple rate of 7% per annum calculated from the date of completion to the previous day of last day of submission of bids. (Specialized similar work shall means "Renovation / Addition / Alteration / Rehabilitation / New Construction of Building (Civil Work only.)"
2.	Electrical Works	The associate agency should have successfully completed works, as mentioned under during the last 7 years ending previous day of last date of submission of tender. (i) Three similar work each costing not less than Rs.159.71 lacs or (ii)Two similar works each costing not less than Rs.239.56 lacs or (iii) One similar work costing not less than Rs.319.42 lacs. The value of executed similar work shall be brought to the current costing level by enhancing the actual value of work at a simple rate of 7% per annum calculated from the date of completion to the previous day of last day of submission of bids. (Specialized similar work shall means "Providing and fixing of Electrical Installation work.)"

Additional conditions

1. The agency may be asked to arrange a Factory visit of the manufacturer for the Engineer-in-charge and two other representatives to verify the genuineness of the product at any stage of the order.
2. The agency has to provide a copy of the invoices to the department at the time of supply of furniture and the department shall be at liberty of verifying the authenticity and genuineness from the manufacturer. The laboratory / modular furniture shall have to be supplied and fixed in position as per the architectural drawings, requirement of the client department and as per the direction of Engineer-in-charge. Nothing extra shall be paid for providing & fixing/placing furniture.
3. The agency shall have to furnish a certificate from the manufacturer's head office / Branch Office mentioning that the materials have been supplied by them for the particular work. The manufacturer has to certify after verifying the material at the site, if the department desires so. The department will be at liberty of asking for documentary evidence in support of the manufacturer material, to verify the authenticity and genuineness.
4. The bidder shall provide warranty of two years against the manufacturing defects and to undertake repair and replacement of the defective part from the date of completion of the work.
5. The contractor has to set up a mockup of furniture with a color scheme immediately after the award of work or before the supply of actual furniture which will be finalized by IIT Delhi authorities.
6. The original warranty certificate from the OEM of the furniture will be obtained by the agency and the same will be handed over to the Engineer-In-Charge or his representative. The final bill will only be cleared up after submitting the original warranty certificate from OEM.
7. OEM Authorization certificates as per annexure-IV will be submitted by the contractor.
8. The order of preference in case of any discrepancy found in furniture items may be read as the following: -
   a) Description of Schedule of quantities.
   b) Particular Specification and Special Condition, if any.
   c) Drawings
   d) CPWD Specifications.
   e) Indian Standard Specifications of BIS
9. No claim for idle establishment & labor, machinery & equipment, tools & Plants, and the like for any reason whatsoever, shall be admissible.
10. The department shall not bear responsibility for lack of knowledge of site conditions and also the consequences thereof. The information and site data mentioned herein and also elsewhere in the tender documents are being furnished for general information and guidance only. The Engineer in charge in no case shall be held responsible for the accuracy thereof or any interpretation / or conclusions drawn therefrom by the contractor.

ANNEXURE-IV

Format for "OEM authorization certificate"

To
The Executive Engineer (CD-II)
IIT Delhi, Hauz Khas,
Delhi – 110016

Name of Work : As per IITD Form 6 Tender Notice

Sub Head : As per IITD Form 6 Tender Notice
Subject : OEM authorization certificate for furniture work.

Dear Sir,

This is to inform you that M/s…….. (Name of the OEM of furniture) having its registered office at ……hereby authorize M/s…….(Name of the contractor / bidder) having its registered office at…….to supply, install, test and commission our furniture related items against your above mentioned work. We shall provide full support to M/s……..(Name of the contractor / bidder) for our range of products quoted by them to meet the above mentioned tender requirements. We shall provide 2 years standard warranty at no extra cost.

The undersigned is authorize to issue authorization on behalf of M/s…….. (Name of the OEM of furniture).

Authorize Signatory (OEM)

BID SUBMISSION

ONLINE BID SUBMISSION

The Online bids (complete in all respect) must be uploaded online in **two** Envelops as explained below: -

Envelope – 1 (Following documents to be provided as single PDF file)			
Sl. No.	**Documents**	**Content**	**File Types**
1.	Technical Bid	Demand Draft / Pay order or Banker`s Cheque / Deposit at Call Receipt / FDR of any Scheduled Bank against EMD.	.PDF
2.		Enlistment / Registration order of contractor, if applicable in this tender, as per NIT Form 6 Tender notice.	
3.		Certificate of work experience.	
4.		Certificate of Registration for GST and acknowledgement of up to date filed return of GST.	.PDF
5.		Affidavit of Rs.100/- on Non-judicial Stamp paper as per Notice Inviting Tender Condition 1.3 at page 8 of NIT. (Stamp Paper shall be purchased/ notarized between date of publishing and last date of submission of bids beside this NIT/Tender ID and name of work must be mentioned on the affidavit).	.PDF
6.		Acceptance to execute INTEGRITY PACT.	.PDF
7.		Undertaking as per **page 5/ Sl. No. 20'** on firm's letter head. **"The physical EMD shall be deposited by me / us with the Authority inviting the tender, in case I / we become the lowest tenderer, within a week of the opening of financial bid, otherwise, department may reject the tender and also take action to debar me / us from tendering in any form in IIT Delhi"**	.PDF
8.		ESI & EPF registration.	.PDF
9.		FORM "F" (Duly filled with all required details).	.PDF
10.		In case of Partnership firm if all the papers of tender not signed by all the partners than a power of attorney authorizing the person who has signed the tender paper must be uploaded with the tender documents.	.PDF
11.		The bidder/ OEM of furniture should be an official member with SEFA (Scientific Equipment's Furniture Association) on a continuous basis at least for the past 5 years. Documentary evidence to be submitted.	.PDF
12.		Average annual turnover certificate (for the last three financial years) from the Registered Chartered Accountant for at least 30% of the Estimated Cost as per the tender notice.	.PDF
13.		Solvency certificate of 40% of the estimated cost from any registered/ nationalized bank issued in the current financial year.	.PDF
14.		Profit and Loss statements as per clause 2 (vii) at page no. 5 of the NIT.	.PDF
15.		Annexure-1 (Duly Filled & signed by the bidders)	.PDF
16.		Annexure 2 (Duly Filled & signed by the bidders)	.PDF
17.		Annexure 3 (Duly Filled & signed by the bidders)	.PDF
18.		Annexure 4 (Duly Filled & signed by the bidders)	.PDF
19.		Any other documents given in NIT	.PDF
Envelope – 2			
Sl. No.	**TYPES**	**Content**	
1.	Financial Bid	The price bid should be submitted in BOQ format.	**.Xls**

All the above documents shall be as per Tender Notice.

Part - C

PARTICULAR SPECIFICATIONS

LAB FURNITURE

DESCRIPTION OF WORK

SUMMARY AND SCOPE

The scope includes supply, installation, testing and commissioning of Plinth base type lab furniture with storage, worktop, leg space / knee space, electrical switches and sockets, sinks and faucets, gas / water valves, anti-vibration tables, and accessories as mentioned in schedule of quantity and attached drawings.

Section Includes:

a. Furnish all cabinets and casework, including tops, ledges, supporting structures, and miscellaneous items of equipment as listed in these specifications and schedule of quantity, equipment schedules, and drawings including 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 as listed in these specifications, schedule of quantity, equipment schedules, and drawings, as mounted on the laboratory furniture. All plumbing and electrical fittings, not preinstalled in equipment, shall 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 or listed in these specifications, schedule of quantity, equipment schedules, and drawings. All tail pieces shall be furnished less the couplings required to connect them to the drain piping system All the connections from the sink coupling to the drain point will be done by the contractor.

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. Remove of all debris, dirt and rubbish accumulated as a result of the installation of the laboratory furniture to an onsite container provided by others, leaving the premises broom clean and orderly.

1.01 BASIS OF WORK

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

2.00 FLOOR MOUNTED FURNITURE SYSTEM:

CABINET STYLE:

Steel:
Cabinet bodies, drawer bodies, shelves, drawer heads and door assemblies shall be fabricated from Cold Rolled Cold Annealed Steel (CRCA).

2.01 DRAWER AND DOOR STYLE:

Overlay – Square Edge.
Drawer and door, when closed, shall rest against face of cabinet shell, creating a 3/4" overlay front with 1/8" reveal. The outer drawer and door head shall have a channel formation on all four sides to eliminate sharp raw edges of steel. The top front corners of the door shall be welded and ground smooth. Cabinet shall be available with 5-knuckle, semi-concealed or concealed hinges and optional pulls.

2.02 MATERIALS

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

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

C. Glass:
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.

D. Drawer and Door Pulls:
Drawer and door pulls shall be mounted on 4" centre's, offering a comfortable hand grip, and be securely fastened to doors and drawers. Pull shall be of modern design, offering a comfortable handgrip, and be securely fastened to doors and drawers with screws. All pulls shall be satin finish aluminum, with a clear, lacquer finish. Two pulls shall be required on all drawers over 24" long. Use of plastic pulls (molded or extruded), or a design not compatible for usage by the handicapped will not be acceptable.

E. Hinges:
Overlay 5-Knuckle Hinges:
5-Knuckle hinges made of Type 304 stainless steel 0.089 thick, 2-1/2" high, with brushed satin finish, and shall be the institutional type with a five-knuckle bullet-type barrel. Hinges shall be attached to both door and case with two screws through each leaf. Welding of hinges to door or case will not be accepted. Doors under 36" in height shall be hung on one pair of hinges, and doors over 36" in height shall be hung on three hinges

F. Drawer Slide:
Heavy duty, full extension, soft-close, self-closing, zinc plated, ball bearing slides, rated for 100 pound loads.

G. Locks
Disk Tumbler:
Locks when shown or called for shall be a 5-disc tumbler with heavy duty interchangeable cylinder. Exposed lock noses shall be dull nickel (satin) plated and stamped with identifying numbers. Locks shall have capacity for 2000 primary key changes and Master Keyed one level with the potential of 5 different, non-interchangeable Master Key groups.

H. Positive Catch:
A two-piece heavy-duty cam action positive catch. Main body of the catch shall be confined within an integral cabinet top or divider rail, while latching post shall be mounted on the hinge side of door. Polyethylene roller type catches are acceptable.

I. Shelf Adjustment Clips:
Shelf adjustment clips shall be ED (Electrophoretic deposition) coated steel.

J. Base Molding:
Base Molding shall be provided on all table legs, unless otherwise specified, to conceal leveling device. Shoes shall be a pliable, black vinyl material. Corner clip should be provided to hold the base molding firmly. Use of a leg shoe, which does not conceal levelling device, will not be acceptable.

K. Sink Supports:
Sink supports shall be the hanger type, suspended from end panels of sink cabinet by four 1/4" dia. rods, threaded at bottom end and offset at top to hang from two full-depth reinforcements, welded to the top of end panels. Two 3/4" x 1-1/2" x 12 gauge channels shall be hung on the threaded rods to provide an adjustable sink cradle for supporting sinks

L. Support Struts:

Support struts shall consist of two 16 gauge channel uprights fastened top and bottom by two adjustable 12 gauge "U" shaped spreaders, each, 1-1/2" x length required, formed from galvanized steel. Struts shall be furnished to support drain troughs, and to support worktop at plumbing space under fume hood superstructures or other heavy loads. Support struts can be furnished with hangers at extra cost when specified, to support mechanical service piping and drain lines.

M. Universal Sockets

General control switches shall be of a 5A rating and shall be of approved make/type suitable for flush mounting. Switches shall have either integral mounting plates or white PVC/Perspex of min. 4.5 mm thick. Physical properties of switches i.e., the creepage distance shall needs to be truly comply with clearances and distances as per IS 3854 IS 60529 & IS 11000. All sockets of 5A and 15A ratings shall be of flush mounting type with combined control switches of the same rating as that of the sockets. All sockets' outlets shall be of 3/5 pin type. The switch, plug socket or regulator boxes shall be made of GI/sheet steel of minimum 16 SWG on all sides except in the front. Depth of boxes shall not be less than 75 mm and suitably increased where fan regulators are mounted in flush pattern. The boxes shall be provided with suitable earthing studs. Wherever required switches/fittings shall be fixed on metal strip, which in turn are welded to the box.

2.03 CONSTRUCTION

Steel Base Cabinet Construction:

1. General:

a. The steel furniture shall be of modern design and shall be constructed in accordance with the best practices of the Scientific Laboratory Equipment Industry. First class quality casework shall be insured by the use of proper machinery, tools, dies, fixtures and skilled workmanship to meet the intended quality and quantity for the project.

b. All cabinet bodies shall be flush front construction with intersection of vertical and horizontal case members, such as end panels, top rails, bottoms and vertical posts in same plane without overlap. Exterior corners shall be spot welded with heavy back up reinforcements.

c. Each cabinet shall be complete so that units can be relocated at any subsequent time without requiring field application of finished ends or other such parts.

d. Case openings of Inset style cabinets shall be rabbeted on all four sides for both hinged and sliding doors to provide a dust resistant case.

e. All cabinets shall have a cleanable smooth interior. Bottoms shall be formed down on sides and back to create easily cleanable corners with no burrs or sharp edges.

f. Cabinets shall be designed using a standardized grid pattern to allow reconfiguration of doors and drawers.

2. Steel Gauges:

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

a. Levelling bolt reinforcements 12 gauge or 2 mm.
b. Case and drawer suspension channels, 14 gauge
c. Top and intermediate front horizontal rails, apron rails, hinge reinforcements, and reinforcement gussets, 16 gauge or 1.2mm.
d. Drawer assemblies, door assemblies, bottom, bottom back rail, toe space rail, and adjustable shelves, 20 gauge or 0.8mm.

3. Base Cabinets:

a. End uprights shall be formed into not less than an L formation at top, bottom, back and a 1" wide front C formation. A pilaster shall be added to the inside front of the upright for cabinet and hinge reinforcement and shall be perforated for the support of drawer channels, intermediate rails, hinge screws, and shelf adjustment holes.

b. A 7/8" high top horizontal rail shall interlock with the flange at top of end panels for strength, but shall be flush at face of unit. Top rails not flush with face of end uprights are not acceptable.

c. Intermediate rails shall be provided between doors and drawers, but shall not be provided between drawers unless made necessary by locks in drawers. Intermediate rails shall be recessed behind

doors and drawer fronts, and designed so that security panels may be added as required.

d. Intermediate vertical uprights shall be furnished to enclose cupboards when used in a unit in combination with a half width bank of drawers.

e. Cabinet bottom shall be formed of one piece of steel, except in corner units, and shall be formed down on sides and back to create a square edge transition welded to cabinet end panels. Front edge shall include a C formation to form a 7/8" high bottom front rail and shall be flush with face of end uprights. Cabinet bottom front rails not flush with face of end uprights are not acceptable.

f. Toe space rail shall extend up and forward to engage bottom panel to form a smooth surfaced fully enclosed toe space, 3" deep x 4" high.

g. Back construction shall be one piece with integral channel formed for maximum strength and welded to back of top and bottom flanges of end uprights.

h. Each bottom corner of base cabinets shall have a 3/8"-16 levelling bolt, 2-1/2" long capable of supporting 500 lbs. Access to the levelling bolts shall be through plug buttons in the cabinet bottom. Access to levelling bolts through toe space or levelling bolts requiring special tools to adjust are not acceptable.

i. Adjustable shelves shall be formed down 3/4", returned back 7/8" and up 1/4" into a channel formation front and rear and 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.

j. Steel Door assembly (two-piece) for solid panel swinging doors shall consist of an inner and outer door pan. Outer door pan shall be formed at all four sides. The corners on the pull side of the outer door pan shall be welded and ground smooth to prevent exposure of sharp edges of steel at these critical points. Inner door pan shall be flanged at all four sides with hinge reinforcements welded in place. The door assembly shall be 3/4" thick and contains sound deadening material. Door assemblies shall be painted prior to assembly, and shall be punched for attaching pulls. Inner pan formation of door shall be indented for in-field installation of locks when required.

k. Doors shall be readily removable and hinges easily replaceable. Hinges shall be applied to the cabinet and door with screws. Welding of hinges to either cabinet or door will not be acceptable.

4. Drawer Assemblies:

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

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

2.04 PERFORMANCE REQUIREMENTS

A. Steel Casework Construction Performance:

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

2. Base cabinet levelling bolts shall support 500 pounds per corner, at 1-1/2" projection of the levelling bolt below the cabinet bottom.

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

4. Full extension soft-close, self-closing ball bearing zinc plated drawer slide shall be rated for 100 pound loads.

5. Swinging doors on floor-mounted inset style casework shall support 200 pounds suspended at a point 12" from hinged side, with door swung through an arc of 160 degrees. Weight load test shall allow only a temporary deflection, without permanent distortion or twist. Door shall operate freely after test and assume a flat plane in a closed position.

.

B. Steel Paint System Finish and Performance Specification:

1. After Cold Rolled Steel and Textured Steel component parts have been completely welded together and before finishing, they shall 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 shall 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 shall provide both an excellent bond for the finish and enhance the protection provided by the finish against humidity and corrosive chemicals.

2. After the phosphate treatment, the steel shall be dried and all steel surfaces shall be coated with a chemical and corrosion-resistant, environmentally friendly, electro statically applied powder coat finish. All components shall be individually painted, ensuring that no area is vulnerable to corrosion due to lack of paint coverage. The coating shall then be cured by baking at elevated temperatures to provide maximum properties of corrosion and wear resistance. **The thickness of the epoxy powder coating should be between 80 and 100 micron**.

3. The completed finished system in standard colors shall meet the performance test requirements specified under PERFORMANCE TEST RESULTS.

C. Performance Test Results (Chemical Spot Tests):

a. Testing Procedure:

Chemical spot tests for non-volatile chemicals shall be made by applying 5 drops of each reagent to the surface to be tested and covering with a 1-1/4" dia. watch glass, convex side down to confine the reagent. Spot tests of volatile chemicals shall 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 shall 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 shall 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 shall 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 shall be scrubbed with a damp paper towel and dried with paper towels.

b. Test Evaluation:

Evaluation shall be based on the following rating system.

Level 0 – No detectable change.
Level 1 – Slight change in color or gloss.
Level 2 – Slight surface etching or severe staining.
Level 3 – Pitting, cratering, swelling, or erosion of coating. Obvious and significant deterioration.

After testing, the panel shall 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.	Dichlor Acetic Acid	Cotton ball & bottle
16.	Dimethylformanide	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 Cloride	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, percentages are by weight.

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

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

F. Performance Test Results (Bending Test):
An 18-gauge steel strip, finished as specified, when bent 180^{o} over a 1/2" diameter mandrel, shall show no peeling or flaking off of the finish.

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

H. Performance Test Results (Hardness):
The test sample shall 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 shall 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.

I. Upper Cabinet Construction (Wall Units):

1. Upper cabinets shall have a completely finished interior same as exterior and shall be designed so that no mounting hardware is visible when installed.

2. End uprights shall be formed at front, bottom and back to provide maximum strength and rigidity. 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.

3. 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.

4. Cabinet flush bottoms shall be formed with a 7/8" high C formation at the front edge.

5. Cabinet false bottoms shall be formed down on all four edges and shall be removable.

6. Cabinet backs shall be welded to the top, bottom and ends. Backs shall be perforated for shelf adjustment holes. Holes shall be enclosed by end uprights.

7. 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.

8. 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

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

J. Steel Full Height Cabinet Construction (Tall Units):

1. Full height storage cabinets shall have a completely finished interior same as exterior.

2. End uprights shall be formed at front, bottom and back to provide maximum strength and rigidity. Front fascia of upright shall be 1-1/4" wide with inside edge formed in a channel 1/2" x 3/8". A full height box reinforcement shall be fitted to the channel, formed to provide a recessed strike for door and to reinforce the cabinet. The backside of the reinforcement shall be perforated with shelf adjustment holes spaced at not more than 1" centers. Back of upright shall be formed in a 2-1/2" formation. 16 gauge hinge reinforcement shall be welded to inner side of front uprights*.*

3. Cabinet tops shall be formed into a channel shape at front with flange at rear and sides for electro-welding cabinet top to cabinet back and ends. Front fascia channel shall be strengthened with electro-weld reinforcements.

4. Cabinet bottoms for storage cabinets shall be formed down on sides and back to create a square edge transition welded to cabinet end panels, and front edge shall be offset to create a seamless door recess rabbet for dust stop. Cabinet bottoms shall be formed to provide a flush 1" face rail with a return flange to give a 9/16" deep x 5" high toe space. All cabinets shall have a cleanable smooth interior.

5. Toe space rails shall interlock in back of bottom rail and with end panel to provide a welding plate, and shall extend to the floor with a flange turned back and up for support.

6. Cabinet backs shall be welded to the top, bottom and ends. Backs shall be perforated for shelf

adjustment holes on not more than 1" centers. Holes shall be enclosed by a formation in cabinet back and enclosed by end uprights.

7. 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 electro-welded to underside of shelf. Shelves shall be adjustable on not more than 1" increments.

8. 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. Door glazing 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

9. Sliding doors shall be suspended from the top in a roll formed steel track welded to cabinet top and shall glide on nylon rollers. Track shall be so designed to prevent accidental removal of doors.

K. Steel Full Height Cabinet Construction: (Apron Storage Cabinet)

1. Full height storage cabinets shall have a completely finished interior same as exterior.

2. End uprights shall be formed at front, bottom and back to provide maximum strength and rigidity. Front fascia of upright shall be 1-1/4" wide with inside edge formed in a channel 1/2" x 3/8". A full height box reinforcement shall be fitted to the channel, formed to provide a recessed strike for door and to reinforce the cabinet. The backside of the reinforcement shall be perforated with shelf adjustment holes spaced at not more than 1" centers. Back of upright shall be formed in a 2-1/2" formation. 16 gauge hinge reinforcement shall be welded to inner side of front uprights.

3. Cabinet tops shall be formed into a channel shape at front with flange at rear and sides for electro-welding cabinet top to cabinet back and ends. Front fascia channel shall be strengthened with electro-weld reinforcements.

4. Cabinet bottoms for storage cabinets shall be formed down on sides and back to create a square edge transition welded to cabinet end panels, and front edge shall be offset to create a seamless door recess rabbet for dust stop. Cabinet bottoms shall be formed to provide a flush 1" face rail with a return flange to give a 9/16" deep x 5" high toe space. All cabinets shall have a cleanable smooth interior.

5. Toe space rails shall interlock in back of bottom rail and with end panel to provide a welding plate, and shall extend to the floor with a flange turned back and up for support.

6. Cabinet backs shall be welded to the top, bottom and ends. Backs shall be perforated for shelf adjustment holes on not more than 1" centers. Holes shall be enclosed by a formation in cabinet back and enclosed by end uprights.

7. 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 electro-welded to underside of shelf. Shelves shall be adjustable on not more than 1" increments.

8. Solid panel doors shall consist of inner and outer pan formations mechanically assembled after painting. All full height solid panel doors shall be further reinforced by a full-height channel formation welded to inner pan. Doors shall be 3/4" thick and contain sound deadening material.

9. These storage cabinet will have 2 nos shelves to keep shoes/gloves/head cover etc and horizontal bar for Hanging garments.

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L. Granite Work Top:

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

M. Melamine laminated worktop:

Plastic laminate tops and back-splash shall be built up to a 1/16" thick plastic surface (of the colour and pattern selected), attached to the sub-top with a water-resistant adhesive. The substrate shall be of 40-45 lbs. medium density particle board to make a finished top thickness of 1". All exposed edges shall be self-edge banded unless otherwise specified. All particle board edges, and underside of top shall be sealed.

N. Polypropylene Molded Sinks:

The sinks should be injection molded from Poly propylene co-polymer resin. Polypropylene to have very high resistance to attack from a wide range of chemicals and the ability to withstand temperatures up to 100 deg C. The impact resistance should be high which will minimize damage during and after installation. The sinks should be with self draining base and should be suitable for mounting on top or underside of the work benches. The sinks should be compatible to a vast number of acids, alkalis and reagents. The size of the sink is 600Lx450Dx315Hmm AND BOWL SIZE: 550Lx400Dx315Hmmmm. This sinks shall have bottle trap with reducing coupler of size 51x31mm and with 38mm polypropylene pipe of one foot length. All gaskets and O-rings are made from Nitrile.

O. Reagent Rack in Island Bench:

Reagent racks are designed to be fix on top of worktop. It will have 12"/9" Wide & 36"/24" Height vertical Uprights made of 1.2mm thick CRCA. Each Reagent rack will have 12" wide 10mm thick Glass shelves with shelf supports and will be designed to have 2 Tier at 12" gap between each shelf. Electrical raceway will be fixed b/w the two uprights **OR** Each Upright will have provision for fixing 2 Nos. Sockets with switch and it will be located between the bottom shelf & the worktop. Each Shelves will have SS316 Retaining Rod all around.

P. Dual Purpose Eye Wash/Drench Hose Units:

Deck mounted eye wash/drench hose units shall be capable of use as a fixed eye wash with hands-free operation or as a drench hose. Units shall 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 shall be hinged swing-away style and shall be permanently attached to the spray head with a stainless-steel pin. The valve shall be self-closing type with a stainless-steel squeeze handle and a locking clip to hold the valve open once activated. Units shall be furnished with a deck flange with a locator guide to hold the unit facing forward and an 8 ft. reinforced PVC hose.

Q. Safety Station (Combination of Eyewash & Shower):

Floor mounted Safety station with eye wash and plastic bowl. 10" diameter orange ABS plastic shower head. Shower Valve made up of 1" IPS chrome plated brass stay-open ball valve. Valve is US-made with chrome plated brass ball and Teflon seals. Furnished with stainless steel actuating arm and 29" stainless steel pull rod. Spray Head Assembly consists of Two GS-Plus spray heads. Each head has a "flip top" dust cover, internal flow control and filter to remove impurities from water. Eye Wash Bowl made up of 11 1/2" diameter ABS plastic. Eye Wash Valve made up of 1/2" IPS chrome plated brass stay-open ball valve. Valve is US-made with chrome plated brass ball and Teflon seals. Pipe and Fittings consists of Schedule 40 galvanized steel. Furnished with orange polyethylene covers for vertical piping for high visibility and corrosion resistance. 1 1/4" NPT female top or side inlet. 1 1/4" NPT female outlet. Outlet can be positioned at either 8" or 20" above finished floor by reversing lower pipe nipples.

R. 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 is US-made with chrome plated brass ball and Teflon seals. Furnished with stainless steel actuating arm and 29" stainless steel pull rod. Supply will be 1" NPT female inlet and with ANSI-compliant identification sign.

S. Slotted Angle Open Rack:

The Construction of slotted angle racks will have rigid structure made of 4 nos 2mm thick 50x 50mm angle & should have 6.5 dia holes at 50mm pitch. Unit will be open at all 4 sides. Top & bottom of the unit will be closed permanently and in between will have 5 nos adjustable shelves. The height of open rack will be of 84" & Depth 22" & length varies 24", 30" & 36". Load bearing capacity of each shelves should be 30 kgs.

Anti-Vibration Tables:

Geometric Profile of Anti-Vibration Table	Anti- Vibration Table should have an overall Rectangular Working Surface of

	760 x 560 mm and with a height of 940mm (37 inch).
Granite Geometric Profile	Granite geometry should be as per IS Standards IS 7327: 1991 where Granite will have dimension of 760 X 560 X 45 mm.
Thickness of Granite	Thickness of the Granite should as per IS Standards IS 7327: 1991 where depth shall be maintained for 45mm unless otherwise specified. Thickness of the worktop will be 80mm.
Surface Roughness	Surface Roughness of the Granite should be maintained between 7-10 Microns as per IS Standards IS 7327: 1991.
Rigidity	The Granite loaded area should not deflect below the remaining area by more than 1 micron/200N.
Tolerance	The Tolerance Limit for Granite should not exceed more than 10 micron as per IS Standards IS 7327: 1991.
Physical Properties (As per IS 7327:1991)	Density, ρ: 2500 kg/ m3 - 3000 kg/ m3 Tensile Breaking Stress: 7 – 35 N/mm2 Compression Breaking Stress: 100 – 300N/mm2 Porosity Coefficient: 1 – 1.5% Imbibition Coefficient: 1 – 3% Coeff. of linear thermal expansion: 2 to 5 X 10-6 K
Table Legs	Legs for the table should be made of Granite 559mm x 895mm & 45mm thick as per IS Standards IS : 4270 : 1992 and 50mm dia MS powder coated connecting rod (Tie bars) for Reinforcement
Anti-Vibration Pads	Rubber bushes should be provided below the AVT at 4 corners. Rubber bushes should be of circular type having a diameter 40mm & Height 35mm to with stand the vibration as per IS standard.
Fabrication & Welding	Fabrication of all structure should be in accordance with IS:800 (latest) unless otherwise specified, and in conformity with various clauses of this specification. Welding of the structure shall be as per IS:800 and IS:816.

Laboratory Service fixtures:
General

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

Finish

4. Laboratory service fixtures and safety equipment shall be furnished with a powder coated finish to enhance the appearance of the fitting and to protect against corrosion. Coating material shall be a blend of epoxy and polyurethane. The hybrid blend shall ensure a finish coating with and optimum combination of chemical resistance, mar and abrasion resistance and resistance to fading under

ultraviolet (UV) light.

5. Fittings inside fume hoods shall have an epoxy finish color-coded to match the fixture service index color. Coating material shall be free flowing epoxy powder with a particle size of 35-70 microns.

Mar and Abrasion Resistance

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

Reparability

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

Water Faucets and Valves

8. All faucets and valves for water service shall 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 shall be interchangeable among all faucets and valves for water service. The renewable unit shall be broached for position locking in the valve body. The unit shall have a high durometer thermoplastic valve disc and a molded TFE stem packing. The unit shall be capable of being readily converted from compression to self-closing, and vice versa, without disturbing the faucet body.
9. Goosenecks shall 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 shall have a 3/8" IPS male inlet thread and be threaded directly into the faucet body so as to be absolutely rigid. Swing goosenecks shall utilize a TFE packing with an externally adjustable packing nut.
10. Water faucets and valves shall be fully assembled and individually tested at 80 pounds per square inch (PSI) water pressure.

APPLICABLE CODES & STANDARDS

i. SEFA 3 – Scientific Equipment and Furniture Association

ii. SEFA 8 - Scientific Equipment and Furniture Association

iii. NFPA 30 - National Fire Protection Association

iv. NFPA-45 - National Fire Protection Association

v. UL - Underwriters Laboratories

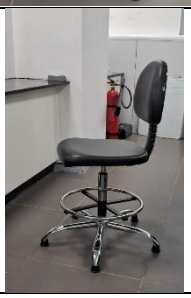
vi. ASTM D552 – Bending Test

Probable Images of items

Base Storage Cabinet	Schedule item no. 2 to 31	
Wall storage Cabinet	Schedule item no. 32 to 35	
Tall Storage Cabinet	Schedule item no. 36 to 39	
Apron storage Cabinet	Schedule item no. 40 to 41	
Knee Space	Schedule item no. 42 to 51	
PP sink	Schedule item no. 102 to 104	

Peg Board	Schedule item no. 108	
Service Pendent	Schedule item no. 122 to 123	
Electrical Raceway	Schedule item no. 124 to 126	
6/16A switch Socket	Schedule item no. 132 to 136	
Data Socket	Schedule item no. 137 to 138	
Anti Vibration Table	Schedule item no. 139 to 141	

H frame Table	Schedule item no. 142 to 148	
Open Rack	Schedule item no. 149 to 150	
Solvent Unit	Schedule item no. 151 to 153	
Chemical Storage	Schedule item no. 154 to 156	

Safety Station	Schedule item no. 157 to 159	
Sitting bench with Shoe Rack below	Schedule item no. 160	
Sitting Ht Finished Back	Schedule item no. 160	
SS Stool	Schedule item no. 163	
Lab Chair	Schedule item no. 164	

Lab Plans
(Drawings)


KSI-180-IITD-99C-GF-W3-CI-5-01-(15) RE\


KSI-180-IITD-99C-GF-W3-CI-7-01-(09) RE\


KSI-180-IITD-99C-GF-W3-CI-8-01-(07) RE\


KSI-IITD-99C-4F-W2-LAB 1A.pdf


KSI-IITD-99C-4F-W2-LAB 1B.pdf


KSI-IITD-99C-4F-W2-LAB 2A.pdf


KSI-IITD-99C-4F-W2-LAB 3B.pdf


KSI-180-IITD-99C-2F-W3-L9 (202).pdf


KSI-180-IITD-99C-2F-W3-L10 (204).pdf


KSI-180-IITD-99C-2F-W3-L11 (206).pdf


KSI-180-IITD-99C-2F-W3-L12 (208).pdf


KSI-180-IITD-99C-2F-W3-L13 (210).pdf


KSI-180-IITD-99C-2F-W3-L16 (207).pdf


KSI-180-IITD-99C-2F-W3-UTILTY ROOM (


KSI-180-IITD-99C-FF-W3-INSTRUMENTA


KSI-180-IITD-99C-FF-W3-L1 (102).pdf


KSI-180-IITD-99C-FF-W3-L2 (104).pdf


KSI-180-IITD-99C-FF-W3-L3 (106).pdf


KSI-180-IITD-99C-FF-W3-L4 (108).pdf


KSI-180-IITD-99C-FF-W3-L5 (110).pdf


KSI-180-IITD-99C-FF-W3-L6 (112).pdf


KSI-180-IITD-99C-FF-W3-L7 (105).pdf


KSI-180-IITD-99C-FF-W3-L8 (107).pdf


KSI-IITD-99C-2F-W2-L20 (222).pdf


KSI-180-IITD-99B-3W2MCII(305) REV 01


KSI-180-IITD-99B-3W2TSL(309) REV 01.p


KSI-180-IITD-99B-3W3L9(323) REV 01.p


KSI-180-IITD-99B-3W3L10(321) REV 01.p


KSI-180-IITD-99B-3W3L11(324) REV 01.p


KSI-180-IITD-99B-3W3L12(322) REV 01.p


KSI-180-IITD-99B-3W3L13(317) REV 01.p


KSI-180-IITD-99B-3W3L14(316) REV 01.p


KSI-180-IITD-99B-3W3L15(312) REV 01.p


KSI-180-IITD-99B-3W3L16(314) REV 01.p


KSI-180-IITD-99B-3W3L17(313) REV 01.p


KSI-180-IITD-99B-5W3CPL(514) REV 01.p


KSI-180-IITD-99C-W2-5F-T1-01-REV 01 (5


KSI-180-IITD-99C-W2-5F-T2-01-REV 01 (5


KSI-180-IITD-99C-3F-W2-L5-01-REV 01 (3


KSI-180-IITD-99C-3F-W2-L6-01-REV 01 (3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KSI-180-IITD-99C-3F-W3-L2-01-REV 01 (3


KSI-180-IITD-99C-3F-W3-L3-01-REV 01 (3


KSI-180-IITD-99C-3F-W3-L4-01-REV 01 (3


KSI-180-IITD-99C-3F-W3-L1-01-REV 01 (3


KSI-180-IITD-99C-3F-W3-L7-01-REV 01 (3


KSI-180-IITD-99C-3F-W3-L8-01-REV 01 (3


KSI-180-IITD-99C-3F-W3-L9-01-REV 01 (3


KSI-180-IITD-99C-3F-W3-L10-01-REV 01 (


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SCHEDULE OF QUANTITY

Name of work : Setting up dry labs in Academic Complex East (99C) and Academic Complex West (99B) at IIT Delhi

Sub Head : Laboratory Furniture and associated Civil and Electrical Works.

S.No.	DESCRIPTION	UNIT	QTY	Rate	Amount
	Lab Furniture Work				
1.	Supply and Installation of laboratory benches and worktop with accessories & specifications as stated in Particular Specification of the NIT. The complete work to be executed as per the approved layout plan. The quoted rates are inclusive of all the charges like freight, installation, testing and GST.				
2.	**Base storage Cabinet** Gauges of steel used in construction of cases shall be 18 gauge except as follows: a. Levelling bolt reinforcements 12 gauge or 2 mm. b. Case and drawer suspension channels, 14 gauge. c. Top and intermediate front horizontal rails, apron rails, hinge reinforcements, and reinforcement gussets, 16 gauge or 1.2mm. d. Drawer assemblies, door assemblies, bottom, bottom back rail, toe space rail, and adjustable shelves, 20 gauge or 0.8mm. **Drawer Assemblies:** e. Drawer bodies shall be made in one-piece construction including the bottom, two sides, back and front. They shall be fully coved at interior bottom on all four sides for easy cleaning. The top front of the inner drawer body shall be offset to interlock with the channel formation in drawer head providing a 3/4" thick drawer head. **Epoxy Powder Coating.** f. The thickness of the epoxy powder coating should be between 80 and 100 microns.				
3.	Base storage Cabinet -1 Drawer & 1 Shutter, Size = 457mm(L) x 550mm(D) x 762mm (H)	Nos	112		
4.	Base storage Cabinet -1 Drawer & 1 Shutter, Size = 457mm(L) x 550mm(D) x 914mm (H)	Nos	177		
5.	Base storage Cabinet -1 Drawer & 1 Shutter, Size = 610mm(L) x 550mm(D) x 762mm (H)	Nos	311		
6.	Base storage Cabinet -1 Drawer & 1 Shutter, Size = 610mm(L) x 550mm(D) x 914mm (H)	Nos	355		
7.	Base storage Cabinet -1 Drawer & 1 Shutter, Size = 762mm(L) x 550mm(D) x 762mm (H)	Nos	2		
8.	Base storage Cabinet -1 Drawer & 2 Shutter, Size = 762mm(L) x 550mm(D) x 762mm (H)	Nos	137		
9.	Base storage Cabinet -1 Drawer & 2 Shutter, Size = 762mm(L) x 550mm(D) x 914mm (H)	Nos	9		
10.	Base storage Cabinet -1 Drawer & 2 Shutters, Size = 914mm(L) x 550mm(D) x 914mm (H)	Nos	4		
11.	Base storage Cabinet -1 Shutter, Size = 350mm(L) x 550mm(D) x 762mm (H)	Nos	2		
12.	Base storage Cabinet -1 Shutter, Size = 350mm(L) x 550mm(D) x 914mm (H)	Nos	25		

13.	Base storage Cabinet -1 Shutter, Size = 380mm(L) x 550mm(D) x 914mm (H)	Nos	3		
14.	Base storage Cabinet -1 Shutter, Size = 457mm(L) x 550mm(D) x 762mm (H)	Nos	51		
15.	Base storage Cabinet -1 Shutter, Size = 457mm(L) x 550mm(D) x 914mm (H)	Nos	2		
16.	Base storage Cabinet -1 Shutter, Size = 610mm(L) x 550mm(D) x 762mm (H)	Nos	67		
17.	Base storage Cabinet -1 Shutter, Size = 610mm(L) x 550mm(D) x 914mm (H)	Nos	6		
18.	Base storage Cabinet -2 Shutter, Size = 457mm(L) x 550mm(D) x 914mm (H)	Nos	2		
19.	Base storage Cabinet -2 Shutter, Size = 762mm(L) x 550mm(D) x 914mm (H)	Nos	4		
20.	Base storage Cabinet -2 Shutters, Size = 750mm(L) x 550mm(D) x 914mm (H)	Nos	1		
21.	Base storage Cabinet Sink , Size = 762mm(L) x 550mm(D) x 914mm (H)	Nos	95		
22.	Base storage Cabinet Sink , Size = 900mm(L) x 550mm(D) x 914mm (H)	Nos	1		
23.	Base storage unit 1 Door 1 Shutter - 457(L) x 550(D) x 914(H)	Nos	10		
24.	Base storage unit 1 Door 1 Shutter - 610(L) x 550(D) x 914(H)	Nos	12		
25.	Base storage unit 2 Door 1 Drawer - 762(L) x 550(D) x 914(H)	Nos	12		
26.	Base unit Corner 1 Door Size = 355mm(L) x 550mm(D) x 762mm	Nos	44		
27.	Base unit Corner 1 Door Size = 355mm(L) x 550mm(D) x 914mm(H)	Nos	69		
28.	Base unit Corner Sink 1 Door Size = 355mm(L) x 550mm(D) x 762mm(H)	Nos	2		
29.	Base unit Corner Sink 1 Door Size = 355mm(L) x 550mm(D) x 914mm(H)	Nos	5		
30.	Base unit Sink 1 Shutter Size = 355mm(L) x 559mm(D) x 914mm(H)	Nos	2		
31.	Base unit Sink 2 Door- 762(L) x 550(D) x 914(H)	Nos	3		
32.	**Wall Storage cabinet** Gauges of steel used in construction of cases shall be 18 gauge except as follows: a. Levelling bolt reinforcements 12 gauge or 2 mm. b. Case and drawer suspension channels, 14 gauge. c. Top and intermediate front horizontal rails, apron rails, hinge reinforcements, and reinforcement gussets, 16 gauge or 1.2mm. d. Drawer assemblies, door assemblies, bottom, bottom back rail, toe space rail, and adjustable shelves, 20 gauge or 0.8mm. **Epoxy Powder Coating.** e. The thickness of the epoxy powder coating should be between 80 and 100 microns.				
33.	Wall storage Cabinet -2 Glass Shutter, Size = 1200mm(L) x 300mm(D) x 600mm (H)	Nos	6		
34.	Wall storage Cabinet -2 Glass Shutter, Size = 600mm(L) x 300mm(D) x 600mm (H)	Nos	348		
35.	Wall storage Cabinet -2 Glass Shutter, Size = 750mm(L) x 300mm(D) x 600mm (H)	Nos	13		
36.	**Tall Storage Cabinet**				

	Gauges of steel used in construction of cases shall be 18 gauge except as follows: a. Levelling bolt reinforcements 12 gauge or 2 mm. b. Case and drawer suspension channels, 14 gauge. c. Top and intermediate front horizontal rails, apron rails, hinge reinforcements, and reinforcement gussets, 16 gauge or 1.2mm. d. Drawer assemblies, door assemblies, bottom, bottom back rail, toe space rail, and adjustable shelves, 20 gauge or 0.8mm. **Epoxy Powder Coating.** e. The thickness of the epoxy powder coating should be between 80 and 100 microns.				
37.	Tall storage cabinet with Glazed door : 610(L) X 559(D) X 2100(H)	Nos	2		
38.	Tall Storage Cabinet with Glazed door, Size = 762mm(L) x 550mm(D) x 2100mm (H)	Nos	2		
39.	Tall storage unit With Lock: 900(L) X 550(D) X 2100(H)	Nos	3		
40.	**Apron Storage unit**				
41.	Apron storage cabinet : 610(L) X 559(D) X 2100(H)	Nos	3		
42.	**Knee Space** Knee space panels, where shown or specified, shall be 20 gauge, finished same as casework cabinets, and easily removable for access to mechanical service areas.				
43.	Knee Space Panel with Accessories - 610Lx00Dx762H	Nos	331		
44.	Knee Space Panel with Accessories - 610Lx00Dx908H	Nos	404		
45.	Knee Space Panel with Accessories - 750Lx00Dx908H	Nos	16		
46.	Knee Space Panel with Accessories - 762Lx00Dx762H	Nos	126		
47.	Knee Space Panel with Accessories - 762Lx00Dx908H	Nos	83		
48.	Knee Space Panel with Accessories - 900Lx00Dx762H	Nos	13		
49.	Knee Space Panel with Accessories - 914Lx00Dx762H	Nos	1		
50.	Knee Space Panel with Accessories - 914Lx00Dx908H	Nos	2		
51.	Knee Space Support	Nos	272		
52.	**Reagent Racks** Reagent racks are designed to be fix on top of worktop. It will have 12"/9" Wide & 36"/24" Height vertical Uprights made of 1.2mm thick CRCA. Each Reagent rack will have 12" wide 10mm thick Glass shelves with shelf supports and will be designed to have 2 Tier at 12" gap between each shelf. Electrical raceway will be fixed b/w the two uprights OR Each Upright will have provision for fixing 2 Nos. Sockets with switch and it will be located between the bottom shelf & the worktop. Each Shelves will have SS316 Retaining Rod all around.				
53.	2 Tier Reagent Rack Shelf 305x1050	Nos	4		
54.	2 Tier Reagent Rack Shelf 305x1093	Nos	4		
55.	2 Tier Reagent Rack Shelf 305x1160	Nos	2		
56.	2 Tier Reagent Rack Shelf 305x1170	Nos	26		
57.	2 Tier Reagent Rack Shelf 305x1200	Nos	14		
58.	2 Tier Reagent Rack Shelf 305x1250	Nos	4		

59.	2 Tier Reagent Rack Shelf 305x1274	Nos	2		
60.	2 Tier Reagent Rack Shelf 305x1420	Nos	16		
61.	2 Tier Reagent Rack Shelf 305x1474	Nos	2		
62.	2 Tier Reagent Rack Shelf 305x1500	Nos	6		
63.	2 Tier Reagent Rack Shelf 305x1520	Nos	16		
64.	2 Tier Reagent Rack Shelf 305x1550	Nos	2		
65.	2 Tier Reagent Rack Shelf 305x1575	Nos	14		
66.	2 Tier Reagent Rack Shelf 305x1600	Nos	20		
67.	2 Tier Reagent Rack Shelf 305x1630	Nos	58		
68.	2 Tier Reagent Rack Shelf 305x1700	Nos	8		
69.	2 Tier Reagent Rack Shelf 305x1729	Nos	2		
70.	2 Tier Reagent Rack Shelf 305x1800	Nos	8		
71.	2 Tier Reagent Rack Shelf 305x1900	Nos	2		
72.	2 Tier Reagent Rack Shelf 305x2000	Nos	2		
73.	2 Tier Reagent Rack Work Top 305x1050	Nos	4		
74.	2 Tier Reagent Rack Work Top 305x1093	Nos	4		
75.	2 Tier Reagent Rack Work Top 305x1160	Nos	2		
76.	2 Tier Reagent Rack Work Top 305x1170	Nos	26		
77.	2 Tier Reagent Rack Work Top 305x1200	Nos	14		
78.	2 Tier Reagent Rack Work Top 305x1250	Nos	4		
79.	2 Tier Reagent Rack Work Top 305x1274	Nos	2		
80.	2 Tier Reagent Rack Work Top 305x1420	Nos	16		
81.	2 Tier Reagent Rack Work Top 305x1474	Nos	2		
82.	2 Tier Reagent Rack Work Top 305x1500	Nos	6		
83.	2 Tier Reagent Rack Work Top 305x1520	Nos	16		
84.	2 Tier Reagent Rack Work Top 305x1550	Nos	2		
85.	2 Tier Reagent Rack Work Top 305x1575	Nos	14		
86.	2 Tier Reagent Rack Work Top 305x1600	Nos	20		
87.	2 Tier Reagent Rack Work Top 305x1630	Nos	58		
88.	2 Tier Reagent Rack Work Top 305x1700	Nos	8		
89.	2 Tier Reagent Rack Work Top 305x1729	Nos	2		
90.	2 Tier Reagent Rack Work Top 305x1800	Nos	8		
91.	2 Tier Reagent Rack Work Top 305x1900	Nos	2		
92.	2 Tier Reagent Rack Work Top 305x2000	Nos	2		
93.	Reagent Rack Support - 600H x 50D X 350L	Nos	212		
94.	**Worktop**				
95.	20 mm thick Jet Black Granite with Skirting. The worktops shall be 18/19mm Jet black Granite of an even surface and the level. Tolerance less than 1 mm. The front edge of the granite shall be chamfered at an angle of 28 deg and smoothened. The back splash for the wall bench shall be granite 18/19mm thick material for an height of 4" from the finished table top level.	sqm	1061		
96.	Laminate Work Top 25mm thick. Plastic laminate tops and back-splash shall be built up to a 1/16" thick plastic surface (of the colour and pattern selected), attached to the sub-top with a water-resistant adhesive. The substrate shall be 40-45 lbs. medium density particle board to make a finished top thickness of 1". All exposed edges shall be self-edge banded unless otherwise specified. All particle board edges, and underside of top shall be sealed.	sqm	68		
97.	**Rubber Base moulding**				
98.	Base moulding and accessories	Rmt	2655		
99.	Corner clip and accessories	Nos	2110		
100.	**Side panel**				
101.	Side, End, Rear & Support Panel with Acccessories	Nos	585		

102.	**Sinks and accessories** The sinks should be injection molded from Poly propylene co-polymer resin. Polypropylene to have very high resistance to attack from a wide range of chemicals and the ability to withstand temperatures up to 100 deg C. The impact resistance should be high which will minimize damage during and after installation. The sinks should be with self-draining base and should be suitable for mounting on top or underside of the work benches. The sinks should be compatible to a vast number of acids, alkalis and reagents. All gaskets and O-rings are made from Nitrile.				
103.	PP Sink Size : 600Lx400Dx450Hmm	Nos	93		
104.	PP Sink Size : 800Lx460Dx320Hmm	Nos	14		
105.	Waste, 1 1/2 BSP X 76mm.	Nos	107		
106.	Anti siphon bottle trap.	Nos	107		
107.	Reducing coupler in PP 51 X 31mm + PP Pipe lengths - 5mtr length - Dia 38mm upto nearest Drain	Nos	107		
108.	Acrylic Pegboard Board with 23 pegs with SS 316L Tray, 610L x 610mm(H) With 90 Degree bend tube upto sink	Nos	50		
109.	**Bench Fittings**				
110.	Bench fitting with 1 needle valve 90° for Vacuum Air	Nos	12		
111.	Bench Fitting with 1Needle Valve 90 Degree for Argon	Nos	7		
112.	Bench Fitting with 1Needle Valve 90 Degree for Compressed Air	Nos	11		
113.	Bench Fitting with 1Needle Valve 90 Degree for DM water	Nos	2		
114.	Bench Fitting with 1Needle Valve 90 Degree for Nitrogen	Nos	27		
115.	Bench Fitting with 1Needle Valve 90 Degree for portable water	Nos	3		
116.	Bench Fitting with 1Needle Valve 90 Degree for Potable Water	Nos	3		
117.	Bench mounted 3-way water fitting with 8" rigid/swing gooseneck with aerator for Potable water	Nos	35		
118.	Bench mounted 3-way water fitting with 8" rigid/swing gooseneck with aerator for Raw water	Nos	23		
119.	Wall Fitting with 1Needle Valve 90 Degree for Nitrogen	Nos	2		
120.	**Eye wash**				
121.	Eye Wash / Drench Hose - Providing and fixing emergency eye wash / Drench hose, table mounted with two gentle spray outlet heads with necessary accessories	Nos	34		
122.	**Service Pendent**				
123.	Service pendant with all its accessories with upto false ceiling - 350x150	Nos	404		
124.	**Electrical Raceway**				
125.	Metal Electrical Raceway, 125Hx75D	mtr	1139		
126.	Metal Electrical Raceway (floor Mounted Equipments-125Hx75D	mtr	9.5		
127.	**Worktop support**				
128.	Floor standing worktop support: 908Hx200L	Nos	4		
129.	**Cross over Bench**				
130.	SS 304 Cross Over Bench - Size ,1524L x 450D x 450H, with Shoe rack below	Nos	1		
131.	Sitting Height Finished Back with Sliding Door-1250Lx25Dx750H	Nos	24		

132.	**Electrical Sockets**				
133.	6/16A sockets with all accessories	Nos	2583		
134.	32A sockets with all accessories	Nos	42		
135.	20A sockets with all accessories	Nos	17		
136.	63A sockets with all accessories	Nos	3		
137.	**Data Socket**				
138.	Data sockets with all accessories	Nos	451		
139.	**Anti Vibration Tabel**				
140.	Anti Vibration Table size - 908(H) x 610(D) x 914(L) , Made up of 80mm x 80mm Tubular frame with 80mm Thk Granite top (300 x 500) & Phenolic top, Vibration Pads, Accuracy level up to 4Decimalpoints with covering panel. 18 electrical metal raceway with 2nos, 6/16A Electrical Sockets with Switch, 1Mtr Length cabling with plug top.	Nos	1		
141.	Anti Vibration Table size -750(H) x 610(D) x 914(L) , Made up of 80mm x 80mm Tubular frame with 80mm Thk Granite top (300 x 500) & Phenolic top, Vibration Pads, Accuracy level up to 4Decimalpoints with covering panel. 18 electrical metal raceway with 2nos, 6/16A Electrical Sockets with Switch, 1Mtr Length cabling with plug top.	Nos	1		
142.	**Frame Table**			-	
143.	H Frame with 20 mm Granite Worktop-1828(L)x1219LX900(H)	Nos	1		
144.	H Frame with Worktop-1308(L)x1000LX900(H)	Nos	1		
145.	H Frame with Worktop-1550(L)x900DX900(H)	Nos	8		
146.	H Frame with Worktop-2050(L)x900DX900(H)	Nos	3		
147.	Moveable H Frame with Worktop-1200(L)x1200DX762(H)-3 Side Barrier	Nos	8		
148.	Moveable H Frame with Worktop-600(L)x650DX908(H)-3 Side Barrier	Nos	1		
149.	**Open Rack (Slotted angle Rack)**				
150.	Slotted Angle open rack with 5 Shelves, Size - 750L x 550D x 2100H with 4 Side Metal Lipping.	Nos	6		
151.	**Solvent unit**				
152.	Classical door technology (door handle) for the storage of flammable liquids type testing by, MPA/TÜV SÜD according to DIN EN 14470-1, DIN EN 16121 and DIN EN 16122, EK5/AK4 09-10:2009 and AfPS GS 2014: 01 PAK mark of approval: GS/CE mark, high quality mark of approval by TÜV SÜD construction and colour:outer carcass sheet steel, RAL 7035 door sheet steel, RAL 1018 inner carcass of decor panels, RAL 7035 fittings and features: door closes automatically in case of fire door remains open in every position cylinder lock for safe access bottom tray sheet steel, RAL 7035 4 storage shelves sheet steel, RAL 7035 exhaust air connection socket on the cabinet roof visual inspection of the ventilation opening earthing connection on the cabinet roof interior fittings conductively connected with carcass adjustable foot for level adjustment set-back base, RAL 7015				
153.	Solvent Store Cupboard , Size - 1194L x 612D x 2045H (Duparthal)	Nos	1		

154.	**Chemical Storage Cupboard**				
155.	Supply and Installation of Tall storage cabinet of size 750W x 550D x 2100 H with Manual closing door, Equipped with a lockable, latching mechanism, CRCA, exterior phosphate coated with baked chemical resistant synthetic resin finish, with Glazed doors, approved quality hinge and operating hardware. Cabinet shall also have Adjustable levelling screws, galvanized steel shelves complete as per the detailed specification.				
156.	Tall unit swinging panel door with bottom louvers & Vent hole, Phenoloic resin liner inside, With 5nos. 16mm Thick phenolic shelves - 750L x 550D x 2100H	Nos	1		
157.	**Floor Mounted Safety Station**				
158.	Providing and fixing in position Floor mounted emergency safety station powder coated finish on galvanized pipe and fittings includes ABS plastic shower head operated by a rigid pull rod, easy grip handle, complete with an elbow, connecting pipe and ball valve. The combination eyewash with eyewash bowl, valve, fittings and accessories.				
159.	Floor mounted Safety Shower with Eye wash	Nos	1		
160.	**Sitting bench with Shoe Rack below** MOC as CRCA , Powder Coated Finish				
161.	SS 304 Cross Over Bench - Size ,1524L x 450D x 450H	Nos	1		
162.	**Lab Chair & Stools**				
163.	1. Lab chair constructed with foam or leather seat & Back rest with PU armrest. 2. Having chrome plated hydraulic height adjustable 3.Height adjustable from 700mm to 910mm 4. Having chrome plated 18" dia foot rest ring with chrome base, Castors wheels 6. Top seat dia 450mm	Nos	138		
164.	1. SS Lab stool constructed with stainless steel (SS304) Material. 2.Stainless steel (SS 304) Top seat 3.Having chrome plated hydraulic height adjustable 4.Height adjustable from 460mm to 680mm. 5. Having chrome plated 16" dia foot rest ring With chrome base, Castors wheels 6. Top seat dia 450mm	Nos	337		
165.	**Civil Work**				
166.	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass/ stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :				
167.	For fixed portion				
168.	Powder coated aluminium (minimum thickness of powder coating 50 micron)	Kg	8661		

169.	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately).				
170.	Powder coated aluminium (minimum thickness of powder coating 50 micron)	Kg	1575		
171.	Providing and fixing 12mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS:12823 Grade l Type ll, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-in-charge.				
172.	Pre-laminated particle board with decorative lamination on both sides.	sqm	520		
173.	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge . (Cost of aluminium snap beading shall be paid in basic item):				
174.	With float glass panes of 5 mm thickness (weight not less than 12.50 kg/sqm)	sqm	303		
175.	Providing and fixing Brass 100mm mortice latch and lock with 6 levers without pair of handles (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete.	Each	50		
176.	Providing and fixing aluminium round shape handle of outer dia 100mm with SS screws etc. complete as per direction of Engineer-in-charge				
177.	Powder coated minimum thickness 50 micron aluminium	Each	100		
178.	Filling the gap in between aluminium/ stone/ wood frame and adjacent RCC/ Brick/ Stone/ wood/ Ceramic/ Gypsum work by providing weather/structural non sag elastomeric PU sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete complying to ASTM C920, DIN 18540-F & ISO 11600.				
179.	Upto 5mm depth and 5 mm width	mtr	709		
180.	Upto 10 mm depth and 10 mm width	mtr	801		
181.	Providing and fixing false ceiling at all heights with integral densified calcium silicate reinforced with fibre and natural filler false ceiling tiles of Size 595x595mm of approved texture, design and patterns having NRC (Noise Reduction coefficient) of 0.50 (minimum) as per IS 8225:1987, Light reflectance of 85% (minimum).				

182.	Non combustible as per BS:476 (part-4), fire performance as per BS:476 (part 6 &7), humidity resistance of 100%, thermal conductivity < 0.043 W/m K as per ASTM 518:1991, in true horizontal level suspended on interlocking metal T-Grid of hot dipped galvanised iron section of 0.33mm thick (galvanized @ 120 grams per sqm including both sides) comprising of main-T runners of size 24x38 mm of length 3000 mm, cross - T of size 24x32 mm of length 1200 mm and secondary intermediate cross-T of size 24x32 mm of length 600mm to form grid module of size 600 x 600 mm, suspended from ceiling using galvanised mild steel items (galvanizing @ 80 grams per sqm) i.e. 50 mm long, 8 mm outer diameter M-6 dash fasteners, 6 mm dia fully threaded hanger rod upto 1000 mm length and L-shape level adjuster of size 85x25x25x2 mm.				
183.	Galvanized iron perimeter wall angle of size 24x24x0.40 mm of length 3000 mm to be fixed on periphery wall / partition with the help of plastic rawl plugs at 450 mm center to center and 40 mm long dry wall S.S screws. The work shall be carried out as per specifications, drawing and as per directions of the Engineer-in-Charge.				
184.	With 15 mm thick tegular edged light weight calcium silicate false ceiling tiles.	sqm	418		
185.	Providing and fixing false ceiling at all height including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37 mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50 mm long with 6 mm dia bolts, other flange of cleat fixed to the angle hangers of 25x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the spacing of 1200 mm centre to centre, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm centre to centre,				
186.	shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I. wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3 layears covering upto 150 mm on both sides of joint and two coats of primer suitable for board, all as per manufacturer's specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer in Charge but excluding the cost of painting with :				
187.	12.5 mm thick tapered edge gypsum plain board conforming to IS: 2095- (Part I) : 2011 (Board with BIS certification marks)	sqm	200		

188.	Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound) content less than 50 grams/ litre. of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.				
189.	Two coats.	sqm	6272		
190.	Providing and fixing roller blinds, the fabric should be screen openness of 5% and composition of 75% PVC and 25% polyester with fabric weight of 465 GSM having fire resistance grade of NSPA 701, BS 586 part- II with anodized aluminium channel weight, bracket and hangers etc complete. The fabric will be approved colour and shed of approved manufacturer complete.	sqm	796		
191.	Providing and fixing self-adhesive frosted/decorative/sun control film on glass partition, glass door and windows of approved design and or equivalent all complete as per direction of Engineer-in-charge.	sqm	303		
192.	**Electrical Work**				
193.	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed steel conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required.				
194.	Group C	Point	200		
195.	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	1500		
196.	Wiring for light/ power plug with 4X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 2 Nos. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	1600		
197.	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.				
198.	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	Metre	800		
199.	2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	Metre	2000		
200.	2 X 4 sq. mm + 1 X 4 sq. mm earth wire	Metre	1200		
201.	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Metre	700		

202.	2 X 10 sq. mm + 1 X 6 sq. mm earth wire	Metre	700		
203.	2 X 16 sq. mm + 1 X 6 sq. mm earth wire	Metre	500		
204.	4 X 2.5 sq. mm + 2 X 2.5 sq. mm earth wire	Metre	700		
205.	4 X 4 sq. mm + 2 X 4 sq. mm earth wire	Metre	600		
206.	4 X 6 sq. mm + 2 X 6 sq. mm earth wire	Metre	300		
207.	Rewiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable and 1.5 sq.mm FRLS PVC insulated copper conductor single core cable as earth wire in existing surface/ recessed steel/PVC conduit including dismantling as required.				
208.	Group C	Point	400		
209.	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required.				
210.	3 x 1.5 sq. mm	Metre	800		
211.	3 x 2.5 sq. mm	Metre	2100		
212.	6 x 2.5 sq. mm	Metre	1200		
213.	3 x 4 sq. mm	Metre	3000		
214.	6 x 4 sq. mm	Metre	2000		
215.	3 x 6 sq. mm	Metre	1500		
216.	Supplying and fixing of following sizes of steel conduit along with accessories in surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.				
217.	20 mm	Metre	800		
218.	25 mm	Metre	800		
219.	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.				
220.	20 mm	Metre	1000		

221.	25 mm	Metre	1000		
222.	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 A modular socket outlet and 5/6 A modular switch, connections etc. as required.	Each	100		
223.	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	Each	100		
224.	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providng and fixing 2 nos. 3 pin 5/6 A modular socket outlet and 2 nos. 5/6 A modular switch, connections etc. as required. (For light plugs to be used in non residential buildings).	Each	150		
225.	Supplying & fixing suitable size GI box wih modular plate and cover in front on surface or in recess including providing and fixing 25 A modular socket outlet and 25 A modular SP MCB, "C" curve including connections, painting etc. as required.	Each	150		
226.	Providing and fixing following rating and breaking capacity and pole MCCB with thermomagnetic release and terminal spreaders in existing cubicle panel board including drilling holes in cubicle panel, making connections, etc. as required.				
227.	100 A,30KA,FPMCCB	Each	50		
228.	125 A,36KA,FPMCCB	Each	50		
229.	200 A,36KA,FPMCCB	Each	10		
230.	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)				
231.	6 way , Double door	Each	150		
232.	8 way , Double door	Each	150		
233.	12 way , Double door	Each	50		

234.	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MOB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note : Vertical type MOB TPDB is normally used where 3 phase outlets are required.)				
235.	4 way (4 + 12), Double door	Each	15		
236.	8 way (4 + 24), Double door	Each	20		
237.	12 way (4 + 36), Double door	Each	15		
238.	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MOB DB complete with connections, testing and commissioning etc. as required.				
239.	Single pole	Each	3900		
240.	Double pole	Each	350		
241.	Triple pole	Each	200		
242.	Supplying and fixing single pole blanking plate in the existing MOB DB complete etc. as required.	Each	100		
243.	Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
244.	40A	Each	100		
245.	63A	Each	250		
246.	Supplying and fixing following rating, four pole, (three phase and neutral), 415 volts, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
247.	40A	Each	10		
248.	63A	Each	20		
249.	Supplying and fixing DP sheet steel enclosure on surface/ recess along with 25/32 A 240 V "C" curve DP MCB complete with connections, testing and commissioning etc. as required.	Each	200		
250.	Supplying and fixing TP sheet steel enclosure on surface/ recess along with 16/25/32 A 415 V "C" curve TP MCB complete with connections, testing and commissioning etc. as required.	Each	200		

251.	Supplying and fixing 20 A, 240 V, SPN Industrial type socket outlet, with 2 pole and earth, metal enclosed plug top alongwith 20 A "C" curve, SP, MCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	Each	700		
252.	Supplying and fixing 20 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 20 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	Each	700		
253.	Supplying and fixing 30 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 30 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	Each	300		
254.	Supplying and fixing Cable End Box (Loose Wire Box) suitable for following single pole and neutral, sheet steel, MCB distribution board, 240 Volts, on surface/ recess, complete with testing and commissioning etc. as required.				
255.	For 10 way, Double door SPN MCBDB	Each	200		
256.	Supplying and fixing Cable End Box (Loose Wire Box) suitable for triple pole and neutral, sheet steel, Vertical MCB distribution board, 415 Volts, on surface/ recess, complete with testing and commissioning etc. as required.	Each	50		
257.	Supplying, installing, testing and commissioning of following capacity TPN tap off box made of 1.6mm thick sheet steel enclosure duly painted with powder coating on existing rising mains complete with TPN disconnector FSU and HRC fuses, connections, earthing etc. as required.				
258.	100 A TPN	Each	10		
259.	200 A TPN	Each	10		
260.	Supplying, installing, testing and commissioning of following capacity TPN distribution tap off box made of 1.6mm thick sheet steel enclosure duly painted with powder coating on existing rising mains complete with HRC fuses, interconnections, earthing etc. as required.				
261.	63 A TPN, 6 way	Each	10		
262.	63 A TPN, 8 way	Each	10		

263.	Supplying, installing, testing and commissioning of following capacity End Feed Unit made of 1.6mm thick sheet steel enclosure duly painted with powder coating to existing rising mains complete with TPN disconnector FSU and HRC fuses, mounting stands, cable end box, brass compression gland, connections, earthing etc. as required.				
264.	200 A TPN	Each	1		
265.	300 A TPN	Each	1		
266.	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray (Galvanisation thickness not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.				
267.	150 mm width X 50 mm depth X 1.6 mm thickness	Metre	150		
268.	300 mm width X 50 mm depth X 1.6 mm thickness	Metre	150		
269.	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray "bends" (galvanisation not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.				
270.	150 mm width X 50 mm depth X 1.6 mm thickness	Each	10		
271.	300 mm width X 50 mm depth X 1.6 mm thickness	Each	10		
272.	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	Set	20		
273.	Supplying and laying 25 mm X 5 mm copper strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of brass nut bolt & spring washer spaced at 50mm)	Metre	100		
274.	Providing and fixing 25 mm X 5 mm copper strip in 40 mm dia G.I. pipe from earth electrode including connection with brass nut, bolt, spring, washer excavation and re-filling etc. as required.	Metre	100		

275.	Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required.	Metre	500		
276.	Providing and fixing 4.00 mm dia copper wire on surface or in recess for loop earthing as required.	Metre	500		
277.	Jointing copper! G.I. tape (with another copper/ G I tape, base of the finial or any other metallic object) by riveting / nut bolting/ sweating and soldering etc as required.	Each	500		
278.	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.				
279.	3.5X 35 sq. mm (32mm)	Each	20		
280.	3.5 X 50 sq. mm (35mm)	Each	30		
281.	3.5 X 70 sq. mm (38mm)	Each	20		
282.	3.5 X 150 sq. mm (50mm)	Each	20		
283.	4 X 16 sq. mm (28mm)	Each	24		
284.	Providing and fixing DLP plastic trunking of size 105 mm x 50 mm on surface as reqd.				
285.	PVC trunking without cover of size 105 x 50 mm size	Metre	1000		
286.	PVC trunking full cover of size 85 mm size	Metre	1000		
287.	PVC trunking Left or right End cap	Each	50		
288.	PVC trunking Internal angle adjustable from 80°-100°	Each	50		
289.	PVC trunking External angle adjustable from 60°-120	Each	50		
290.	PVC trunking 90°Flat angle	Each	50		
291.	PVC trunking base/body joint	Each	50		
292.	6/8 Modules clip on frame with finishing plate for 85 mm cover	Each	800		
293.	Modular 16A/20 amps switch on the existing modular plate & switch box / channel including connection	Each	1700		
294.	Modular 6/16 amps multi socket on the existing moudular plate & switch box including connection.	Each	1700		
295.	Information data socket RJ45 with shutter with moudular plate	Each	150		
296.	Telephone socket RJ11 with shutter with moudular plate	Each	150		
297.	3 Modules clip on frame with finishing plate for 85 mm cover.	Each	100		
298.	Supplying, installation DLP mini- trunking 32mm x 20mm with independent cover etc. complete as reqd.				

299.	PVC mini trunking with independent cover of size 32mm x 20mm size.	Metre	500		
300.	PVC mini trunking End cap left or right.	Metre	50		
301.	PVC mini trunking Internal/ External angle from 60°-120°	Each	50		
302.	PVC mini trunking Flat angle from 85°-95°	Each	50		
303.	PVC mini trunking Flat junction	Each	50		
304.	supplying and laying and Fixing of PVC insulated, PVC sheathed XLPE aluminium conductor armored cable of Following size, 1.1 KV grade on wall surface as required.Upto 35 sq. mm (clamped with 1 mm thick saddle)Above 35 sq. mm and upto 95 sq. mm (clamped with 25x3mm [conforming to I.S-1554/1/8].				
305.	4 X 16 sq. mm	Metre	500		
306.	3½ X 35 sq. mm	Metre	600		
307.	3½ X 50 sq. mm	Metre	400		
308.	3½ X 70 sq. mm	Metre	300		
309.	3½ X 150 sq. mm	Metre	250		
310.	Supply and installation of SS enclosure duly powder Coated paint for housing incomming MCCB 4P, of appropiate size with incomming and outgoing opening, suitable to accommodate upto 70sqmm, 3.5 core aluminium armoured cable,with louvers for heat dissipation and mounting hole for easy wall mounting. (matter: AC / Normal / Emergency Power) etc. as required	Each	20		
311.	Supply and installation of SS enclosure duly powder Coated paint for housing incomming MCCB 4P, of appropiate size with incomming and outgoing opening, suitable to accommodate upto 300sqmm, 3.5 core aluminium armoured cable,with louvers for heat dissipation and mounting hole for easy wall mounting. (matter: AC / Normal / Emergency Power) etc. as required.	Each	20		
312.	Providing and fixing DLP plastic trunking of size 150 mm x 50 mm on surface as reqd.				
313.	DLP plastic trunking of size 150 mm x 50 mm without cover	Metre	800		
314.	PVC trunking full cover of size 85 mm size	Metre	800		

315.	PVC trunking full cover of size 40 mm size	Metre	800		
316.	Clip on Partition (Plastic)	Metre	800		
317.	PVC trunking Left or right End cap	Each	100		
318.	PVC trunking Internal angle adjustable from 80°-100°	Each	50		
319.	PVC trunking External angle adjustable from 60°-120°	Each	50		
320.	PVC trunking 90°Flat angle	Each	50		
321.	PVC trunking Cover joint	Each	50		
322.	PVC trunking base/body joint	Each	50		
323.	6/8 Modules clip on frame with finishing plate for 85 mm cover	Each	800		
324.	1 Modules clip on frame with finishing plate for 40 mm cover	Each	200		
325.	Modular 16A/20 amps switch on the existing modular plate & switch box / channel including connection	Each	1600		
326.	Modular 6/16 amps multi socket on the existing moudular plate & switch box including connection.	Each	1600		
327.	Supply, Making, Testing & commissioning of Advance maintenance free Chemical Gel Earthing of single pipe Technology(copper) of 3 mtr. long 50 mm dia fiiled with highly conducting metallic compound with the permanent sealings at the both the ends with the lead terminal 32x10mm at the top along with 50kgs of chemical gel for (mixture of sulphate, Silica, Alumina, Iron Oxide, Titanium Oxide, Magnesium Oxide, Sodium Oxide, Zinc Oxide etc.) Resitance lowering grounding Minerals. The loss on ignition by mass of the chemical compound should be tested and certified by any International accredited and BIS (Bureau of Indian Standard) accredited laboratory. The Chemical earth electrode manufacturer shall be an ISO 9001:2008 & ISO 14001:2001 certified organization. The Testing laboratory should be ISO 14001 certified. The JK CHEMRODE shall be duly tested & certified by CPRI (Central Power Research Institute) Govt. of India for a minimum short circuit current of 30 KA rms. The Chemical Earth electrode manufacturer shall be an ISO 9001:2008 & ISO 14001:2004 certified organisation. along with Heavy duty polyplastic weather proof earth pit/ chamber.	Each	20		
328.	Electrical Panel board				

329.	Design, Fabrication, Supplying, testing & commissioning of front operated cubicle type compartmentalized, front access free standing, dust and vermin proof (IP 54) panel board of 1750x 1550x 400 mm size suitable for use at 415 volt, 3 phase, 4 wire, 50 hertz system suitable for fault level of required value symmetrical at 415 volts, made out of 2mm thick CRCA MS sheet with hinged, gasketed (metal based neoprene) and lockable doors having structural reinforcement with suitable angle/channel/ T/ Flat/ sections including 3 mm thick gland plates on top and bottom and lifting hooks and GI earth strip of required size with 2 nos. earthing terminal and powder coated paint finish of approved shade over metal surface cleaned and treated with seven tank process complete with frame duly erection in ground and interconnection with copper conductor etc. as specification, as complete as required confirming to IS8623:93 as below. [Note:- The panel should be IS 8623:93, IEC 61439 part-1 and II manufacturer has to produces the relevant test certificate as per IEC code for the same failing which panel shall be rejected) and CPRI Approved.]				
330.	Incoming (a) 400 amp, 4P, 36KA, 50HZ, 415V, AC MCCB with thermal magnetic based releases for O/C & S/C protection = 01 Nos. Bus Bar Electrolytic high conductivity aluminium, three phase and neutral busbars rated at 630 amps having a maximum current density of 120 A/sq cm suitable to with stand symmetrical fault level of 35 kA. at 415 Volts. The Neutral busbar is to be of 100% capacity. Outgoing (a) 250 amps, 4P, 36KA, 50HZ, 415V, AC MCCB with thermal magnetic based releases for O/C & S/C protection = 01 Nos. (b) 125 amps, 4P, 36KA, 50HZ, 415V, AC MCCB with thermal magnetic based releases for O/C & S/C protection = 04 Nos. (c) 63 amps, 4P, 36KA, 50HZ, 415V, AC MCCB with thermal magnetic based releases for O/C & S/C protection = 04Nos. (d) Earthing studs 2 Nos (e) Danger plate – 01 Nos Metering (a) Digital Ammeter - 01 Nos with accuracy class 1.0 (b) Digital Voltmeter - 01 Nos with accuracy class 1.0 (c) RYB indicating lamp (d) Suitable CT's (e) Rotatory handle in each switch	Each	10		

C—NIL I----NIL O--- NIL EE (CD-II) EE (ED-I) JE (E) AE(C)

331.	Design, Fabrication, Supplying, testing & commissioning of front operated cubicle type compartmentalized, front access free standing, dust and vermin proof (IP 54) panel board of 1650x 1200x 400 mm size suitable for use at 415 volt, 3 phase, 4 wire, 50 hertz system suitable for fault level of required value symmetrical at 415 volts, made out of 2mm thick CRCA MS sheet with hinged, gasketed (metal based neoprene) and lockable doors having structural reinforcement with suitable angle/channel/ T/ Flat/ sections including 3 mm thick gland plates on top and bottom and lifting hooks and GI earth strip of required size with 2 nos. earthing terminal and powder coated paint finish of approved shade over metal surface cleaned and treated with seven tank process complete with frame duly erection in ground and interconnection with copper conductor etc. as specification, as complete as required confirming to IS8623:93 as below. [Note:- The panel should be IS 8623:93, IEC 61439 part-1 and II manufacturer has to produces the relevant test certificate as per IEC code for the same failing which panel shall be rejected) and CPRI Approved.]				
332.	Incoming (a) 250 amp, 4P, 36KA, 50HZ, 415V, AC MCCB with thermal magnetic based releases for O/C & S/C protection = 01 Nos. Bus Bar Electrolytic high conductivity aluminium, three phase and neutral busbars rated at 400 amps having a maximum current density of 120 A/sq cm suitable to with stand symmetrical fault level of 35 kA. at 415 Volts. The Neutral busbar is to be of 100% capacity. Outgoing (a) 160 amps, 4P, 36KA, 50HZ, 415V, AC MCCB with thermal magnetic based releases for O/C & S/C protection = 01 Nos. (b) 125 amps, 4P, 36KA, 50HZ, 415V, AC MCCB with thermal magnetic based releases for O/C & S/C protection = 02 Nos. (c) 63 amps, 4P, 36KA, 50HZ, 415V, AC MCCB with thermal magnetic based releases for O/C & S/C protection = 04Nos. (d) Earthing studs 2 Nos (e) Danger plate – 01 Nos Metering (a) Digital Ammeter - 01 Nos with accuracy class 1.0 (b) Digital Voltmeter - 01 Nos with accuracy class 1.0 (c) RYB indicating lamp (d) Suitable CT's (e) Rotatory handle in each switch	Each	10		
333.	Supplying and laying of PVC innersheathed, XLPE insulated copper conductor armored cable of Following size, 1.1 KV grade, in the existing RCC/ HUME/ METAL pipe as required. [conforming to I.S-7098(Part 1) 1988.				
334.	4 X 16 sq. mm	Metre	200		

335.	4 X 25 sq. mm	Metre	200		
336.	4 X 35 sq. mm	Metre	100		
337.	Supplying and laying of PVC innersheathed, XLPE insulated copper conductor armored cable of Following size, 1.1 KV grade, on wall surface as required.Upto 35 sq. mm (clamped with 1 mm thick saddle) [conforming to I.S-7098(Part 1) 1988.				
338.	4 X 16 sq. mm	Metre	500		
339.	4 X 35 sq. mm	Metre	550		
	Total				

Special Conditions:

1. No labour huts shall be allowed in IIT Campus, and nothing shall be paid extra on this account.
2. The contractor must visit the site of work /buildings before quoting the rates.
3. No labour to stay in IIT Campus nothing shall be paid extra on this account.
4. Site shall be available as per directions of Engineer in Charge.
5. Quoted rates of participating agencies shall be inclusive of GST.