राष्ट्रीय प्रौद्योगिकी संस्थान मिजोरम
NATIONAL INSTITUTE OF TECHNOLOGY MIZORAM
(An Institution of National Importance under Ministry of Education, Govt. of India)
CHALTLANG, AIZAWL, MIZORAM – 796012
Phone/Fax: 0389-2391774/ 0389-2391236 Email: registraroffice@nitmz.ac.in

No. NITMZ/D-50/2022/3927 Date: **03.02.2023**

NOTICE INVITING TENDER (NIT)

FOR SUPPLY & INSTALLATION OF EQUIPMENTS IN THE GEOTECHNICAL ENGINEERING LABORATORY OF DEPARTMENT OF CIVIL ENGINEERING (CE)

The Registrar, National Institute of Technology Mizoram invites quotation for supply & Installation of Equipments in Geotechnical Engineering Laboratory of Department of Civil Engineering as per details at **ANNEXURE-V in Two Bids** to reach the undersigned on or before.

Sl. No.	Items	Qty	EMD (Rs.) in the form	Tender Document Fee (Rs.)
01.	**For supply & installation of Pycnometer Confirming to IS:2720 (Part-III) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	**10**	**Rs. 50,000.00** **Payment through online mode only**	**Rs. 500.00 (Non-refundable)** **Payment through online mode only**
02	**For supply & installation of Standard Test Sieves (200 -300mm dia) Spun Brass Frames in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	**42**		
03	**For supply & installation of an Electromagnetic Sieve Shaker Suitable for Sieves upto 300 mm dia in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl.**	**01**		
04	**For supply & installation of Density Bottle Confirming to IS:2720 (Part-I) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	**15**		
05	**For supply & installation of Hydrometer, Hydrometer Glass Jar and High Speed Stirrer in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	15		
06	**For supply & installation of Wet Siever Shaker (Motorised) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		
07	**For supply & installation of Constant Temperature Bath in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		

08	**For supply & installation of Water Still 4 litre/hour in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		
09	**For supply & installation of Liquid Limit Device (Hand Operated with Counter) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	05		
10	**For supply & installation of Liquid Limit Device (Motorised) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	02		
11	**For supply & installation of Plastic Limit Apparatus Conforming to IS:2720 (Part-V) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	02		
12	**For supply & installation of Shrinkage Limit Apparatus and accessories Conforming to IS:10077, IS:2720 (Part-VI) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	04		
13	**For supply & installation of Glass Thermometer 0 - 150°C in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	05		
14	**For supply & installation of Electronic Balance (600gm, 6kg and 20kg) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	03		
15	**For supply & installation of Hot Air Oven Size: 3ft x 3ft x 3ft (Internal Dimension) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	02		
16	**For supply & installation of Spatula(150mm&290mm) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	06		
17	**For supply & installation of Stop Watch (Digital) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	10		
18	**For supply & installation of Scoop ½ kg Capacity in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	02		
19	**For supply & installation of Rubber Mallet 100 gm in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		
20	**For supply & installation of Ball Pen Hammer 1 kg in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		

21	**For supply & installation of Relative Density Apparatus in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		
22	**For supply & installation of Sand Pouring Cylinder (Large) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		
23	**For supply & installation of Proctor Compaction Test Confirming to IS:2720 (Part-VII) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	11		
24	**For supply & installation of Core Cutter in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		
25	**For supply & installation of Universal Triaxial Cell IS: 2720 (Part-XXI) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		
26	**For supply & installation of Direct Shear Apparatus (Motorized) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		
27	**For supply & installation of Electronic Direct Shear Apparatus, Large (Motorised) Confirming to IS: 2720 (Part-XXXIX/Sec. I) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		
28	**For supply & installation of Soil Trimmer (Motorised) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		
29	**For supply & installation of Hydraulic Extruder (Motorised) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		
30	**For supply & installation of Constant Volume Mould 38 mm Dia x 126 mm Long (Cast Iron) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		
31	**For supply & installation of Constant Volume Mould 50 mm Dia x 180 mm Long (Cast Iron)in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		
32	**For supply & installation of Constant Volume Constant Volume Mould 100 mm Dia x 350 mm Long (Cast Iron) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		
33	**For supply & installation of Unconfined Compression Apparatus (Motorised, Proving Ring Type) Confirming to IS:2720(Part-X) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		

34	**For supply & installation of Laboratory Vane Shear Apparatus (Motorized) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		
35	**For supply & installation of Swell Pressure Test Apparatus Confirming toIS:2720 (Part-XII)in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		
36	**For supply & installation of Automatic Consolidation Testing Apparatus in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		
37	**For supply & installation of Laboratory Permeability Apparatus Confirming to IS:2720 (Part-XVII), IS:11209 in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	02		
38	**For supply & installation of Rapid Moisture Meter Confirming to IS:2720 (Part-II), IS:12175 in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	02		
39	**For supply & installation of Universal Permeameter Confirming to IS:2720 (Part-XVII), IS:11209 in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		
40	**For supply & installation of Sampling Tube (Brass) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	09		
41	**For supply & installation of HS.20.10: Electronic CBR Test Apparatus ASTM D-1883 in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	51		
42	**For supply & installation of Standard Penetration Test Apparatus HS34.85 Split Spoon Sampler, with Liner in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		
43	**For supply & installation of HS34.60 Dynamic Cone Penetration Test Apparatus (50 mm cone without bentonite slurry) in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		
44	**For supply & installation of HS28.685 Automatic Triaxial Testing System Conforming to IS: 2720 (Part XII) & BS 1377] in the Department of Civil Engineering (CE) at NIT Mizoram, Aizawl**	01		

Tender Form along with other Terms & Conditions can be downloaded from the Institute's Website ***www.nitmz.ac.in***. However, the **Non-refundable Tender Fees of ₹500.00 (Rupees Five Hundred only) and refundable EMD amount of ₹. 50,000.00 (Rupees Fifty Thousand only) by Online Payment and Receipt should be submitted along with the Tender Documents**, till **13th February, 2023 at the Payment Details given below before 3:00 P.M**.

NATIONAL INSTITUTE OF TECHNOLOGY MIZORAM
ACCOUNT No.: 33755447886
STATE BANK OF INDIA
BAWNGKAWN BRANCH,
AIZAWL, MIZORAM IFSC: SBIN0007059

Sealed Tenders should be dropped in Tender Box No. 02, Kept in the Administrative Office, NIT Mizoram or submitted at **registraroffice@nitmz.ac.in** till **13th February, 2023 before 3:00 P.M**. Tenders received through Registered Post/Speed Post/Courier before the above referred Date and Timing would be considered.

1. Last Date & Time for Submission : 13-02-2023 (03:00PM)
2. Date/Time for Opening of Technical Bids : 13-02-2023 (04:00PM)
3. Date of notifying the technically qualified Bidders by Email : 15.02.2023
4. Evaluation of Financial bids for technically qualified Bidders : 16.02.2023

VENUE OF BID OPENING: ADMINSITRATIVE BLOCK, NIT MIZORAM, CHALTLANG, AIZAWL

BID INSTRUCTIONS:

01. Quotations will have to be submitted in TWO Bids. The address of the firm submitting the quotation and the Officer to whom the quotation is addressed must appear distinctly on sealed covers. Further, on sealed cover, the following are to be written:

"QUOTATION FOR SUPPLY & INSTALLATION OF EQUIPMENTS IN GEOTECHNICAL ENGINEERING LABORATORY IN THE DEPARTMENT OF CIVIL ENGINEERING(CE), NIT MIZORAM"
REF. NO. NITMZ/D-50/2022/3927_ DATE: - 03.02.2023

02. **Submission of Compliance Certificate:** Duly filled and signed Compliance Certificates (as per formats at **Annexure I (A&B**) are must with the Technical Bid.

03. **Bid not transferable:** The bid documents are not transferable and the seal and signature of the authorized official of the Firm must appear on all the papers and envelopes submitted.

QUALIFICATION REQUIREMENTS:

1) The Bidder should be an Original Equipment Manufacturer (OEM) or an authorized Dealer/Distributor & a Firm of reputation having sufficient expertise and experience in the subject tender with sound warranty / service support capability and authorization from Manufacturer/Distributor.

2) The Bidder should have experience of executing at least One Purchase Order of equipments/Machines/IT Products of value of Rupee Fifty Lacs or Higher within the last 3 Years from any IIT/NITs/Central Government Institutions of North East Region of India.

3) The Bidder has to quote for all the items in the above Laboratories, Bidders who do not quote for all the items are subject to be summarily disqualified.

4) The Bidder must have facility for maintenance of Instruments in the North Eastern region for last 1(One) year.

NIT TERMS & CONDITIONS:

1) **Rates:** Rates quoted in the **Price Bid** should be **on DOOR DELIVERY NIT Mizoram basis,**
As per details below:

Sl. No.	Particulars	Rate
1.	Basic Price (per unit)	
	Total	
	Taxes (please give break up)	
	Grand Total for the item on door delivery at NIT Mizoram	

Bidders shall indicate their rates in clear/visible figures as well as in words and shall not alter/overwrite/make cutting in the quotation. In case of a mismatch, the rates written in words will prevail.

2) **Validity of Quotation:** Quoted rates must be valid for **90 days** from the date of quotation.

3) **Warranty:** The quoted equipment and components must be covered with Warrantee for a minimum period of 1(One) year after satisfactory installation.

4) **Literature a must**: All the quotations must be supported by the printed technical leaflet/ literature and the specifications mentioned in the quotation must be reflected/supported by such printed technical leaflet/literature. The model and specifications quoted should **invariably be highlighted** in the leaflet/literature for easy reference.

5) **After Sales Service:** Vendors should clearly state the available nearest after sales service facilities in the region, without which their offers will summarily be be rejected.

6) **Dealership Certificate:** Dealers or Agents quoting on behalf of Manufacturer/Distributor must enclose valid Dealership Certificate.

7) **Earnest Money Deposit (EMD):**

i) Earnest Money of **Rs. 50,000.00 (Rupees Fifty Thousand only)** in the form of **Online Payment (Receipt) only shall be submitted**. EMD in cash or in the form of Cheque, D.D or in any other form will not be accepted.

ii) The EMD of the tenderer will be refunded **without any interest** within reasonable time after final decision of the tender, normally **within 1 month** from the date of opening of the tender.

iii) EMD of the successful bidder will be released on submission of the Performance Bank Guarantee (PBG).

iv) Request for transfer of any previous deposit such as previous EMD or Security Deposit or payment of any pending bill or transfer towards EMD shall not be entertained.

v) The tenders without EMD will be summarily rejected.

vi) Tenderer shall not be permitted to withdraw his offer or modify the terms and conditions thereof. In case the tenderer fails to observe and comply with the stipulations made herein or backs out after quoting the rates, the aforesaid amount of Earnest Money Deposit will be forfeited.

As per Rule 170 of GFRs 2017, Micro and Small Enterprises (MSEs) and the firms registered with concerned Ministries/Departments are exempted from submission of Bid Security/EMD (if applicable).

8) **Performance Bank Guarantee (PBG):** In case of items with order value of Rupees Five Lakhs only (INR 5,00,000.00) and above, the successful bidder shall furnish an unconditional PBG (as per format at **Annexure II**) for **3% of the Purchase Order value** from a scheduled Bank of India, after receiving the Purchase order**.** Where the PBG is obtained by a foreign bank, it shall be got confirmed by a Schedule Indian bank and shall be governed by Indian Laws and be subject to the jurisdiction of Hon'ble Gauhati High Court, Aizawl Bench at Aizawl only. The PBG will be kept till the Warranty Period and The PBG shall guarantee that,

- The Vendor guarantees satisfactory operation of the Equipment & components against poor workmanship, bad quality of materials used, faulty designs and poor performance.
- The Vendor shall, at his own cost, rectify the defects/replace the items supplied, for defects identified during the period of guarantee.

- This guarantee shall be operative from the date of installation till 120 days after the warranty period.
- The proceeds of the performance security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- The Performance Security shall be denominated in the currency of the contract.
- Performance Security may be submitted either by the principal or by the Indian agent

9) Delivery:

- **Time Limit:** Maximum within **30 days/1 month** from the date of issue of the Purchase Order.

- **Safe Delivery:** All aspects of safe delivery shall be the exclusive responsibility of the Vendor/Supplier. At the destination site, the package will be opened only in the presence of NIT user/representative and vendor's representative. The intact condition of the package and the seal/indicators for not being tempered with shall form the basis for certifying the receipt in good condition.

- **Insurance:** The supplier is to establish 'All Risk Transit Insurance' coverage till door delivery at NIT Mizoram, Chaltlang, Aizawl, Mizoram - 796012.

- **Part Delivery:** Acceptance of part delivery shall be a prerogative of the Institute.

- **Penalty for delay in Delivery:** The date of delivery should be strictly adhered to otherwise the Registrar, NIT Mizoram reserves the right not to accept delivery in part or full.

10) Genuine Pricing: Vendor is to ensure that quoted price for the particular item is not more than the price quoted to any other customer in India, particularly to IITs/NITs / Centrally Funded Institutions and other Government Organization.

11) Conditional tenders not acceptable: All the terms and conditions mentioned herein must be strictly adhered to by all the vendors. Conditional tenders shall not be accepted on any ground and shall be summarily rejected. Conditions mentioned in the tender bids submitted by vendors will not be binding on NIT Mizoram.

12) GST : GST will be applicable as per GoI rates applicable from time to time. NIT Mizoram possessed customs duty exemption under DSIR, Ministry of Science and Technology, Government of India which is applicable for the purchase of all R&D activities vide No. TU/V/RG-CDE(1254)/2020 dated 25-01-2021(Copy at **ANNEXURE-VI**).

13) Late and delayed tender: Late and delayed tender will not be considered. In case

any unscheduled holiday occurs on the prescribed closing/opening date the next working day shall be the prescribed date of closing/opening.

14) Payment: 100% payment within 30 (thirty) days from date of delivery, Satisfactory installation, acceptance and Training.

15) Free Maintenance & Service for 5 Years: An agreement is to be executed between the Institute & the **Manufacturer/Distributor/Dealer** for providing **Free Maintenance & Service for 5 Years** after expiry of the Warranty Period of the equipment by the Manufacturer/Distributor/Dealer (Preferably from the Manufacturer) within 30 Days from the day of Complain. The cost of the Spare parts required for the service and maintenance will be paid by the Institute along with the To & Fro charges (The cheapest mode of Travel).

16) Evaluation of Tender: Unless specifically mentioned, the overall lowest bid, meeting the technical specifications will be selected for placement of Purchase Order.

A. Grounds for summary rejection of bid/offer without any further clarification at preliminary evaluation stage:

1) Unsigned bid
2) Late or delayed bid
3) Bid validity is shorter than the required period
4) The bid is not accompanied by Earnest Money Deposit (EMD) if EMD is required
5) The bidder is not eligible
6) No authorization letter from the manufacturer.
7) If there is no mention of packing, forwarding, freight, transportation and insurance charge in the offer.
8) Not willing to provide performance security if it is requirement of tender

B. Grounds to be considered as material deviation for summary rejection of bid /offer without any further clarification at the discretion of the NIT Mizoram authority during intensive technical evaluation stage: The good(s) quoted which are not meeting the major/essential technical specifications.

17) Enquiry during the course of evaluation not allowed: No enquiry from the bidder(s) shall be entertained during the course of evaluation of the tender till final decision is conveyed to the successful bidder(s). However, the Purchase Committee or its authorized representative may make enquiries/seek clarification from the bidders. In such a case, the bidder must extend full co-operation. The bidders may also be asked to arrange demonstration of the offered items, in a short period of notice.

18) The acceptance of the quotation will rest solely with the Director, NIT Mizoram, who in the interest of the Institute is not bound to accept the lowest quotation and reserves the right to himself to reject or partially accept any or all the quotations received without assigning any reasons.

19) Applicable Law:

- The contract shall be governed by the laws and procedures established by Govt. of India and subject to exclusive jurisdiction of Gauhati High Court, Aizawl Bench, Aizawl only.

- Any dispute arising out of this purchase shall be referred to the Director NIT Mizoram, and if either of the parties hereto is dissatisfied with the decision, the dispute shall be referred to the decision of an Arbitrator, who should be acceptable to both the parties, to be appointed by the Director, NIT Mizoram. The decision of such Arbitrator shall be final and binding on both the parties.

20) Cost of Bidding: The Bidder shall bear all costs associated with the preparation and submission of its bid, and "the Purchaser", will in no case be responsible or liable for these costs, regardless of the conductor outcome of the bidding process.

21) Clarification of bidding documents: A prospective bidder requiring any clarification of the bidding documents shall contact the Purchaser in writing at the Purchaser's address. The Purchaser will respond in writing to any request for clarification, provided that such request is received not later than ten (10) days prior to the dead line for submission of bids. Should the Purchaser deem it necessary to amend the Bidding Documents as a result of a clarification, it shall do so

Enclosure: **GENERAL CONDITIONS OF CONTRACT, BID FORM, ANNEXURE - I, ANNEXURE - II, ANNEXURE - III, ANNEXURE - IV, ANNEXURE - V, ANNEXURE – VI & ANNEXURE - VII**

Sd/-
REGISTRAR
NATIONAL INSTITUTE OF TECHNOLOGY MIZORAM

GENERAL CONDITIONS OF CONTRACT

1) Definitions

In this Contract, the following terms shall be interpreted as indicated: -

The following words and expressions shall have the meanings hereby assigned to them

"Contract" means the Contract Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to there in, including all attachments, appendices, and all documents incorporated by reference therein.

"Contract Documents" means the documents listed in the Contract Agreement, including any amendments thereto.

"Contract Price" means the price payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions there from, as may be made pursuant to the Contract.

"Day" means calendar day.

"Completion" means the fulfillment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract. "GCC" means the General Conditions of Contract.

"Goods" means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Purchaser under the Contract.

"Related Services" means the services incidental to the supply of the goods, such as transportation, insurance, installation, training and initial maintenance and other such obligations of the Supplier under the Contract.

"Sub-contractor" means any natural person, private or government entity, or a combination of the above, to whom any part of the Goods to be supplied or execution of any part of the Related Services is sub-contracted by the Supplier.

"Supplier" means the natural person, private or government entity, or a combination of the above, whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Contract Agreement.

The final destination, where applicable, means the place named in the "National Institute of Technology Mizoram, Aizawl - 796012"

2) Contract Documents: Subject to the order of precedence set forth in the Contract Agreement, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory. The Contract Agreement shall be read as a whole.

3) Fraud and Corruption: The purchaser requires that bidders, suppliers, contractors and consultants, if any, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuit of this policy,

a) The terms set forth below are defined as follows:

- "Corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution;
- "Fraudulent practice" means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract;
- "Collusive practice" means a scheme or arrangement between two or more bidders, with or without the knowledge of the Borrower, designed to establish bid prices at artificial, non-competitive levels; and
- "Coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract;

b) The purchaser will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract in question.

4) Joint Venture, Consortium or Association: If the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Purchaser for the fulfillment of the provisions of the Contract and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the Purchaser.

5) Scope of Supply: The Goods and Related Services to be supplied shall be as specified in the Schedule of requirements.

6) Suppliers' Responsibilities: The Supplier shall supply all the Goods and Related Services included in the Scope of Supply in accordance with Scope of Supply Clause of the GCC, and the Delivery and Completion Schedule, as per GCC Clause relating to delivery and document.

7) Contract price: Prices charged by the Supplier for the Goods supplied and the Related Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid.

8) Copy Right: The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain

vested in such third party.

9) Application: These General Conditions shall apply to the extent that they are not superseded by provisions in other parts of the Contract.

10) Standards: The Goods supplied and services rendered under this Contract shall conform to the standards mentioned in the Technical Specifications and Schedule of Requirements, and, when no applicable standard is mentioned, to the authoritative standard appropriate to the Goods' country of origin and such standards shall be the latest issued by the concerned Institution.

11) Patent Indemnity

(i) The Supplier shall, subject to the Purchaser's compliance with GCC Sub-Clause11.2, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of: The installation of the Goods by the Supplier or the use of the Goods in India; and (b) The sale in any country of the products produced by the Goods.

(ii) If any proceedings are brought or any claim is made against the Purchaser, the Purchaser shall promptly give the Supplier a notice thereof and the Supplier may at its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claims.

12) Inspections and Tests

(i) The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods and Related Services.

(ii) The Purchaser or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Purchaser. The Technical Specifications shall specify what inspections and tests the Purchaser requires and where they are to be conducted. The Purchaser shall notify the Supplier, in writing, in a timely manner of the identity of any representatives retained for these purposes.

(iii) Whenever the Supplier is ready to carry out any such test and inspection, it shall give a reasonable advance notice, including the place and time, to the Purchaser. The Supplier shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Purchaser or its designated

representative to attend the test and/or inspection.

(iv) Should any inspected or tested Goods fail to conform to the specifications, the Purchaser may reject the goods, and the Supplier shall, either replace the rejected Goods or make alterations necessary to meet specification requirements, free of cost, to the Purchaser.

(v) The Purchaser's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival at final destination shall in no way be limited or waived by reason of the Goods having previously been inspected, tested and passed by the Purchaser or its representative prior to the Goods shipment.

14) Packing:

(i) The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.

(ii) The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be provided for in the Contract and in any subsequent instructions ordered by the Purchaser.

15) Delivery: Delivery of the Goods and completion and related services shall be made by the Supplier maximum within 30 days or 1 month from the date of issue of the Purchase Order

16) Transportation: The Supplier is required under the Contract to transport the Goods to a specified destination in NIT Mizoram, Aizawl, Mizoram, defined as the Final Destination, transport to such destination, including insurance, unloading and storage, as specified in the Contract, shall be arranged by the Supplier, and the related costs shall be included in the Contract Price.

17) Incidental Services: The supplier may be required to provide any or all of the services, if any.

18) Spare Parts: The Supplier shall be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:

(i) Such spare parts as the Purchaser may elect to purchase from the Supplier, providing that this election shall not relieve the Supplier of any warranty obligations under the Contract; and

(ii) In the event of termination of production of the spare parts:

- Advance notification to the Purchaser of the pending termination, insufficient time to permit the Purchaser to procure needed requirements; and
- Following such termination, furnishing at no cost to the Purchaser, the blue prints, drawings and specifications of the spare parts, if requested.

19) Warranty

(i) The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.

(ii) The Supplier further warrants that the Goods shall be free from defects arising from any actor omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in India.

(iii) The warranty shall remain valid for twelve months (1 Year) after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination.

(iv) The Purchaser shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunities for the Supplier to inspect such defects.

(v) Upon receipt of such notice, the Supplier shall, within a period of 30 days, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.

(vi) If having been notified, the Supplier fails to remedy the defect within the period specified above, the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

20) Change Orders and Contract Amendments.

(i) The Purchaser may at any time, by written order given to the Supplier pursuant to Clause on Notices of the GCC make changes within the general scope of the Contract in any one or more of the following:

- Drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
- The place of delivery; and/or
- The Services to be provided by the Supplier.
- The delivery schedule.

(ii) If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for

adjustment under this clause must be asserted within fifteen (15) days from the date of the Supplier's receipt of the Purchaser's change order.

(iii) No variation or modification in the terms of the contract shall be made except by a written amendment signed by both parties.

21) Assignment: The Supplier shall not assign, in whole or in part, its obligations to perform under the Contract, except with the Purchaser's prior written consent.

22) Subcontracts: The Supplier shall notify the Purchaser in writing of all subcontracts awarded under this Contract if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the Supplier from any liability or duties or obligation under the Contract.

23) Extension of Time:

(i) Delivery of the Goods and performance of the Services shall be made by the Supplier in accordance with the time schedule specified by the Purchaser.

(ii) If at any time during performance of the Contract, the Supplier or its sub-contractor(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may, at its discretion, extend the Supplier's time for performance with or without penalty, in which case the extension shall be ratified by the parties by amendment of the Contract.

(iii) Except as provided under the Force Majeure clause of the GCC, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of penalty pursuant to Penalty Clause of the GCC unless an extension of time is agreed upon pursuant to above clause without the application of penalty clause.

24) Penalty Clause: Subject to GCC Clause on Force Majeure, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Purchaser shall, without prejudice to its other remedies under the Contract, reserves the right not to accept delivery in part or full.

25) Termination for Default:

(i) The Purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, terminate the Contract in whole or part:

- If the Supplier fails to deliver any or all of the Goods within the period(s) specified in the contract, or within any extension thereof granted by the Purchaser

pursuant to GCC Clause on Extension of Time; or

- If the Supplier fails to perform any other obligation(s) under the Contract.
- If the Supplier, in the judgment of the Purchaser has engaged in corrupt or fraudulent or collusive or coercive practices as defined in GCC Clause on Fraud or Corruption in competing for or in executing the Contract.

(ii) In the event the purchaser terminates the contract in whole or in part, he may take recourse to any one or more of the following action:

a) The Performance Security is to be forfeited;

b) The purchaser may procure, upon such terms and in such manner as it deems appropriate, stores similar to those undelivered, and the supplier shall be liable for all available actions against it in terms of the contract.

c) However, the supplier shall continue to perform the contract to the extent not terminated.

26) Force Majeure

(i) Notwithstanding the provisions of GCC Clauses relating to extension of time, penalty and Termination for Default the Supplier shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, its delay in performance or other failure to perform its obligations under the Contract is the result of an event of ***Force Majeure***.

(ii) For purposes of this Clause, "Force Majeure" means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

(iii) If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such conditions and the cause thereof within 21 days of its occurrence. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

(iv) If the performance in whole or in part or any obligations under the contract is prevented or delayed by any reason of force majeure for a period exceeding 60 days, either party may at its option terminate the contract without any financial repercussions on either side.

27) Termination for Insolvency: The Purchaser may at any time terminate the Contract by giving written notice to the Supplier, if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the Purchaser.

28) Settlement of Disputes:

(i) The Purchaser and the supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

(ii) If, after twenty-one (21) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as here in after provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract.

(iii) The dispute settlement mechanism / arbitration proceedings shall be concluded as under: In case of Dispute or difference arising between the Purchaser and a domestic supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996, the rules there under and any statutory modifications or re-enactments thereof shall apply to the arbitration proceedings. The dispute shall be referred to the Director, NIT Mizoram, Aizawl and if he is unable or unwilling to act, to the sole arbitration of some other person appointed by him willing to act as such Arbitrator. The award of the arbitrator so appointed shall be final, conclusive and binding on all parties to this order.
In the case of a dispute between the purchaser and a Foreign Supplier, the dispute shall be settled by arbitration, in accordance with provision of sub clause (a) above. But if this is not acceptable to the supplier then the dispute shall be settled in accordance with provisions of UNCITRAL (United Nations Commission on International Trade Law) Arbitration Rules.

(iv) The venue of the arbitration shall be the place from where the order is issued.

(v) Notwithstanding any reference to arbitration herein, the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and the Purchaser shall pay the Supplier any monies due the Supplier.

29) Governing Language: The contract shall be written in English language, which shall

govern its interpretation. All correspondence and other documents pertaining to the Contract, which are exchanged by the parties, shall be written in English language only.

30) Applicable Law: The Contract shall be interpreted in accordance with the laws of the Union of India and all disputes shall be subject to place of jurisdiction of Aizawl, Mizoram, India.

31) Notices:

(i) Any notice given by one party to the other pursuant to this contract/order shall be sent to the other party in writing or by cable, telex, FAX or e-mail and confirmed in writing to the other party's address.

(ii) A notice shall be effective when delivered or on the notice's effective date, whichever is later.

32) Taxes and Duties

(i) For goods manufactured outside India, the Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed inside and outside India.

(ii) For goods Manufactured within India, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred till its final manufacture/production.

(iii) If any tax exemptions, reductions, allowances or privileges may be available to the Supplier in India, the Purchaser shall make its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.

33) Right to use Defective Goods: If after delivery, acceptance and installation and within the guarantee and warranty period, the operation or use of the goods proves to be unsatisfactory, the Purchaser shall have the right to continue to operate or use such goods until rectifications of defects, errors or omissions by repair or by partial or complete replacement is made without interfering with the Purchaser's operation.

34) Protection against Damage: The system shall not be prone to damage during power failures and trip outs.

35) Site Preparation and Installation: The Purchaser is solely responsible for the construction of the equipment sites in Compliance with the technical and environmental specifications defined by the Supplier. The Purchaser will designate the installation sites before the scheduled installation date to allow the Supplier to perform a site inspection to verify the appropriateness of the sites before the installation of the Equipment, if required. The supplier shall inform the purchaser about the site preparation, if any, needed for installation, of the goods at the purchaser's site immediately after notification of award.

BIDFORM

Dated:

Tender No: **NITMZ/D-**50**/2022/**3927 **Date: 03.02.2023**

To,

The Registrar
NIT Mizoram
Chaltlang, Aizawl, Mizoram - 796012

Madam,

1. Having read the terms and conditions of the above-mentioned tender and equipments to be provided, I / we, the undersigned, offer to provide the equipments (mentioned in **Annexure - V**) in conformity with the conditions of contract and specifications for the sum shown in the schedule of prices attached herewith in separate sealed cover and made part of this Bid.
2. If our Bid is accepted, we will obtain the Performance Bank Guarantees from a Scheduled Bank, for a sum, as mentioned in this tender document for due performance of the Contract.
3. We agree to abide by this Bid for a period of 90 days from the date fixed for Bid opening and it shall remain binding upon us and may be accepted at any time before the expiry of that period.
4. Bid submitted by us are properly sealed and prepared so as to prevent any subsequent alteration and/or replacement.
5. We understand that you are not bound to accept the lowest or any bid, you may rCEive.
6. NIT Mizoram reserves the right to cancel the tender without assigning any reason thereof.
7. NIT Mizoram reserves the right to reject any or all tenders without assigning any reasons thereof.

Signature Full Name
Name of Firm/Company/Agency
Seal

ANNEXURE - I

A. COMPLIANCE CERTIFICATE FOR NIT TERMS

(To be enclosed in the Technical Bid)

Sl. No.	NIT Mizoram Terms and Conditions	Yes / No
01	**Rate** quoted as per instruction	
02	**AMC rate** after warranty provided	
03	**Validity** of quoted rate for 90 days agreed	
04	**EMD** submitted (appropriate certificate enclosed)	
05	**PBG** term agreed	
06	**Payment** term agreed	
07	**Delivery terms** agreed	
08	**Warranty period** agreed	
09	**Literature:** Printed Literature provided	
10	**Dealership**/ distributorship certificate (in case of dealers/agents) provided	
11	**Sales Service**: address of after Sales Service Centre in India (for imported goods)/ in the region provided	
12	**Applicable Law** terms agreed	

Signature with Seal:……..

Vendor: M/s……

B. **<u>COMPLIANCE CERTIFICATE FOR SPECIFICATIONS</u>**
(One for each item must be enclosed in the Technical Bid)

Item Sl. No.:		
Specifications as per Annexure - IV	**Quoted Item Specs. ***	**Complied (Yes/No)**

Signature with Seal……..

Vendor: M/s……

*** Vendor must quote the parameter specification of the quoted product in this column and not just copy the specification from the tender call document. Failure to do so will lead to rejection of the tender.**

ANNEXURE–II

PERFORMANCE BANK GUARANTEE

To:

The Registrar
National Institute of Technology Mizoram
Aizawl - 796012, Mizoram

WHEREAS ..... (Name of Supplier)
Herein after called "the Supplier" has undertaken, in pursuance of Contract No..... dated, ...20…... to supply ..... (Description of Goods and Services) hereinafter called "The Order".

AND WHEREAS it has been stipulated by you in the said order that the Supplier shall furnish you with a Bank Guarantee by a recognized Bank for the sum specified therein as security for compliance with the Supplier's performance obligations in accordance with the Order.

AND WHEREAS we have agreed to give the Supplier a Guarantee:
THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier, up to a total of.....(Amount of the Guarantee in Words And Figures) and we undertake to pay you, upon your first written demand declaring the Supplier to be in default under the order and without cavil or argument, any sum or sums within the limit of
..... (Amount of Guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the..... day of.....20.....

Signature and Seal of Guarantors
.....
.....
.....
Date.....20....
Address…….....
.....
.....
All correspondence with reference to this guarantee shall be made at the following address:
National Institute of Technology Mizoram

ANNEXURE-III

MANUFACTURERS' / DISTRIBUTOR'S AUTHORIZATION FORM

No. Dated _____

The Registrar
National Institute of Technology Mizoram
Aizawl, Mizoram - 796012

Dear Madam:

We ..... who are established and reputable Manufacturers / Distributors of..... ..... having Factories /office at----------
---

---------- (address of factory/office) do hereby Certify that**.....**
..... (Name of the Authorized Dealer) is our authorized dealer to quote against your tender enquiry no ……., Last Date of Submission is:

Yours faithfully,

(Name) (Name of Manufacturer/Distributor)

ANNEXURE-IV

CONTRACT FORM

Contract No. _____

THIS CONTRACT AGREEMENT is made on Date: The [insert: number] day of [insert: month], [insert: year] BETWEEN

(1) National Institute of Technology, Mizoram, Chaltlang, Aizawl represented by_____ [insert complete name and address] of Purchaser (hereinafter called "the Purchaser"), and

(2) [insert name of Supplier], a corporation incorporated under the laws of [country of Supplier] and having its principal place of business at [insert: address of Supplier] (hereinafter called "the Supplier")

WHEREAS the Purchaser invited bids for certain Goods and ancillary services, viz., [insert brief description of Goods and Services] and has accepted a Bid by the Supplier for the supply of those Goods and Services in the sum of [insert Contract Price in words and figures, expressed in the Contract currency] (hereinafter called "the Contract Price").

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.

2. The following documents shall constitute the Contract between the Purchaser and the Supplier, and each shall be read and construed as an integral part of the Contract:

- **a)** This Contract Agreement
- **b)** General Conditions of Contract
- **c)** Technical Requirements (including Schedule of Requirements and Technical Specifications)
- **d)** The Supplier's Bid and original Price Schedules
- **e)** The Purchaser's Notification of Award
- **f)** [Add here any other document(s)]

3. This Contract shall prevail overall other Contract documents. In the event of any discrepancy or inconsistency within the Contract documents, then the documents shall prevail in the order listed above.

4. In consideration of the payments to be made by the Purchaser to the Supplier as herein after mentioned, the Supplier hereby covenants with the Purchaser to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.

5. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the

manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of Union of India on the day, month and year indicated above.

For and on behalf of the National Institute of Technology, Mizoram

Signed: [insert signature]
in the capacity of [insert title or other appropriate designation]
in the presence of [insert identification of official witness]

Signed: [insert signature]

in the capacity of [insert title or other appropriate designation]

in the presence of [insert identification of official witness]

For and on behalf of the Supplier

Signed: [insert signature of authorized representative(s) of the Supplier]
in the capacity of [insert title or other appropriate designation]

in the presence of [insert identification of official witness]

ANNEXURE - V

LIST OF EQUIPMENTS & SPECIFICATION FOR GEOTECHNICAL ENGINEERING LABORATORY. DEPARTMENT OF CIVIL ENGINEERING, NIT MIZORAM

Sl. No.	Name of Equipment	Technical Specification	Quantity
01.	**Pycnometer Confirming to IS:2720 (Part-III)**	Suitable for determination of specific gravity of sand and fine gravel. The apparatus consists of a glass jar of 1 kg capacity, complete with brass cone, rubber seal and screwed cap. **Accessories:** Brass cone and rubber seals (pack of 10)	10
02.	**Standard Test Sieves**	**1. 200 mm dia, Spun Brass Frames** **Size** 4.75 mm, 2.36 mm, 2.00 mm, 1.18 mm, 600 micron, 425 micron, 300 micron, 150 micron, 75 micron & lid & pan **2. 300 mm dia, Spun Brass Frames** **Size** 9.50 mm, 4.75 mm, 2.36 mm, 2.00 mm, 1.18 mm, 600 micron, 425 micron, 300 micron, 150 micron, 75 micron & lid & pan	 02 02 02 02 02 02 02 02 02 02 02 02 02 02 02 02 02 02 02 02 02
03.	**Electromagnetic Sieve Shaker Suitable for Sieves upto 300 mm dia**	Electromagnetic sieve shakers for high performance and precision sieving tests on soil & other engineering material. These sieve shakers should simple in design and easy to use, operated by electromagnetic action providing 3 axis vibrations (vertical, lateral and rotational). The sturdy sieve table should accommodate a maximum of eight sieves of 150 mm or 200 mm diameter. To hold the sieves an adjustable top clamping plate should be provided. A digital control panel should be provided with the shaker to set the vibration, frequency of vibrations and timer to set the time from 1 to 999 minutes. Suitable for operation on 220 V, 50 Hz, Single phase supply.	01
04.	**Density Bottle Confirming to IS:2720 (Part-I)**	Density bottle of 100 ml with capillary vent leak-proof stopper.	15

05.	**Hydrometer**	Test should be performed as per IS:2720 (Part-IV). Used for particle size analysis of soil in suspension when it has more than 10% of 75 micron IS sieve passing material. The scale on the hydrometer should be marked from 0.995 to 1.030 in terms of density (g/ml) of suspension at 27^{o}C. **1. Hydrometer Glass Jar** **Technical Specification:** Test should be performed as per IS:2720 (Part-IV). It is single marked 1000 ml glass cylinder without pour out, used to prepare the soil suspension for the determination of density by using hydrometer. Supplied complete with the rubber bung. **2. High Speed Stirrer** **Technical Specification:** Test should be performed as per IS:2720 (Part-IV). The unit comprises of: - a) A mechanical stirring device, fitted with a motor which rotates at vertical shaft having a stirring pedal at a speed of 8000 to 10000 r.p.m. b) Dispersion cup made of brass c) Baffle for use with dispersion cup	02 12 01
06.	**Wet Sieve Shaker (Motorised)**	It should accommodate seven sieves of 150- or 200-mm diameter. The salient features of this sieve shaker are programmable: - a) Frequency b) Amplitude c) Run time Sieve shaker operates on 220 Volts 50Hz AC supply. It should accommodate four sets of seven sieves each simultaneously for wet sieving. Supplied without sieves, and lid & receiver. Suitable for operation on 220 V, 50 Hz, Single phase supply.	01
07.	**Constant Temperature Bath**	Internal dimensions 600 mm x 300 mm x 380 mm deep with clear glass sides. Complete with heater, thermostat, and agitating unit capable of maintaining temperature at 27^{o}C ± 1^{o}C. When ambient temperature less than 27^{o}C. Wired for 220V, 50 Hz, 1 phase operation. **Accessories:** Thermometer: 0 to 100^{o}C.	01
08.	**Water Still 4 litre/hour**	**Technical Specification:** Wall hanging stainless steel vessel electrically operated for getting pyrogen free distilled water. Wall hanging arrangement should be provided. Condenser is stainless and fitted with automatic ejection device which operates when water supply is cut off and chamber gets dry. Baffle cup condenser made of stainless-steel sheet.	01
09.	**Liquid Limit Device (Hand Operated with Counter)**	**Technical Specification:** The apparatus should consist of a brass cup, a crank and cam mechanism, mounted on a rubber base of a specified hardness. A brass pin having a knurled end for easy removal holds the brass cup. The height of fall of the	05

		cup has adjusted by a horizontal lead screw. Fitted with a drop counter to automatically record number of drops of the cup. Supplied complete with grooving tool (Type 'A', 'B', 'C') and gauging block as per IS:9259, IS:2720 (Part V).	
10.	**Liquid Limit Device (Motorised)**	**Technical Specification:** The device should be fitted with a F.H.P. motor to drive the operating mechanism of cup at 120 rpm ensuring uniformity in performing test. Works on 220 V, 50 Hz, Single phase, and is supplied with grooving tool type 'A', 'B', 'C' and gauge block as per IS:9259, IS:2720 (Part-V).	02
11.	**Plastic Limit Apparatus Conforming to IS:2720 (Part-V)**	**Technical Specification:** The apparatus should consist of: a) Glass plate 200 mm x 150 mm x 3 mm thick b) Porcelain evaporating dish 120 mm dia c) Brass rod 3 mm dia, 100 mm long d) Flexible spatula with 80 mm long, 20 mm wide blade e) Moisture cans 50 mm dia, 15 Nos.	02
12.	**Shrinkage Limit Apparatus Conforming to IS:10077, IS:2720 (Part-VI)**	**Technical Specification:** The set should consists of: - a) 75 mm square prong plate made of 3 mm thick acrylic sheet with three metal prongs b) 75 mm square plain plate made of 3 mm thick acrylic sheet c) **Steel** shrinkage dish 45 mm in dia, 15 mm deep d) Glass cup with ground edge, 50 mm to 55 mm dia, 25 mm deep e) Flexible spatula with 80 mm long, 20 mm wide blade f) Straight edge **Accessories:** Purified mercury 250 gm	02 02
13.	**Glass Thermometer 0 - 150ºC**		05
14.	**Electronic Balance**	**Technical Specification:** 1. 600 gm capacity with 0.01 gm readability, pan size: 116 mm dia 2. 6 kg. capacity with accuracy 0.5 gm 3. 20 kg capacity with 1 gm readability, pan size: 290 x 210 mm dia	 01 01 01
15.	**Hot Air Oven Size: 3ft x 3ft x 3ft (Internal Dimension)**	**Technical Specification:** Inside chamber stainless steel with digital temperature controller and air circulating fan.	02
16.	**Spatula**	1. 150 mm blade with wooden handle 2. 290 mm blade with wooden handle	03 03
17.	**Stop Watch (Digital)**		10
18.	**Scoop ½ kg Capacity**		02
19.	**Rubber Mallet 100 gm**		01
20.	**Ball Pen Hammer 1 kg**		01
21.	**Relative Density Apparatus**	**Technical Specification:** Primarily meant for determination of void ratio of cohesion less, free draining soils, in loosest and densest states as per IS: 2720 (Part-XIV), IS:10837.	01

		It should consist of: a) Vibrating table, suitable to work with 440V, 50Hz, three phase power supply. Vibration deck of size 750 mm square, vibrating at a frequency of 3600 vibrations/min under a 115 kg load and amplitude variable from 0.05 mm to 0.65 mm b) Cylindrical unit weight mould, 3000 ml capacity c) Guide sleeve with clamps for item (b) above d) Surcharge weight with handle for (b) above e) Surcharge base plate with handle for (d) f) Cylindrical unit weight mould, 15000 ml capacity g) Guide sleeve with clamp for item (f) above h) Surcharge weight with handle for (f) i) Surcharge base plate with handle for (h) j) Handle for surcharge base plate k) Metal calibration bar 75 x 300 x 3 mm l) Dial gauge holder m) Dial gauge 0.01 mm x 50 mm - 1 no **Accessories:** Pouring device, 120 mm dia x 150 mm long cylindrical with spout.	
22.	**Sand Pouring Cylinder (Large)**	**Technical Specification:** The apparatus should be suitable for estimation of field density of fine, medium and coarse-grained soils, as per IS:2720 (Part-XXVIII) and consists of:- a) Sand pouring cylinder, 215 mm internal dia, with conical funnel and shutter b) Calibrating container 200 mm inner dia x 250 mm high with 75 mm wide flange c) Metal tray 450 mm square x 50 mm deep with a 200 mm dia hole at the center **Accessories:** Scrapper, Dibber, Glass plate 600 mm square x 10 mm thick.	01
23.	**Proctor Compaction Test Confirming to IS:2720 (Part-VII)**	**1. Compaction Mould** **Technical Specification:** Compaction mould 100 mm internal dia x 127.3 mm height, 1000 ml volume complete with collar and base plate, all made of mild steel, fixing tie rods of mild steel and wing nuts for clamping. **2. Compaction Rammer (Light)** Compaction rammer, light, made of mild steel 2.6 kg weight, 50 mm dia compaction face, 310 mm controlled free vertical fall. **3. Compaction Mould** Compaction mould 150 mm internal dia x 127.3 mm height, 2250 ml volume, complete with collar and base plate all made of mild steel, fixing tie rods of mild steel with wing nuts for clamping. **4. Compaction Rammer (Heavy)** Compaction rammer, heavy, made of mild steel 4.89 kg weight, 50 mm dia compacting face, 450 mm controlled free vertical fall.	04 02 03 02

24.	**Core Cutter**	**Technical Specification:** Field density kit confirming to IS:2720 (Part-XXIX) The kit should consist of: - a) Cylindrical core cutter 100 mm inner dia x 130 mm long with bevelled cutting edge and having wall thickness of 3 mm b) Steel dolley 100 mm inner dia x 25 mm high c) Rammer with steel rod for driving the core cutter	01
25.	**Universal Triaxial Cell IS: 2720 (Part-XXI)**	**Technical Specification: Pressure Range – 1000 Kpa** Suitable for performing triaxial tests on soil specimens of varying diameters from 38 mm to 100 mm with lateral pressure up to 10.5 kg/cm^2. The cell should have four take off positions and is fitted with three no volume change valves. It should be supplied complete with one set of following accessories for each of 38 mm, 50 mm, 75 mm and 100 mm dia specimens. **Accessories** are one pedestal, one loading pad, top drainage connection, pair of plain discs, pair of porous stones, one split sand former, one sheath stretcher, rubber sheaths (pack of ten) and four sealing O-rings for sizes varying from 38-100 mm dia specimen. Set of drained tests on 50, 75, 100 mm dia specimen.	01
26.	**Direct Shear Apparatus (Motorized)**	**Technical Specification:** The unit is provided with a turret type gear box to get 12 different constant rates of strain i.e 1.25, 0.625, 0.25, 0.125, 0.05, 0.025, 0.01, 0.005, 0.002, 0.001, 0.0004, and 0.0002 mm/min. and arrangements to carry out residual shear strength tests. Suitable for operation with 220V, 50 Hz, Single phase supply. **It Should Comprise: -** a) Shear box assembly, 60 mm square, complete with a U-bracket, guide pins and spacing screws, made of brass b) Gripper assembly consisting of two plain grid plates, two perforated grid plates, one base plate and one loading pad, all made of brass c) Two porous stones, each 6 mm thick, fitting the shear box d) Shear box housing of brass, complete with two ball roller strips e) Loading unit with normal loading of 8 kg/cm^2 on 60 mm square specimen f) Specimen cutter for a specimen size of 60 mm x 60 mm x 25 mm g) Set of weights to give a normal stress upto 3 kg/cm^2 through lever, comprising 4 of 0.05 kg/cm^2, 1 of 0.1 kg/cm^2, 1 of 0.2 kg/cm^2, 3 of 0.5 kg/cm^2 and 1 of 1 kg/cm^2 **Accessories:** Proving ring (Integral) capacity 200 kg (2 kN) (Tension/Compression), Dial gauge 0.01 mm x 25 mm range for measuring strain and consolidation (Two	01

		gauges are required). It should be supplied complete with proving ring and two numbers of dial gauge of 0.01 x 25 mm.	
27.	**Electronic Direct Shear Apparatus, Large (Motorised) Confirming to IS: 2720 (Part-XXXIX/Sec. I)**	**Technical Specification:** This is required for testing 300 mm x 300 mm x 150 mm soil sample containing gravel with particle size more than 4.75 mm. The unit should provide 72 different constant rates of strain for shear load ranging from 0.0014 mm/min. to 10.16 mm/min and is suitable for carrying our residual shear strength test. The equipment should comprise of the following: - a) Loading unit having a normal load capacity of 3 kg/cm^2 through lever and shearing load capacity up to 5000 kg maximum b) Shear box assembly in two halves, complete with two guide pins and three spacing screws c) Shear box housing, complete with two ball roller strips d) Two perforated gripper plates e) Two plain gripper plates f) Two plain grid plates, one for top and one for bottom g) Two perforated grid plates one for top and one bottom h) One base plate i) One loading pad with lifting handles j) One set of slotted weights to give a maximum normal stress intensity of 3 kg/cm^2 on the specimen through lever system It should be provided with electronic digital system, sensors for vertical displacement, horizontal displacement, load cell for sharing load, standard accessories and spares. **Broad Specification of Digital Display Unit is given below:** **Sensor:** a) Displacement sensors ± 50 mm - 2 Nos. b) Load cell 50 kN - 1 No Suitable for operation on 220 V, 50 Hz, Single phase supply.	01
28.	**Soil Trimmer (Motorised)**	**Technical Specification:** For preparation of undisturbed samples varying from 38 to 100 mm dia of different dimensions for triaxial tests. The equipment should be supplied along with 38, 50, 75 and 100 mm dia specimen rings (1 no. of each) and a hardened steel trimming knife. Suitable for 220 V, 50 Hz, Single phase supply.	01
29.	**Hydraulic Extruder (Motorised)**	**Technical Specification:** This hydraulic extractor frame is a motorised unit complete with, hydraulic jack with stroke of 600 mm and thrust force of 9000 kgf. It should have a control valve for the control of direction of movement of the piston (Ram) and a relief valve to limit the load between 9000 kgf and 10000 kgf.	01

		Following adopter plates and adopters for different size of tubes are supplied with the unit. **Metric Size:** a) Adopter plates for 38, 50, 75, 100, 150 mm tubes b) Adopter for 38, 50, 75, 100, 150 mm tubes Wired for 220 Volts, 50 Hz supply. It should be supplied complete with Standard Accessories.	
30.	**Constant Volume Mould 38 mm Dia x 126 mm Long (Cast Iron)**	Suitable for 38 mm dia x 76 mm long specimen. The mould should be supplied complete with two 38 mm dia x 25 mm long plugs, split collar and 126 mm long ejecting plunger.	01
31.	**Constant Volume Mould 50 mm Dia x 180 mm Long (Cast Iron)**	Suitable for a 50 mm dia x 100 mm long specimen. The mould should be supplied with two 50 mm dia x 40 mm long end plugs, split collar and a 180 mm long ejecting plunger.	01
32.	**Constant Volume Mould 100 mm Dia x 350 mm Long (Cast Iron)**	Suitable for 100 mm dia x 200 mm long specimen. The mould should be supplied with two 100 mm dia x 75 mm long end plugs, split collar and a 350 mm long ejecting plunger.	01
33.	**Unconfined Compression Apparatus** (**Motorised, Proving Ring Type) Confirming to IS:2720(Part-X)**	**Technical Specification:** a) The loading unit should be motorised and the gear system provides three different rates of strain 1.25 mm, 1.5 mm and 2.5 mm/min. and dial gauge holder b) Set of upper and lower platens, 150 mm dia c) Cone seating - 2 Nos. d) Proving ring adapter e) Proving ring 5 kN capacity (2 Nos.) f) Dial gauge 0.01 x 25 mm (2 Nos.)	01
34.	**Laboratory Vane Shear Apparatus (Motorized) IS:2720(Part-XXX)**	**Technical Specification:** The apparatus should comprises of the following: - a) A torque applicator having a base with a hole for holding the specimen mould in position, supporting frame carrying torque head adjustable in height and a graduated drum to measure the deformation of springs b) A set of four springs, one each of 2 kg cm, 4 kg cm, 6 kg cm and 8 kg cm c) A vane of size 12.0 x 24.0 mm long with a vane rod d) Specimen container to take a specimen of 50 mm dia x 75 mm high e) Wooden carrying case for the complete apparatus But torque head is electrically driven by a small reduction geared motor with a strain rate of 6^{o}per minute approximately. **Accessories:** Stand with fixtures suitable for 38 mm, 50 mm dia tubes.	01
35.	**Swell Pressure Test Apparatus Confirming toIS:2720 (Part-XII)**	**Technical Specification:** The apparatus should consist of: - a) Load frame, 5000 kg (50 kN) capacity, hand	01

		operated b) Mould with 100 mm internal dia x 127.3 mm high, 1000 cm^3 volume c) Proving ring 250 kg (2.5 kN) capacity with load transfer bar and steel ball d) Soaking tank 25 cm dia x 20 cm high e) Dial gauge 0.01 x 25 mm	
36.	**Automatic Consolidation Testing Apparatus**	**Technical Specification:** The complete system should consist of followings- **Loading Frame (1 No)** It should be a standalone table top, motorized driven by stepper/servo motor corrosion protected frame and is suitable for incremental consolidation test. Suitable arrangement should be provided in the frame to fit external load cell (20 kN) and displacement transducer (20 mm) for measurement of applied load and deformation respectively. **Specification** a) Max. load capacity - 20 kN b) Platen travel – 100 mm c) Specimen size - upto 100 mm **Consolidation Cell with Accessories (1 No)** It should be a standard size cell suitable for 60 mm diameter x 20 mm height specimen and is supplied complete with a fixed ring & porous stone of 60 mm diameter and top loading pad. The cell holds the specimen in a confinement ring to a rigid base, with porous disks on each face of the specimen and applies a back pressure to the specimen. The top platen is rigid enough to uniformly distribute the load to the top stone. The bottom of the confinement ring forms a leak proof seal with the rigid base. **Electronic Control and Data Acquisition System with Software (1 No)** Control system provides the digital control of load frame for incremental consolidation and data acquisition for the continuous operation of the system. **Signal Conditioning and Control Unit with Transducers** The controller basically consists of signal conditioning and controlling unit and operates on closed loop control principle for incremental loading. Signal conditioning unit provides excitation to all transducers (load cell, displacement transducer, etc.) and receives the output signal from the all transducers, amplifies and process that signal as per the requirement and transfer it to data acquisition card. The readings of axial load, vertical deformation are directly indicated on the front panel display and computer software. The load is displayed in terms of 'kN/kg'; and deformation in terms of 'mm'. The following transducers with necessary cables and connections are supplied with the system for the accurate measurement of various parameters:	01

		Load Cell – 20 kN (0.01 kN) **Displacement Transducer**: ± 10 mm (0.001 mm) **Control Unit** Control panel is the integral part of the system for precise controlling & data acquisition and analysis. **Salient Features:** a) Programmable stress levels for incremental consolidation b) Sample parameter and data saving interval c) Independent taring of each channel d) Facility to load and unload the specimen e) Facility for inching and release for adjustment of the gap f) On-line display of readings of load, normal stress, deformation, time, etc. on front panel display g) Facility to save the data after the test **Computer with Application Software** System is provided with computer for data acquisition and analysis of test results- **Computer** Intel Core i5, 500GB HDD, 4GB RAM, DVD R/W Drive, 4USB Ports, Key Board, Optical Mouse, 17" TFT LCD Monitor, LaserJet Printer, UPS 1KVA. (**Note** - Latest available model of the computer and printer should be supplied at the time of delivery) **Application Software** Application software is the integral part of the system for data acquisition and analysis. **Salient Features** a) Windows based user-friendly software provides flexibility to control all three stations independently and simultaneously b) On-line data acquisition from signal conditioning unit to computer c) Programmable sample parameters with data saving interval d) Facility to calibrate each channel e) Programmable delay for each channel f) Automatic start and stop test conditions g) Independent taring of each channel h) On-line display of readings of load, normal stress, deformation, time and sample height i) Real time plots of √t vs. deformation curves for current stress level as well as for all stress level j) Facility to save the data after the test k) Analysis module that does all the calculations of consolidation test l) Calculates dry density, initial void ratio and moisture content of specimen m) Display the following plots (Graphical) a. Sq. root time vs deformation readings and gives the value of t_{90}	

		b. Void ratio vs effective stress and also gives the values in the tabular form c. Calculates c_c, a_v, m_v and c_v values for all stress increments d. Also gives the past consolidation pressure for the soil	
37.	**Laboratory Permeability Apparatus Confirming to IS:2720 (Part-XVII), IS:11209**	**Technical Specification:** It should comprise: - a) Compaction permeameter mould 1000 ml capacity, clamped between top and bottom drainage plates having recess for porous stones. Supplied along with a false bottom plate for use during compaction of soil in the permeameter and extension collar b) Stand pipe panel, with three glass tubes of 6 mm, 10 mm and 20 mm dia, one meter long, supplied with wooden meter scale and 3 meter rubber tubing c) Steel overhead tank, 400 mm diameter x 1000 mm height with one inlet and five outlet valves d) Porous stones set for top and bottom drainage	02
38.	**Rapid Moisture Meter Confirming to IS:2720 (Part-II), IS:12175**	**Technical Specification:** Moisture content determination of soil is an important part of listing in the field of agriculture, civil engineering, pharmaceutical industry etc. Test is based on the chemical reaction between calcium carbide and moisture in the soil. The amount of gas formed is directly proportional to the moisture content which is indicated in terms of percentage on the pressure gauge. The units should have following features: a) Fast accurate and reliable b) No electricity required c) Moisture range 0 – 50% d) Standard weight on balance – 6 gm e) Gauge division – 0.50	02
39.	**Universal Permeameter Confirming to IS:2720 (Part-XVII), IS:11209**	**Technical Specification:** Suitable for both constant head as well as falling head permeability tests. The apparatus should consist of: - a) A wooden stand fitted with nine glass stand pipes of diameter ranging from 6 mm to 75 mm. A 75 mm dia tube is fitted with an overflow pipe. A rubber bung with brass tube is provided for constant head tests b) Permeability mould 1000 ml capacity with detachable collar, 50 mm high, one base plate, metallic perforated swell plate and a solid false bottom plate for compaction of soil c) A bottom tank to collect water	01
40.	**Sampling Tube (Brass):**	1. 38 mm diameter x 150 mm long 2. 38 mm diameter x 200 mm long	03 03

		3. 38 mm diameter x 300 mm long	03
41.	**HS.20.10: Electronic CBR Test Apparatus ASTM D-1883**	**Technical Specification:** With digital display and data acquisition system for plotting data, etc. compatible to the computer. a) Motorised load frame 100 kN capacity with single rate of strain of 1.25 mm/min (Load Frame Only) b) CBR mould of 150 mm inner dia x 175 mm high with clamping lugs. Extension collar 150 mm inner dia x 50 mm high and perforated base plate, all made of mild steel complete with stay rods c) A mould of 150 mm IS x 175 mm high with clamping lugs completed with extension collar and solid base plate made of mild steel d) Cutting collar to fit the above mould, made of steel e) Penetration piston assembly complete with penetration plunger 50 mm dia and bracket for dial gauge, all made of mild steel f) Perforated swell plate 148 mm dia. with adjustable stem and lock nut, made of brass g) Spacer disc 148 mm dia x 47.7 mm high complete with handle (metallic ring) made of mild steel h) Metal tripod, Aluminium i) Surcharge weight annular 2.5 kg and 5 kg, 147 mm diameter j) Surcharge weight slotted 2.5 kg and 5 kg, 147 mm diameter k) Proving ring 10 kN capacity l) Dial gauge 0.01 mm x 25 mm travel m) Rammer 2.6 kg with a free fall of 310 mm n) Rammer 4.89 kg with a free fall of 450 mm **Electronic system: -** It should be a state-of-the-art microprocessor based digital display unit and signal conditioning unit. It should have a 4 x 20 characters L.C.D. display and RS232 port for connecting it to the computer. The system should have the facility of store in its memory about 50 test results which can be off loaded to the computer whenever required. If only numerical values are to be printed, then the same should be done directly on the printer. **Sensors: -** a. Load cell - 100 kN b. L.V.D.T - ± 20 mm	01 05 05 10 01 05 05 02 05 05 01 03 01 01 01
42.	**Standard Penetration Test Apparatus** **HS34.85 Split Spoon Sampler, with Liner**	This sampler meets the requirements of IS:9640 for carrying out standard penetration tests as per IS:2131 to determine the penetration resistance of soils in-situ (N - Value) The equipment comprises the following: - i) Split barrel is increased to accommodate a brass liner. Supplied with one liner, 35 mm I.D. and 38 mm O.D ii) Driving shoe with hardened cutting edge. iii) Head assembly with ball valve and adopter to fit to A-rod.	01

		HS34.100 Drop Hammer Weight 65 kg. Complete with lifting eyes and chain. **HS34.105 Guide Pipe Assembly** With two end caps to give a free fall of 75 cm to HS34.100 **HS34.110 Tripod Stand** With 5-meter-long mild steel legs (in two pieces) with tie bolt and pulley. **SPT Extension rods** 0.5 mts - 1 No. 1.0 mts - 1 No. 1.5 mts - 1 No. 3.0 mts - 1 No. Coupling for Above	
43.	**HS34.60 Dynamic Cone Penetration Test Apparatus (50 mm cone without bentonite slurry)**	The apparatus helps for determining relative resistance of soil strata at different depths to penetration of 50 mm dia, 60^o cone under standard driving energy per stroke. The resistance offered 'Ncd' to penetration of cone in terms of number of blows of 65 kg hammer falling freely through a height of 75 cm per 30 cm penetration is correlated with bearing capacity of cohesionless soils and also with the load carrying capacity of piles. Bore hole is not required for this test. The equipment comprises of the following: - i) Drive weight 65 kg. ii) Drive pipe assembly for 75 cm fall. iii) Tripod stand 5m high. iv) 50 mm dia cone 60^o vertex angle without threads. v) Adopter for cone without threads. vi) A-rods one meter long 5 Nos. vii) A-rod guide 1 No.	01
44.	**HS28.685 Automatic Triaxial Testing System Conforming to IS: 2720 (Part XII) & BS 1377]**	A fully Automatic and Computer controlled Triaxial Shear Test Apparatus enables performing of Triaxial tests conforming to requirement of IS-2720 (Part-XII), BS-1377. All the modules namely Load Frame, Confining Pressure System and Back Pressure System are totally controlled by the dedicated computer. Once the specimen is assembled in the triaxial cell, required parameters like strain rate, confining pressure and back pressure are programmed through the computer. Controlling and data acquisition is supported by window-based software. It can perform tests under the following conditions: - 1. Shear in UC, UU, CU, CUBar & CD Tests 2. Stress Path Triaxial Test 3. Ko Consolidation and Swelling Test (Optional) Detailed specifications of the individual modules are given as under: **1) DIGITAL LOAD FRAME** It is a two-pillar type load frame that can accommodate triaxial cell upto 100 mm dia specimen. Rate of strain is precisely controlled through micro stepper motor of fractional horse power operating at 220 volts, 50 Hz, single phase supply. **Specification**	01

		Load Capacity - 50 kN Test Speed - 0.00001mm/min. to 9.9999mm/min. Travel - 100 mm Limit switches and L.E.D. are incorporated in the hardware to arrest the travel limits and also to indicate the direction of movement (up/down). **2. HS28.05. Triaxial cells** Specimen size 38/50 mm diameter Lateral pressure upto 1000 kPa Selection could be made from wide range of triaxial cells, they are light weight cells. Transfer bar (loading ram) passes through linear bearing making it almost friction free. Base has four no-volume change valves one each for back pressure/pore pressure, confining pressure and top drainage. **ACCESSORIES:** As standard the following accessories are supplied along with the Triaxial Cell: - Sheath Stretcher, Porous Stones, Plain Discs, Top drainage Cap, Rubber membranes (Pack of 10) and 'O'-Rings. **3. HS28.6118 Pressure Controller For Confining Pressure** A micro stepper motor runs pressure controller and the controlling is done through computer. Sensitivity of controlling is within ±10 kPa. Volume displacement in one filling is approximately 300 c.c. Sensing of pressure is through sensitive pressure sensor. Pressure range : 1700 kPa Volume capacity : 300 cc Controlling accuracy: ±10 kPa **4. Pressure Controller for Back Pressure** **MODEL: HS. 28.6118B WITH VOLUME CHANGE**. Pressure range: 1700 kPa Volume: 300 cc Sensitivity: ±10 kPa Volume change Measurement: 300*0.01cc **5. Sensors** **1 Force Sensor** Load cell capacity : 10KN **2 Pressure Sensor** Range : 2000 kPa **3 Displacement Sensor** Range : ± 20mm **Computer** Intel Core i5, 500GB HDD, 4GB DDR RAM, 4USB ports, Keyboard, Mouse, 19" LCD monitor, UPS 500VA, Deskjet Color printer **(1) Software For Triaxial Test** 1. Does all calculations of UC, UU, CU, CU & CD triaxial tests 2. Has option for manual as well as automatic recording of data	

		3. Displays the following plots (Graphical) a. Plots consolidation curve & evaluates t100 and calculates strain rate depending Upon the drainage condition in CD & CU b. Stress - strain curves after every test c. Plots pore water pressure and A - factor (for CU) and volumetric strain (for CD) vs. axia Effective stress ratio vs. axial strain d. p-q plot e. Mohr stress circles & envelope giving C & F in terms of effective stress.	

ANNEXURE-VI

सूचना का अधिकार RIGHT TO INFORMATION

दूरभाष/TEL : 26962819, 26567373
(EPABX) : 26565694, 26562133
: 26565687, 26562144
: 26562134, 26562122
फैक्स/FAX : 26960629, 26529745
Website : http:/www.dsir.gov.in

सत्यमेव जयते

भारत सरकार
विज्ञान और प्रौद्योगिकी मंत्रालय
वैज्ञानिक और औद्योगिक अनुसंधान विभाग
टेक्नोलॉजी भवन, नया महरौली मार्ग,
नई दिल्ली - 110016

GOVERNMENT OF INDIA
MINISTRY OF SCIENCE AND TECHNOLOGY
Department of Scientific and Industrial Research
Technology Bhavan, New Mehrauli Road,
New Delhi - 110016

No. TU/V/RG-CDE (1254)/2020 **Dated: 25-01-2021**

To,

The Registrar
National Institute of Technology – Mizoram
Chaltlang
Aizawl – 796 012
Mizoram

Subject: Renewal of Registration of Public Funded Research Institutions or a University or an Indian Institute of Technology or Indian Institute of Science, Bangalore or a Regional Engg. College, other than a Hospital*, for purposes of availing Customs Duty exemption in terms of Notfn. No. 51/96-Customs dt. 23.07.1996, Notfn. No. 47/2017-Integrated Tax (Rate) dt. 14.11.2017 and Notfn. No. 45/2017- Central Tax (Rate) dt. 14.11.2017, Notfn. No. 45/2017-Union Territory Tax (Rate) dt. 14.11.2017, as amended from time to time.

With Reference: Your letter dated 09-12-2020 on the above subject, this is the certificate of registration.

CERTIFICATE OF REGISTRATION

This is to certify that **National Institute of Technology – Mizoram**, other than Hospital*, is registered with the Department of Scientific and Industrial Research (DSIR) for purposes of availing Customs Duty exemptions in terms of Notfn. No. 51/96- Customs dt. 23.07.1996, Notfn. No. 28/2003- Customs dt. 01.03.2003, Notfn. No. 43/2017- Customs dt. 30.06.2017 & Notfn. No. 47/2017- Integrated Tax (Rate) dt. 14.11.2017, Notfn. No. 10/2018-Integrated Tax (Rate) dt. 25.01.2018 and Notfn. No. 45/2017- Central Tax (Rate) dt. 14.11.2017, Notfn. No. 45/2017- Union Territory Tax (Rate) dt. 14.11.2017 & Notfn. No. 9/2018- Central Tax (Rate) dt. 25.01.2018, Notfn. No. 9/2018- Union Territory Tax (Rate) dt. 25.01.2018, as amended from time to time for research purposes only. This Registration is subject to terms and conditions mentioned overleaf.

This Registration is valid up to **31.08.2025.**

Please acknowledge the receipt.

Yours faithfully,

(Dr. P.K.Dutta)
Scientist - 'F'

** Certificate of registration is not valid for activities falling within the definition of "hospital" as per notification no. 51/96 – Customs dated 23-07-1996 issued by the Department of Revenue. The institutions are cautioned to go through the notification before availing duty exemptions under this notification*

Terms and conditions for registration of public funded research institutions, etc., other than a hospital for the purposes of availing Customs Duty exemption in terms of Notfn. No. 51/96-Customs dt. 23.07.1996, Notfn. No. 47/2017-Integrated Tax (Rate) dt. 14.11.2017 and Notfn. No. 45/2017- Central Tax (Rate) dt. 14.11.2017, Notfn. No. 45/2017- Union Territory Tax (Rate) dt. 14.11.2017, as amended from time to time.

01. The institution should acknowledge receipt of the registration letter by stating that they will abide by the terms and conditions of registration.

02. The registration would be valid for the period specified in the registration letter**. Request for renewal of registration shall be made in the prescribed proforma, at least 3 months before the expiry of the valid registration. Applications received late may not be considered.

    ** *However, certificate of registration is not valid for activities falling within the definition of 'hospital' as per notification no. 51/96-Customs dated 23.07.1996 issued by the Department of Revenue. The institutions are cautioned to go through the notification before availing duty exemptions under this notification.*

03. Brief summary of the R&D activities, status of on-going projects and achievements of the institution shall be submitted to the DSIR at the end of 5(five) years, in case of institution where validity of registration is 10(ten) years. This should include details related to papers published, patents obtained and processes developed, new products introduced, awards & prizes received and copy of the latest Annual Report.

04. The institution should have a broad based research advisory committee (RAC), which should meet at regular intervals for approving, guiding and monitoring the ongoing and future research projects.

05. The institution should have separate budget for research. The institution should utilise the duty exemption facility as per the above-mentioned notification, for research purposes only. Non-research requirement such as the one for service activities, teaching, training, patient care, etc. should not be procured availing the facility.

06 DSIR will not be responsible for any misuse of the duty exemption facility using this certificate. The onus that duty exemption has been availed for research purpose only lies with the institution

07. The institutions should introduce a chapter in its Annual Report dealing with the research & development work. This could contain the on-going research projects, achievements during the year, publications, patents if any, etc. The R&D income & expenditure should be separately shown in an annexure/schedule in the statement of accounts in the Annual Report.

08. The registration will entitle the institutions to avail custom duty exemption on purchase of equipment, instruments, spares thereof, consumables etc. used for research & development subject to relevant Government policies in force from time to time. Such exemption will have to be separately applied for in the prescribed formats. The institutions should also abide by the terms & conditions of the customs notifications issued/amended from time to time.

09. In case of disposal/sale of R&D equipment, clearance from customs authorities will also be required in view of the applicable notification under which the equipment was imported in India.

10. The institution should submit details of the imports at the time of renewal in the proforma issued by DSIR.

11. Any violation of the terms & conditions mentioned above and/or provisions of taxation in force will make the institution liable to de-registration.

12. The institution will also conform to such other conditions for registration stipulated in the Guidelines, as may be specifically provided in the registration letter and notices placed on department official website (http://www.dsir.gov.in) from time to time.

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ANNEXURE - VII

PROFORMA for FINANCIAL BID

1. Rate for each item shall be filled in **Column 3**. Leaving blank for any item **is NOT** permitted in the Financial Bid Form, in such cases, the Bid will be treated as **non-responsive** and will be summarily rejected.

2. Conditional Bid shall not be considered and will be rejected outright.

LIST OF EQUIPMENTS & SPECIFICATIONS FOR GEOTECHNICAL ENGINEERING LABORATORY

Sl. No.	Items	Qty	Basic Rate (INR in Figure)	Total Amount (In Word)
1	2	3	4	5
01.	***Pycnometer Confirming to IS:2720 (Part-III)***	**10**		
02	***Standard Test Sieves (200 -300mm dia) Spun Brass Frames***	**42**		
03	**Electromagnetic Sieve Shaker Suitable for Sieves upto 300 mm dia**	**01**		
04	**Density Bottle Confirming to IS:2720 (Part-I)**	**15**		
05	**Hydrometer, Hydrometer Glass Jar and High Speed Stirrer**	**15**		
06	**Wet Siever Shaker (Motorised)**	**01**		
07	**Constant Temperature Bath**	**01**		
08	**Water Still 4 litre/hour**	**01**		
09	**Liquid Limit Device (Hand Operated with Counter)**	**05**		
10	**Liquid Limit Device (Motorised)**	**02**		
11	**Plastic Limit Apparatus Conforming to IS:2720 (Part-V)**	**02**		
12	**Shrinkage Limit Apparatus and accessories Conforming to IS:10077, IS:2720 (Part-VI)**	**04**		
13	**Glass Thermometer 0 - 150ºC**	**05**		
14	**Electronic Balance (600gm, 6kg and 20kg)**	**03**		
15	**Hot Air Oven Size: 3ft x 3ft x 3ft (Internal Dimension)**	**02**		
16	**Spatula(150mm&290mm)**	**06**		
17	**Stop Watch (Digital)**	**10**		

18	**Scoop ½ kg Capacity**	**02**		
19	**Rubber Mallet 100 gm**	**01**		
20	**Ball Pen Hammer 1 kg**	**01**		
21	**Relative Density Apparatus**	**01**		
22	**Sand Pouring Cylinder (Large)**	**01**		
23	**Proctor Compaction Test Confirming to IS:2720 (Part-VII)**	**11**		
24	**Core Cutter**	**01**		
25	**Universal Triaxial Cell IS: 2720 (Part-XXI)**	**01**		
26	**Direct Shear Apparatus (Motorized)**	**01**		
27	**Electronic Direct Shear Apparatus, Large (Motorised) Confirming to IS: 2720 (Part-XXXIX/Sec. I)**	**01**		
28	**Soil Trimmer (Motorised)**	**01**		
29	**Hydraulic Extruder (Motorised)**	**01**		
30	**Constant Volume Mould 38 mm Dia x 126 mm Long (Cast Iron)**	**01**		
31	**For Constant Volume Mould 50 mm Dia x 180 mm Long (Cast Iron)**	**01**		
32	**Constant Volume Constant Volume Mould 100 mm Dia x 350 mm Long (Cast Iron)**	**01**		
33	**Unconfined Compression Apparatus (Motorised, Proving Ring Type)**	**01**		
34	**Vane Shear Apparatus (Motorized)**	**01**		
35	**Swell Pressure Test Apparatus Confirming toIS:2720 (Part-XII)**	**01**		
36	**Automatic Consolidation Testing Apparatus**	**01**		
37	**Laboratory Permeability Apparatus Confirming to IS:2720 (Part-XVII), IS:11209**	**02**		
38	**Rapid Moisture Meter Confirming to IS:2720 (Part-II), IS:12175**	**02**		
39	**Universal Permeameter Confirming to IS:2720 (Part-XVII), IS:11209**	**01**		

40	**Sampling Tube (Brass)**	**09**		
41	**HS.20.10: Electronic CBR Test Apparatus ASTM D-1883**	**51**		
42	**Standard Penetration Test Apparatus HS34.85 Split Spoon Sampler, with Liner**	**01**		
43	**HS34.60 Dynamic Cone Penetration Test Apparatus (50 mm cone without bentonite slurry)**	**01**		
44	**HS28.685 Automatic Triaxial Testing System Conforming to IS: 2720 (Part XII) & BS 1377]**	**01**		

I/We have read and understand the tender for supply & installation of Equipments in the Geotechnical Engineering Laboratory of Department of Civil Engineering vide No. **NITMZ/D-50/2022/3927** Dated **03.02.2023** and other documents issued by you we hereby quote the Rates (inclusive of all taxes &duties) **except Goods & Services Tax (GST)** as above. GST Rates applicable shall be quoted separately.

Date: [Signature]

Place: Name of the Bidder

Seal of the Bidder