

NOTICE INVITING E- TENDERS

Registrar MNIT, JLN Marg, Jaipur invites online sealed tenders for the supply of “Equipments” for **Geotechnical Engineering Lab** in **Civil Engineering Department** of this Institute in **Two Bid System (Technical & Financial bids in separate envelope)** as per schedule given below. The complete Tender document can be viewed and downloaded only from the website (www.tenderwizard.com/MNITJ), (www.mnit.ac.in) and CPPP site <https://eprocure.gov.in/epublish/app> during the tender period. The intending bidders should submit the tender documents fee and EMD through DD Mode and to be handed over in the office of Deputy Registrar (S&P), MNIT, Jawahar Lal Nehru Marg, Jaipur -302017 (E-mail address storepurchase@mnit.ac.in) during office hours (9.30am to 6.00pm) on all working days. The tender processing fee is to be payable through e-payment, at the time of making online request.

Event	Date & Time
Download of Tender	20.08.2019
Pre-Bid Meeting Date & Time	29.08.2019 at 2.00 PM
Online Bid Submission Last Date & Time	12.09.2019 by 2.00 PM
Technical Bid Opening Date & Time	12.09.2019 at 3.00 PM
Financial Bid Opening	Will be intimated later on
Tender Fees	Rs. 500.00 (Non-refundable) in the name of The Registrar, MNIT and payable at Jaipur
Earnest Money	Rs.1,10,000/- in the name of The Registrar, MNIT and payable at Jaipur (Kindly attached the RTGS details with cancelled cheque along with the Earnest Money)
Last date and time for submission of hard copy of registration certificate (NSIC/MSME), tender fee and the earnest money	12.09.2019 by 2.00 PM
Tender Processing Fee (Non-refundable)	The tender processing fee is to be payable through e-payment, at the time of making online request.

INFORMATION AND INSTRUCTIONS TO VENDORS

1. To participate in the E-Tendering, it is mandatory for the bidder to have user ID & password, which has to be obtained by submitting **an annual registration** charges of Rs. 2000/-+GST @ 18.00% to ITI, through e-payment.
2. For any difficulty in downloading & submission of tender document at website www.tenderwizard.com/MNITJ, please contact at tenderwizard.com helpdesk no. 011- 49424365 or Sh. Deepak Jangid, M/s ITI Ltd: 91-9680005669
3. It is mandatory for all Tenderers to have Class-III Digital Signature Certified from any of the Licensed Certifying Agencies ('CA') to participate in E-Tendering of MNIT Jaipur, (Tenderer can see the list of Licensed CAs from the link www.cca.gov.in), in the name of the person who will submit the Online tender and is authorized to do so.Or if any support required on DSC, please contact back to us. (Help Desk No:-011-49424365)
4. Registration: The Bidder has to register (if not registered earlier) with our website www.tenderwizard.com/MNITJ with a non-refundable registration fee of Rs. . 2000/-+GST @ 18.00% to ITI, through e-payment.
The registration fee is payable once on a yearly basis. For Registered vendors: Renewal is required. The procedure for the registration is as under:
 - 1) Go to the [url:-www.tenderwizard.com/MNITJ](http://www.tenderwizard.com/MNITJ)
 - 2) In the home page, click on Vendor Registration
 - 3) In the Vendor Registration form, vendor has to fill up the applicant details, upload minimum any of three self-attested documents (PAN Card, Registration, DVAT, Goods and Service Tax Registration, Work Order), digital signature information.
4. After submission of the form, the User-id and Password are generated in the form of Acknowledgement.
5. Vendors Training: Please contact to Sh. Deepak Jangid, M/s ITI Ltd: M. No.91-9680005669

GENERAL TERMS & CONDITIONS

1. **THE RATES QUOTED SHOULD BE F.O.R. JAIPUR inclusive of all charges related to transportation from your end to MNIT, Jaipur in Indian rupees. For imported items, the rates are to be quoted CIF (Cost, Insurance & Freight) Delhi only in freely convertible foreign currencies. In case the rates are quoted CIF (Cost, Insurance & Freight) New Delhi, then it will be the responsibility of the supplier to intimate us well in advance prior to dispatch and submission of all the relevant documents in time which will be required in clearing the consignment from Custom. If, there is delay in sending the documents and demurrage is imposed, then it will be in the account of foreign supplier. Kindly note that if any amendment is required in LC, after its establishment, the Bank Charges in this respect will be in the account of beneficiary only.** The rates and units shall not be overwritten. Quotations shall always be both in the figures and words. The words "No quotations" should be written across any or all of the items in the schedule for which a tender does not wish to tender.
2. As far as possible, quotations should be given for goods of India manufacture which are readily available. Foreign goods quoted and proposed to be supplied should be covered by normal import quota of the dealer. This institute is exempted from payment of custom duty.
3. Detailed specifications and "make" of each item should be clearly given supported by the illustrated pamphlets wherever possible. Quotations without specifying the make and other particulars may be rejected. The accessories included in the equipment should also be clearly mentioned.
4. Losses or damage in transit will be in to the account of the supplier in case of rates **F.O.R. JAIPUR**. The supplier may, if he so desires, get the goods insured and include such charges in the tendered rate.
5. The payment for the ordered items would be made after the articles have been received, found in order and its successful installation. Payment will be made by RTGS to indigenous suppliers. Kindly send the RTGS details and cancelled cheque along with the Invoice. **The payment to foreign supplier will be made through FDD/Wire Transfer OR Letter of Credit as the case may be. However 90 present payment will be released after receipt of items and remaining 10 present after its successfully installation**
6. Your rates should be valid at least for three months (minimum) from the last date of opening of bid.
7. All legal proceedings, if necessity arises to institute may be any of the parties (Institute or Contractor/Supplier) shall have to be lodged in the courts situated at Jaipur and not elsewhere.
8. The institute is not bound to accept the lowest tender and may reject any tender or any part of the tender giving justification for such an action.

9. (a) The Penalty Clause is as under:-

If the seller fails to deliver any or all of the Goods/Services within the original /re-fixed delivery period specified in the Purchase Order, this Institute will be entitled to deduct/recover the Liquidated Damages for the delay at the following percentage:

(i)	Delay up to one month	1%
(ii)	Delay exceeding one month but not exceeding two month	2%
(iii)	Delay exceeding two month but not exceeding three month	5%
(iv)	Delay exceeding three month	5% for each month and part there of subject to maximum 10%

(b) In case of failure to supply the goods within the prescribed time and in accordance with the specifications give in the Quotations, the institute shall be free to cancel the order and make purchases from the next higher tenderer or from the open market as the case may be. In that case the loss sustained by the institute shall be recovered from the defaulting supplier. The institute will be at liberty to recover the loss from the permanent earnest money/or any other pending claims of the supplier without prejudice to its general right to affect recovery from the supplier.

10. The prospective bidders can be those who are the manufacturers of the equipment. For items manufactured outside India, the manufacturer itself can be a bidder or its authorised Indian agent can bid on behalf of its Principal that is the manufacturer.
11. In the event, the country of origin of goods is India, only the manufacturers shall be considered eligible for bidding. Authorised agents of Indian manufacturers may be permitted to submit the bid, provided the concerned manufacturer states that as its policy, it does not bid itself in India and that there is no qualitative difference between manufacturer and its agent as bidder in respect of quality of supplies, cost, and responsibility of maintenance and servicing. The Indian manufacturer must describe the alternatives in clear terms, in the event the bidding agent ceases to continue as agent of the concerned manufacturer within the stipulated warranty period.
12. If any Indian manufacturer requires importing an essential part from a foreign country, the said company may be given to enjoy the benefit of customs duty exemption with the aid of CDEC of MNIT, Jaipur provided the import of the concerned item is done on behalf of MNIT, Jaipur.

13. **THERE IS TWO BID SYSTEM:-**

(TECHNICAL AND FINANCIAL BID, both bids should be submitted in separate envelopes):

(A) Technical Bid:

- a) Bidder must be a manufacturer/authorized distributor/ Dealers and they have to enclose a certificate of authorization of manufacturer in format at **Annexure – A (Authorization certificate in any other format will not be valid)**. OEM itself or any one authorised dealer on behalf of OEM may participate in bid. OEM and its dealers both may not participate at the same time.
- b) The manufacturers should supply documentary proof i.e. Registration with the Registrar of Industries, National Small Scale Industries Corporation or with penal of MNIT in case of manufacturer. Offers other than the manufacturers should be supported with an authority

letter from the manufacturers, authorizing them to quote rates standing guarantee for the satisfactory execution of supply orders failing which offers are liable to be ignored.

- c) One declaration by the Manufacturer to the extent that in case of failure of its local agent /office to provide service support to the satisfaction of MNIT Jaipur, it shall make immediate arrangement for required service support.
- d) **Bidder should enclose technical compliance from the Manufacturer. The specifications of items should be strictly as specified. Deviation, if any may please be mentioned separately. If there is no deviation than it should be mentioned as “No Deviation”.**
- e) The leaflets catalogue, related to quoted equipment/model etc. should be sent invariably, so that a proper evaluation of the equipment offered is possible.
- f) Mention must be made of the pre-installation requirements for the equipment quoted viz. ambient temperature, humidity, weather specifications, power specifications, civil works etc. When items are provided full performance satisfaction should be demonstrated.
- g) Bidder must enclose the acceptance of terms and conditions and must enclose the duly signed and stamped tender document.
- h) All the Annexure enclosed should be duly filled up and signed.
- i) Please attach proof/certificate of each condition required in the tender document.

(B) Financial Bid:

- a) The bidders should clearly mentioned their payment terms & conditions
- b) The GST or any other taxes including Custom duty Etc. should be mentioned clearly
- c) The financial bid is to be submitted on excel sheet only

14. **Delivery Period:-**The ordered quantity of stores must be delivered within 6 to 8 weeks in the case of indigenous equipment and 14 to 16 weeks in the case of imported equipment after opening of L.C. / FDD and Wire Transfer. The extension of delivery period after placing the PO, if required, will be considered only on genuine reasons and proper justifications only.

15. **Installation:** - Successful BIDDER shall depute concerned specialist, for supervision of erection & commissioning of the machine to be carried out as and when necessary. The successful BIDDER shall make necessary arrangements during the entire warranty period at their own expenses for stay, transport and other expenses of their specialist during their stay in Jaipur;

16. **Warranty:** All the bidders are required to provide minimum **01 Year + 60 Days** warranty on the quoted equipment / instrument

17. **Performance Bank guarantee**

Successful Bidder has to Provide Performance security @ 10% of the equipment cost, valid for stipulated warranty period plus 60 days which should be in the form of Bank's Guarantee from a commercial bank in format at **Annexure – B**. Warranty will cover repair/replacement of all defective parts, if any, with the same or equivalent make for any part removed. Maintenance will be provided at site. The supplier will provide after sale service during the warranty period from nearest place to installation. The supplier will attend the complaint within 24 working hours and not beyond 5 working days.

18. **EARNEST MONEY:** A Demand Draft of Rs.1,10,000/- from a Commercial bank only in the name of the Registrar, M.N.I.T. and payable at Jaipur may please be sent at the office of Deputy Registrar (S&P), MNIT, Jawahar Lal Nehru Marg, Jaipur -302017 during office hours (9.30am to 6.00pm) on all working days prior to opening date of the tenders. **No tender shall be considered without earnest money / tender fee. Cheques are not accepted as earnest money amount.** No interest is paid by us on the amount of earnest money. **Kindly attached the RTGS details with cancelled cheque along with the Earnest Money.** Any bid security/EMD received by the institute after the due date for submission of bids prescribed by the institute is liable to be rejected. The firms registered with NSIC/MSME are exempted for furnishing of EMD / Tender Fee. The Hard copy of NSIC/MSME registration certificate is to be sent positively prior to opening of the tenders.
19. **Jurisdiction:** The Courts of Jaipur alone will have the jurisdiction to try any matter, dispute or difference between the parties arising out of this tender/contract. It is specifically agreed that no Court outside and other than Jaipur court shall have jurisdiction in the matter.
20. **Arbitration Clause: - In the eventuality of any dispute, the sole Arbitrator shall be MNIT, Jaipur and his decision shall be binding on all the parties.**
21. **Force Majeure :** Any failure of omission or commission to carry out the provision of this contract by the supplier shall not give rise to any claim by one party, one against the other, if such failure of omission or commission arises from an act of God; which shall include all acts of nature calamities such as fire, flood, earthquake, hurricane, or nay pestilence or from civil strikes, compliance with any statute and / or regulations of the Government, lockouts and strikes, riots, embargoes or from any political or other reason beyond the supplier's control including war (whether declared or not) civil war or stage of insurrection, provided that notice of the occurrence of any event by either party to the other shall be given within two weeks from the date of occurrence of such an event which could be attributed to Force Majeure conditions.
22. **Risk & Cost :** In the event of failure to carry out the contractual obligations, within the stipulated period or extended period and determination of the contract for any reason, violation of warranties etc. the MNIT Jaipur shall have the right to carry out the unfinished obligation at the exclusive - cost and risk of the bidder/firm, after due notice and the difference so accrued shall be recoverable from the bidder/firm.
23. The material found defective upon opening by the supplier representative in presence of Central stores personnel / indenter of MNIT Jaipur or not as per tendered specifications will be lifted back at the cost and risk of the supplier. The material lying in MNIT Jaipur premises would be at supplier's risk and cost.
24. **Custom Duty :** The MNIT, Jaipur is a public funded research Institution registered with Department of Scientific & Industrial Research and concessional Custom Duty @5.15% is applicable for the goods purchased for research purpose vide Government of India Notification No.51/96-Customs dated 23.07.1996

25. **GST:** MNIT, Jaipur is a public funded research Institution registered with Department of Scientific & Industrial Research for concessional GST @5% applicable for the goods purchased for research purpose vide Ministry of Finance (Department of Revenue) Notification No.47/2017-Integrated Tax dated 14.11.2017 & Notification No.45/2017-Central Tax dated 14.11.2017.
26. **Bid Validity:** 90 days (Minimum)
27. **Opening of Bids:** The Bids shall be opened by authorised officials of the institute as per schedule given in Date Sheet. In case, the day of bid opening is declared a holiday by the government, the Bids will be opened on the next working day at the same time. No separate intimation shall be sent to the bidders in this regard. Only opening of bids and accepting the bid will not mean that the firm is technically or financially qualified.
28. **Institute right to vary Quantities at Time of Award or later :** Institute reserves the right at the time of awarding the contract to increase or decrease the quantity of goods and services originally mentioned in our NIT without any change in unit price or other terms and conditions.
29. While submitting the tender, the **GST Registration No., PAN No. & E-mail Address** is to be mentioned by the bidder positively. Failing this, there bid will be treated as non responsive.
30. **After Sales Service Certificate :** After sales service certificate is to be furnished by successful bidder in the prescribed form as **annexure –C**
31. Specification Enclosed as annexure - D

Deputy Registrar
(Store & Purchase)

MANUFACTURERS' AUTHORIZATION FORM

[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer.]

Date : [insert date (as day, month and year) of Bid Submission]

Tender No. : [insert number from Invitation For Bids]

To : [insert complete name and address of Purchaser]

WHEREAS

We [insert complete name of Manufacturer], who are official manufacturers of [insert type of goods manufactured], having factories at [insert full address of Manufacturer's factories], do hereby authorize [insert complete name of Bidder] to submit a bid the purpose of which is to provide the following Goods, manufactured by us [insert name and or brief description of the Goods], and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with Clause 2.20 of the General Conditions of Contract, with respect to the Goods offered by the above firm.

Signed: [insert signature(s) of authorized representative(s) of the Manufacturer]

Name: [insert complete name(s) of authorized representative(s) of the Manufacturer]

Title: [insert title]

Duly authorized to sign this Authorization on behalf of: [insert complete name of Bidder]

Dated on _____ day of _____, _____ [insert date of signing]

*(Not required in case the bidder itself is the manufacturer)

PERFORMANCE BANK GUARANTEE

(To be executed on Stamp Paper of Rs. 100/- or such higher value as per the Stamp Act of the State in which the Guarantee is issued. Stamp Paper should be in the name of the Bank Issuing the Guarantee.)

BANK GUARANTEE NO. :

DATED :

Dear Sirs,

1. THIS DEED OF GUARANTEE made on this day of..... between **MALAVIYA NATIONAL INSTITUTE OF TECHNOLOGY, JAIPUR** (hereinafter called the "MNIT" which expression shall unless excluded by or repugnant to the context includes its successors and assignees) of the one part and the (hereinafter called the "**Bank**" which expression shall unless excluded by or repugnant to the context include its successors and assignees) of the other part.

2. AND WHEREAS as per clause _____ of the purchase order in question the supplier shall furnish a Performance Bank Guarantee of 10% of P.O. Value i.e. Rs. (Rs.....

..... only) valid for the period of two months beyond warranty period as and by way of security for satisfactory working of the

..... AND WHEREAS at the request of the supplier, the Bank executes these presents.

3.0 THIS DEED WITNESSETH AND IT IS HEREBY AGREED AND DECLARED BY AND BETWEEN PARTIES HERETO AS FOLLOWS:

3.1 The Bank hereby guarantees to the MNIT, Jaipur that the equipment / service contracted are capable of performing the work as demanded by the MNIT, Jaipur. In the event of equipment / service failing to perform to the satisfaction of the MNIT, Jaipur, which shall be final and conclusive of the factum of non-performance, the Bank shall indemnify and keep the indemnified to the extent of of P.O. Value i.e. Rs. (Rupees valid for the period of two months beyond the warranty period against any loss or damage that may be caused to or suffered by the MNIT, Jaipur consequent to non-performance of the contracted equipment / services to be supplied by the supplier.

3.2 In consideration of the aforesaid premise and at the request of the supplier, we the Bank hereby irrevocably and unconditionally guarantee that the supplier shall perform in an orderly manner their contractual obligations in accordance with the terms and conditions set forth in the Purchase order dated and in the event of the supplier's failure to do so, the Bank unconditionally pay to the MNIT, Jaipur on demand, any amount up to the value mentioned in Clause 3.1 above without any reference to the supplier and without questioning the claim.

3.3 The guarantee herein shall remain in full force for a period of two months beyond the warranty period from the date of certification by the MNIT, Jaipur of successful installation and commissioning of the equipment/ service contracted. Date of start of warranty period will be notified by MNIT, Jaipur to the Bank.

- 3.4 The decision of the MNIT, Jaipur regarding the liability of the Bank under the guarantee and the amount payable there under shall be final and conclusive and binding on us without question. The Bank shall pay forthwith the amount demanded by the MNIT, Jaipur not withstanding any dispute, if any, between the MNIT, Jaipur and the supplier.
- 3.5 The Bank further agrees that the guarantee herein shall remain in full force during the pendency of aforesaid period mentioned in Clause 3.3 above and also any extension of the guarantee which has been provided by the Bank for this purpose beyond the aforesaid period provided, further, that if any claim accrues or against the Bank by virtue of this guarantee, should be lodged with us within a period of 60 days from the date of expiry of the guarantee period.
- 3.6 This Guarantee shall not be affected by any change in constitution of the supplier, MNIT, Jaipur or us not shall it be affected by any change in constitution or by any amalgamation or absorption or reconstruction thereof otherwise, but will ensure for and be available to and endorsable by the absorbing amalgamated company or concern.
- 3.7 The MNIT, Jaipur has the fullest liberty without affecting the guarantee to postpone at any time or from time any of the powers exercisable by it against the supplier, either to enforce or forbear the clause governing guarantee in the terms and conditions of the said contract and Bank shall not be released from its liabilities under the guarantee by any matter referred to or by reason of time being given to the supplier or any other forbearance, act or omission on the part of the MNIT, Jaipur or any material or things whatsoever which under the law relating to sureties shall but for the provisions hereof have the effect of so releasing the Bank from its liabilities.
- 3.8 We further agree that the MNIT, Jaipur shall have the fullest liberty without affecting in any way our obligations hereunder with or without our consent or knowledge to vary any of the terms and conditions of the said contract or to extend the time of delivery from time to time.
- 3.9 The Bank undertakes not to revoke this guarantee during its currency except with the previous consent in writing of the MNIT, Jaipur.
- 3.10 We further agree that in order to give full effect to the guarantee herein contained MNIT, Jaipur shall be entitled to act as if we were its principal debtors in respect of its claim against the Supplier hereby guaranteed by us as aforesaid and we hereby expressly waive all our rights of suretyship and other rights if any which are in any way inconsistent with the above provision of this Guarantee.

Notwithstanding anything herein before, liability of the Bank under this guarantee is restricted to Rs. (Rupees only) and it will remain in force up to the period specified in Clause 3.3 unless a suit to enforce any claim under the Guarantee is filed against the Bank before the period specified in Clause 3.4. All your rights under this Guarantee shall be forfeited and we shall be relieved and discharged from all liabilities thereunder.

COUNTERSIGNED

Signature	:	Signature	:
Name	:	Name	:
Designation	:	Designation	:
Organization	:	Organization	:

AFTER SALE SERVICE CERTIFICATE

From:

To

The Registrar,
 Malaviya National Institute of Technology (MNIT),
 Jaipur

Whereas, we M/s (Bidder Name) are established & reputable manufacturers (Make of items) of [items name] having service offices at Delhi, Jaipur and in the state of Rajasthan. Details are as under:

Sr.No. Address of Service Centre Phone No. Number of Engineers

1.

2.

3.

 We do hereby confirm that:

Services including repair/replacement of defective parts will be done by us. Replacement of defective Systems/parts will be done by equivalent or better systems/parts of the same make. We will attend all the complaints/service calls within 24 working hours and not beyond 5 working days. Down time will not exceed beyond 5 working days. In case, down time exceed 5 working days then we will extend the warranty period of that item(s) double of the down time.

(Signature)

Name :

Designation :

(Head or Senior Executive of Firm)

Address :

Phone No :

Fax No:

Mobile No :

Technical Specifications of the Equipments

S.No.	Item Name & Specifications	Qty
1	Liquid Limit Casagrande Method: IS:2720 Part-V & IS:9259 Casagrande Grooving tool, Motorized, with hard rubber base, with gauge block (it should be of Type A as per IS: 9259), suitable for operation on 220 V, 50 Hz, single phase AC Supply	5
2	Plastic Limit apparatus: IS:2720 Part-V & IS:9259 Plastic Limit set consisting of all standard accessories such as-Rod (brass), Porcelian Dish, Glass Plate, Moisture Tin and Spatula	5
3	Shrinkage limit apparatus: As per IS:2720 (Part-VI) & IS 10077 Mercury: 2kg, Straight Edge, Evaporating dish, Glass Cylinder-graduated-with 0.5 ml x 25 ml and other standard items should be included in the whole setup	1
4	Specific gravity bottle and pycnometer: As Per IS:2720 Part-III Density Bottle : 100ml capacity	10
5	Pycnometer (Should be as per IS: 2386 Part-III)	10
6	Universal Permeability apparatus: As Per IS:2720 (Part-XVII), IS: 11209 Constant head apparatus-with overhead tank made preferably of steel Falling head apparatus-should be supplied with all standard accessories as per IS code mentioned above-metallic mould 127.3mm height and 100mm diameter, stand along with 3 tubes made of glass of approximately 20mm, 10mm and 6 mm diameter, dummy plate, metallic clamp rings, extension collar-6cm height and 10cm diameter, base plate (drainage), drainage cap-with air release valve and inlet valve, porous stones etc.	2
7	Core cutter: As per IS:2720 (Part 29) Cylindrical Core Cutter- 130 mm long, 100mm diameter (preferably steel made) Dolly 25mm height, 100mm diameter (preferably steel made) Cylindrical Core Cutter-175mm long and 100mm diameter and 250mm long and 100mm diameter, Rammer with steel rod	5
8	Sand pouring apparatus (Standard): As Per IS: 2720 Part 28 Should be as per IS along with standard accessories- Sand Pouring Cylinder with shutter and funnel (conical) fitted-3 L capacity, Tray (Metal) with approximately 100 mm hole in centre, Calibration Container- 150 mm Height and Internal Diameter 100mm, Standard Sand Grade- I(25 Kg) (4 Nos.), Standard Sand Grade-II (25 Kg) (4 Nos.), Standard Sand Grade-III(25 Kg) (4 Nos.)	5

9	<p>In-situ Vane Shear Test Apparatus Ref. Standard IS:4434 This apparatus is designed for conducting in-situ Vane Shear test from the bottom of bore hole in saturated cohesive deposits, for determining their in-place shearing resistance. The equipment consists of a torque applicator assembly mounted on a base. A gear wheel, which is marked in degrees, holds a torque ring and is geared to a crank. The torque ring has a section cut from it and deforms as torque is applied and the resultant deformation is indicated by a dial gauge. A pointer is provided for registering the rotation of the vane. A detachable stand is provided to anchor the instrument. An attachment to securely hold the string of rods is provided. A calibration curve to convert the dial gauge readings to kg-cm of torque is also supplied.</p>	1
10	<p>Compaction test Apparatus (Light compaction): As per IS: 10074 (Part 7), IS: 9198 Mould-with collar and Base Plate (preferably gun metal) with Height-127.3mm and Internal Diameter 100mm and Rammer as per IS: 9198</p>	5
11	<p>Universal Automatic Compactor Ref Standard IS:2720 (Part 7 & 8) Invariably in every soil laboratory, compaction and penetration tests on soils are carried out regularly. The electrically operated mechanical compaction process eliminates the tedious hand compaction process and results in a considerable saving of time. Two rammers with two different stroke lengths are provided. This makes the apparatus suitable to carry out all the normal compaction operations required in soil testing laboratories including the CBR tests.</p>	1
12	<p>Automatic Triaxial Test Testing System-Electronic with data acquiring facility: As per IS-2720 (Part-XII and Part XI) Load Frame with control electronics: - Motorized, with minimum 34 speeds (Rate of strain (speed) should be 0.00001 to 9.99999 mm/min with true speed upto 5mm/min), Capacity minimum 50 KN, should be suitable for Triaxial, UCS and CBR, two pillar type with sliding top load bracket allowing locking at any desired height, the loading part should be detachable form the main unit,with digital Led Display with Microprocessor Based Closed loop feedback control , operation at 220 volts, 50Hz, single phase supply Specimen size : - 38mm, 50mm, 75mm & 100mm diameter Triaxial Cell: - Should be capable of testing specimens of 38, 50, 75 and 100mm diameter and should be supplied with all standard accessories- plain discs (38-100mm dia.)-1 each, Perspex loading pads (38-100mm dia.)-1 each, porous stones (38-100mm dia.)-1 each, Pedestal (38-100mm dia. preferably brass made)-1 each, sheath stretcher (38-100mm dia.)-1 each, rubber sheath (38-100mm dia.)-12 each, sand former (38-100mm dia.)-1 each, top loading pads- plain (38-100mm), O-rings (38-100mm dia.)-8 each, drainage tubes both short and long (38-100mm)-4 each. Pressure volume controllers: - Minimum 2 upto 1 MPa pressure, USB connectivity and 200 cc volumetric capacity Data acquisition system and transducers:- Upto 8 channel data acquisition system with computer controlled gain ranges usable with transducers in tri-axial cell. Should come with Windows 7 PC with 2 GB RAM, 120 GB HDD and Pentium Core 3 DUO installed with Data acquisition software. The software should have modules for UU, CU and CD Test and pore pressure measurements. The software should also have modules for specifying stress path testing, Ko consolidation, permeability, unsaturated testing and advanced loading test. The software output files should be able to export to MS Excel. Digital Indicator/ Display: - Alpha numeric display for all simultaneous channel, operation on 220V, 50Hz, Single Phase Load cell</p>	2

	Capacity: - 10kN (with resolution : 0.01kN) Displacement Transducer: -LVDT 0 to 20mm range Pore Pressure Transducer: - 20 Kg/cm ² capacity, (maximum overload capacity up to 150% (of rated)- it should be specified while quoting), resolution – 0.01 Kg/cm ² Data Acquiring/Acquisition System: - Should be windows compatible. Software should also be supplied along with the whole setup for analysing the standard three types of Triaxial tests.	
13	Direct Shear Test Apparatus-Electronic:- As per Standard IS: 2720 (Part XIII), IS: 11229 With 12 different rate of strains ranging between 0.0002 mm/min to 1.25mm/min (rate of strains should be clearly specified while quoting) and other parts should be as per IS standard- with surcharge weights (weight details as per IS and should be specified while quoting), shear box housing and assembly, cutter for specimen. Size of specimen:- 6cm x 6cm x 2.5cm Digital Display/Indicator: - 1 No. Alpha numeric display, for all simultaneous channels Load Cell: - Universal Type with 2kN capacity with up to 110% max overload capacity (it should be mentioned while quoting)-1 No. Sensor for Displacement: LVDT (\pm 20mm)- 2 Nos. The apparatus should be pre-calibrated before despatch and should allow direct reading in engineering units.	1
14	Consolidation Apparatus Ref. Standards : IS:2720 (Part-XV), 18:12287, BS:1377, ASTM D2435 Three Gang New Bench type Model, Analogue	1
15	Automatic Consolidation Test Apparatus: As per IS:2720 (Part XV), IS: 12287 Table top type model with 7 inches touch screen and electromechanical loading and no conventional hanging type loading in compliance with IS code. Maximum Load capacity should be 5 KN and displacement between 0-10 mm and resolution 0.01 mm. Data Acquiring/Acquisition System: - Should be windows compatible and Software should also be supplied along with the whole setup for analysing the standard one dimensional consolidation test. Data downloading facility through USB must be available. Suitable to work on 220 V, 50 Hz single phase AC supply. Should also be supplied with computer.	1
16	Plate Load Test Apparatus: As per IS 1888 Square shape Plain Bearing Plates (Preferably MS Made) with sizes 300mm, 450mm, 600mm, 750mm and thickness between 23-25mm -1 each Top End Plate 50mm diameter with male thread for rod fitting and adjusting of dial gauge-4Nos. Base plate (preferably magnetic) with female thread-4 Nos. Datum Bars-2 Nos., Columns-150 mm diameter and 250mm long- 2 Nos., Column-150 mm diameter and 500mm long- 1 No. High Pressure Pipe (preferably metallic) at least 5m long-1 No. Ball and Socket Arrangement-1 No., Extension Rods for taking dial gauge readings- 16 Nos., Spikes (for Anchor) -10 Nos., Quick Release Clamp for dial gauges brackets, Dial gauges – 25mm travel with 0.01mm least count-4 Nos. , Hand Operated Hydraulic Jack-50,000 Kgf-1No., Hydraulic Pump - Hand Operated- 50,000 Kgf-1No. with 200mm Diameter load Gauge	1
17	Soil Cone Penetrometer (Digital Type): As per IS: 2720 (Part 5) Standard Penetration Test Cup 4 cm deep and 5.5 cm diameter. Penetration Cone- 30° cone angle and length 35mm For Operation on 220V, 50 Hz, Single Phase.	1
18	Electric Oven: - Digital Indicator cum Controller with Safety Alarm, Temperature Range 50° C to 250°C \pm 1°C with Air Circulating Fan, S.S. Inside Size 450 x 450 x 450mm	2

19	Moisture Content Tins: - Should consist of the following:- Moisture Content Tin- 65mm diameter x 20mm deep-30 Nos. Moisture Content Tin- 90mm diameter x 20mm deep- 30 Nos.	10
20	Weighing Balances: - Following Electronic weighing balances must be supplied: -	2
	1. Electronic Balance with Capacity 600g x 0.01g - 1 No.	2
	2. Electronic Balance with Capacity 3000g x 0.1g - 1 No.	1
21	Sample Extraction Device: - For operation on 220V, 50 Hz, Single Phase, AC supply. Electric cum hand operated, with hydraulic pump, with safety valve, soil ejection required up to 600 mm in length, should allow selection of up and down movement. Should be supplied with all standard accessories-sampling tube- 200mm length and 38mm diameter- 3 sets, sampling tube – 200mm length and 50mm diameter- 3sets, sampling tube 200mm length and 75mm diameter-3 sets, sampling tube 250mm length and 100mm diameter – 3sets, adapter rings and ejector discs for-38mm, 50mm, 75mm, 100mm and 150mm diameter sampling moulds or tubes.	1
22	Infra-Red Moisture Meter Ref. Standard: IS:2720 (Part 2) This moisture meter has been designed for rapid and accurate determination of the moisture content of a wide variety of materials.	2
23	Sieves:- As per IS: 460 Sieves made of brass with 20cm (diameter) frame size with 10mm, 4.75 mm, 3.35mm, 2.36mm, 1.18mm, 600 microns, 300 microns, 150 microns and 75 microns aperture size along with Cover and Pan for the same-1 each	5
24	Sieve Shaker for 20 cm & 30 cm dia sieves Shaker action helps avoid blocked apertures A feature of the sieving action is the rapid vertical movement imparted by the shaker. The movement is continuously helping to clear apertures and avoid them blinding.	2
25	DIGITAL CBR MACHINE:- The digital CBR testing apparatus must comply with IS:2720(Part XVI). • The Testing apparatus must be suitable for laboratory purpose, compact, bench top design, Rapid Platen Adjustment suitable for operation on 220V, 50 Hz, Single Phase AC Supply. • The apparatus must have a Load Frame of 50 kN Capacity with four speed of Loading(1.5, 1.25 & 2.5, 15 mm/min) • The apparatus must be supplied with a Gun metal mould(150mm dia X 175 mm height) with perforated base plate and extension collar.,The apparatus must be supplied with annular metal weight, slotted metal weight(2.5 Kg each) and two Nos Rammers(2.6 Kg and 4.9 Kg) • The apparatus must have a digital indicator with LCD display multi line alpha numeric. • The apparatus must have a load cell 50 kN compression type with 110% maximum overload capacity with sensing through strain gauges in full bridge configuration. • The apparatus must have a LVDT type sensing element displacement transducer.	1

26	<p>LARGE DIRECT SHEAR APPARATUS, 50 KN CAPACITY:- Must be in compliance with IS:2720(Part 39, Section 1) and IS :11593 For testing sands, gravel, gravelly clays and clay gravels for use in rolled fill embankments with motorized operation. • The equipment must have minimum 72 speed rates of strain ranging from 0.0014 to 10.16 mm/min. • The specimen size to be tested in the shear box assembly should be 300X300X150mm. • The shear load capacity of the apparatus must be 50 KN. • The equipment must be supplied with standard accessories like Plane Gripper Plate, Perforated Gripper Plate, Base Plate. • The equipment must be supplied with 9 Nos surcharge weights each to give 50 KN/m² and 2 Nos, each to give 25 KN/m² • The equipment must be supplied with Dial Guage of 50 mm travel and 0.01 mm least count and Proving Ring of capacity 50 kN compression. Geostar software to be provided for installation in windows based PC System/laptop for Analysis and reporting of Direct Shear Test results with single user license.</p>	1
27	<p>UNCONFINED COMPRESSION TESTER FOR Soil:- Must be in compliance with IS 2720(Part 10) and AASHTO T208 To determine the unconfined compressive strength of soils. The equipment must be able to place the specimen in loading frame and constantly provide Axial Load until peak load failure is obtained. Loading capacity of the frame should be 50 KN with 3 speed for rate of loading Dial guage 25mm travel with 0.01 mm least count must be supplied with the equipment. Split mould 38mm dia X 76 mm long to be provided with ribber sheath for for 38 mm dia specimen. Proving ring of capacity 2 KN to be provided with high sensitivity along with plain platen with adapter and steel ball</p>	2
28	<p>Swell Pressure Apparatus: The equipment must be able to determine the swelling pressure developed by soil specimens moulded to desired densities at known moisture contents, when soaked in water. The load must be applied to restrain the swelling transferred on to a load measuring proving ring through a perforated swell plate and a load transfer bar. The proving ring must be attached to the lead screw of hand operated load frame. A soaking tank to be provided for saturating the specimen and the base of the mould to be provided with channels and radial grooves with connecting holes. The equipment must be supplied with Load Frame, Hand operated, Capacity 5 kN, Mould 100 mm dia x 127.3 mm height (1,000 ml volume) with base plate and collar, Proving Ring, 2.5 kN capacity, Dial Gauge 25 mm travel, 0.01 mm least count, Perforated Swell Plate 100 mm dia x 16 mm thick, Spacer 100 mm dia x 12.7 mm thick, Pair of Porous Stones 100 mm dia x 12.7 mm thick, Load Transfer Bar , Steel Ball, Soaking Tank, 250 mm dia x 210 mm high</p>	1
29	<p>Unconfined Compression Tester for Rocks Ref. Standard : ASTM 2938 Minimum load frame capacity 200 kN, 12 speed Proving ring 2 Nos 100 kN & 200 kN Dial gauge least count 0.01 mm Platen set as per ASTM 2938</p>	1
30	<p>Point Load Index Tester Ref. Standard - IS:8764 100 kN capacity Conical loading platens Loading frame fitted with hydraulic jack capacity 100 kN Load gauge 0- 100 kN × 0.5 kN</p>	1

31	<p>Slake Durability Apparatus Ref. Standard : IS : 10050 Brass drums comprising of 2 mm wire mesh cylinders of 140 mm dia and 100 mm length suitable for operation on 220 volt 50Hz single phase AC supply Should have coupling to enable upto 4 test drums to be driven at the same time Electric timer 0- 30mm</p>	1
32	<p>Automatic/Manual Digi Mortar Mixer: 5 litre nominal capacity (AIM 412-4) Application: Preparation of standard prisms with Automatic/Manual mixing procedure in accordance with IS:10890, EN 196-1 & EN 196-3. This apparatus has specially been designed to prepare cement mortar for strength determination as specified in IS:4031. It can also be used in mixing lime with pozzolonic materials for determination of lime reactivity (as per IS: 1727) and for uniform mixing of soils with additives such as lime, cement, etc.</p>	1
33	<p>High Speed Stirrer Ref. Standard IS:2720 (Part 4) Designed as a compact bench-mounted laboratory Stirrer for the pretreatment stage of soils before particle size analysis. The mixer spindle should operate within a dispersion cup which can be fitted with an antispashing baffle to improve the efficiency of mixing. Suitable for operation on 220 V, 50 Hz, single phase, AC Supply.</p>	1
34	<p>Automatic Free fall hammer Designed to deliver equal impact energy in each blow while performing Standard Penetration Test. This is achieved by providing a trigger mechanism to standardise the height of fall and a suitable guide system for maintaining verticality of guide rod and drill rod assembly. The guide system also maintains their alignment throughout the duration of the test. The system is compact and easy to use, provides maximum safety for the operator.</p>	1

*** Purchase may be done as per the following general specifications:**

1. Preference will be given to ISO 9001:2008 certified Manufacturer/suppliers, who can ensure the manufacturing of the machine as per the required testing standards/BS/BIS/ASTM standards and within the specified tolerance limits.
2. There will be two-bid system (Technical Bid and Price Bid which should be quoted separately)
3. Preference will be given to manufacturers/bidders who have NABL accredited testing and calibration facility.
4. Bidders must submit compliance certificate (items wise).
5. Bidders will provide details of service center and information on service support facilities that would be provided after the warranty period.
6. The bidder should furnish detailed technical description and original literature of the instruments.
7. Bidders should give undertaking regarding installation / commissioning, training/ demonstration and after sales service of the instruments.
8. Bidders should have supplied such equipment to the Institute of repute like IITs and NITs in last three years

Deputy Registrar
(Store & Purchase)