



COTTON UNIVERSITY

Panbazar, Guwahati-781001, Assam, India

www.cottonuniversity.ac.in :: 0361-2601100/2733530 :: registrar@cottonuniversity.ac.in

Notice Inviting Bids

" NIB No. CU/S&P/2022/19 Dt. November 02, 2022"

Bids in sealed cover are invited from Original Equipment Manufacturers (OEMs) or their authorized dealers/suppliers/vendors or business partners in dual-bid {techno-commercial and financial} system with respect to procurement of Major Lab Equipments for DST SERB Project under Department of Geology, Cotton University.

The bidding document pertaining to this notice, along with the requisite nos. of ICICI Bank Challan- 'FEE CODE 011' which is meant for payment of a processing fee worth INR 1000/-, must be downloaded from the University's website i.e. www.cottonuniversity.ac.in. The sealed cover must be super-scribed as "Procurement of Major Lab Equipments for DST SERB Project under Department of Geology, Cotton University :: NIB No. CU/S&P/2022/19 Dt. November 02, 2022" and addressed to "The Registrar, Cotton University, Guwahati-781001, Assam". The sealed cover containing the bid must be submitted during office hours on or before 2.00 P.M. of November 29, 2022 in the drop-box arranged for the purpose. Bid opening might be done on the same day at 3:00 P.M. in presence of the bidders.

(Prof. Maheswar Kalita)
Registrar, i/c

Registrar
Cotton University
Panbazar, Guwahati-781001, Assam

Memo No. CU/S&P/2022/10/ 10554-61

Dated 02/11/22

Copy for information and necessary action to:

1. The P.S. to the Vice Chancellor, Cotton University
2. The Head, Department of Geology, Cotton University
3. Dr. Ratan Das, Principal Investigator of DST-SERB Project and Assistant Professor, Department of Geology, Cotton University
4. The Finance Officer, Cotton University
5. The Systems Manager, Cotton University; he is requested to arrange for uploading/posting of this bidding document in the University's website
6. The Director, Directorate of Information and Public Relations, Government of Assam; he is requested to arrange for publication of the abstract ad {soft copy enclosed} of this notice in the immediately next issue of 'The Assam Tribune', 'The Times of India' and 'Amar Asom', as well as submit the invoice in triplicate format for claiming the release of payment
7. The University's notice board
8. The office file concerned

(Prof. Maheswar Kalita)
Registrar, i/c

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1. Terms and Conditions:

The following terms and conditions, which are the minimum criteria for this bid, shall apply herein:-

- 1.1. The sealed cover must be submitted in **two separate, sealed sub-envelopes** clearly super-scribed as:
 - i. **'Techno-commercial Bid'**, consisting of documents, testimonials, etc. pertaining to all technical specifications/ details of item(s) in addition to commercial terms and conditions as well as other requisite compliances; and
 - ii. **'Financial Bid'**, indicating per unit base rates, per unit prices, total prices and value of the items listed in the Techno-commercial Bid.
- 1.2. The **two separate, sealed sub-envelopes** mentioned in Clause 1.1 are required to be placed inside a **bigger sealed envelope** clearly super-scribed on the top of the same as **"Procurement of Major Lab Equipments for DST-SERB Project under Department of Geology, Cotton University :: NIB No. CU/S&P/2022/19 Dt. November 02, 2022"**. The **name and address of the bidder** along with **valid contact number(s)** must be mentioned on each of the envelopes. The **bigger sealed envelope** which is required to be addressed to **"The Registrar, Cotton University, Guwahati-781001, Assam"** must be submitted during office hours on or before 2:00 P.M. of November 29, 2022 in the drop-box arranged for the purpose.
- 1.3. Irrespective of having been registered with the Ministry of Micro, Small & Medium Enterprises (MSME), Govt. of India or the National Small Industries Corporation (NSIC), Govt. of India, there is a mandatory processing fee to the tune of INR 1,000/- (Indian Rupees One thousand only), which must be deposited through the requisite nos. of ICICI Bank Challan-'FEE CODE 011' at any of the branches of ICICI Bank. The soft copy version of the aforementioned bank challan has to be downloaded from the University's website i.e. www.cottonuniversity.ac.in for which it has been provided therein under the sub-head called "NIQ/Tenders/EoI" which again is under the head called "Notifications".
- 1.4. The sealed and signed counter-foil [which indicates payment of the processing fee] with regard to the bank challan bearing the heading 'UNIVERSITY'S COPY' must be submitted in the sub-envelope titled Techno-commercial Bid.
- 1.5. Techno-commercial Bid opening and evaluation might be done on the same day at 3:00 P.M. in presence of the bidders. Financial Bid of only the techno-commercially acceptable offer(s) shall be opened for the purpose of evaluation. In case the Techno-commercial Bid evaluation remains incomplete that day, then the date and time of Financial Bid opening shall be intimated to the shortlisted bidder(s) separately.
- 1.6. In case the date of bid submission is declared a holiday by any jurisdictional authority, the following working day of the University shall be treated as due date for bid submission. The bid received after due date and time or without sealed cover or in torn condition shall be treated as 'unresponsive' and disqualified, and shall not be entertained under any circumstances whatsoever.
- 1.7. Going forward, any addendum, corrigendum, notice of date extension, etc. shall be posted on the University's website only. As such, it is in the bidder's interest to stay alert regarding such postings.

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- 1.8. All bids received shall be opened, scrutinized and evaluated by a committee constituted for the purpose of selection and recommendation with respect to Award of Contract (A.O.C.)/ Purchase Order (P.O.).
- 1.9. Evaluation of bids shall be done separately for each item/ category of items on the basis of the respective lowest offered per unit base rates, per unit prices, total prices and value or some other appropriate criterion/parameter adopted by the committee constituted for the purpose.
- 1.10. All pages of the bidding document and supporting materials, annexure/enclosures etc. must be sealed and signed by the bidder or their authorized signatory. All entries by the bidder must be legibly written. Any over-writing, corrections and cuttings must bear initials of the authorized signatory. Ideally, corrections must be made by writing again instead of 'shaping' or over-writing.
- 1.11. Unless the bidder submits a certificate [in order to avail exemption of Earnest Money Deposit (EMD)] issued by the Ministry of Micro, Small & Medium Enterprises (MSME), Govt. of India or the National Small Industries Corporation (NSIC), Govt. of India, they must invariably furnish EMD to the tune of 3% of the quoted value vide Banker's Cheque/ Demand Draft only {and not in any other mode}, drawn in favour of "Cotton University" and payable at "Guwahati".
- 1.12. The Earnest Money Deposit (EMD) of the unsuccessful bidder(s) shall be returned after placement of Purchase Order (P.O.)/ Award of Contract (A.O.C.) on the successful bidder, whereas the EMD of the successful bidder(s) shall be treated as Performance Security money.
- 1.13. The Performance Security money shall be retained until two (2) years from the respective date of installation {and commissioning, if applicable} pertaining to all the minor lab equipment, post which the same shall be returned subject to obtaining the necessary 'No Objection Certificate'/ 'Clearance Report' from the authorized personnel/ end user concerned.
- 1.14. The Performance Security money of the successful bidder, during the subsistence of the period of warranty, shall be interest-free [i.e. it shall not carry any interest on the principal amount] and be refunded after adjustment of all dues of the University for Damages of any kind, if any.
- 1.15. An offer of Replacement Guarantee encompassing immediate replacement of the 'to be supplied' item(s) against defects of manufacturing/ workmanship/ mishandling during storage and transit etc. must be provided by the successful bidder.
- 1.16. An offer of On-site Comprehensive Warranty for a period of at least two (2) years [from the date of installation {and commissioning, if applicable} of the minor lab equipment] must be provided by the successful bidder.
- 1.17. The bidder has to mandatorily have their service and technical support personnel in Guwahati or Kamrup Metropolitan area. The University reserves the right to call for any information and record as well as inspect the premises of any or all of the bidders, before as well as during award of the supply contract/ Purchase Order (P.O.) and subsistence of the warranty period.
- 1.18. The University shall deal with the representative(s) of the Original Equipment Manufacturer (OEM) or their authorized dealer/supplier/vendor or business partner directly, and thus, no other commission agents, middle-men, etc. must be asked or encouraged by the bidder to represent their cause.

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- 1.19. The bidder submitting their bid shall be **deemed to have read and unconditionally accepted all the terms and conditions** stated herein. Therefore, **counter-conditional bids shall be summarily rejected**.
- 1.20. **No correspondence** shall be entertained in respect of acceptance or rejection of bid.
- 1.21. **Per unit base rates, per unit prices, total prices, value** [which must not under any circumstance exceed the respective Maximum Retail Prices (MRPs) or reasonable market rates, prices, value] have to take into account **taxes and duties, wages of manpower, charges for packaging/ forwarding/ freight {bulk loading and unloading}/ transit insurance, charges for on-site delivery as well as on-site installation and commissioning, etc.** Other incidental expenses must be borne by the bidder themselves.
- 1.22. **Per unit base rates, per unit prices, total prices, and value** in the Financial Bid must be **quoted in Indian currency, i.e. Indian Rupees (INR) only**.
- 1.23. If **per unit base rates, per unit prices, total prices, and value** are quoted in a format other than the one prescribed in the bidding document, then the bid is liable to be cancelled. Therefore, 'Schedule of Prices' must be **carefully and properly filled up**.
- 1.24. **On-site delivery, on-site installation {and commissioning, if applicable} of the minor lab equipment** [besides any **on-site training {if necessary}**] must be done by the authorised representative(s) of the Original Equipment Manufacturer (OEM) or their authorized dealer/supplier/vendor or business partner entirely at their own risk and free-of-cost in their presence and to the satisfaction of the authorized personnel of the University.
- 1.25. The successful bidder must **deliver the ordered item(s) at the Department of Geology, Cotton University or any other site(s) to be finalized in due course of time** by the authorized personnel. Besides, the former must also **collect item(s) for return, if any**.
- 1.26. The successful bidder must **provide adequate and prompt after-sales service and support, whenever and wherever called for at the designated site during such time in the day as may be specified for that particular place from time to time** which shall include **all working days/ shifts and even on holidays**. Apart from delivering the required services, as and when called for, the bidder must **discharge any other duties**, which in the opinion of the University are **within the scope of work** of the bidder, and that such duties must be carried out **with due diligence and care**.
- 1.27. The successful bidder must **not divulge any information, confidential or otherwise**, that he may come across. The **authorized representative(s) of the bidder shall be granted access/permission by the University to enter the premises only for the purpose of carrying out the contractual obligations in respect of the supply contract/ Purchase Order and not for any other reason or purpose**. Prior permission from the **authorized personnel of the University** must be obtained by the authorized representative(s) of the bidder in the event of them being required to **remain on the University premises beyond the stipulated time and/or on Sundays and fixed public holidays** for whatsoever reasons.
- 1.28. The **successful bidder and their representative(s) shall be liable to be dealt with suitably** in the event of **infringement of any law**. Any **financial liability arising on the University shall be deducted from the invoice of the bidder; and if the full amount is still not recovered, the same shall be recovered from the Performance Security money of the bidder**.

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- 1.29. In case the successful bidder fails in fulfilling the obligations under the bid or supply contract/ Purchase Order, fully and in time, the University shall have the **absolute right to take up the work at the bidder's cost and risk, and recover all such expenses from the amount of money due to the bidder including their Performance Security money.**
- 1.30. If any damage is caused to persons and/or property of the University by the successful bidder or its personnel deployed in the University's premises in the course of execution of task/assignment under the supply contract/ Purchase Order, then the bidder shall be liable for the same and that they shall indemnify the University against such damages. The bidder shall also render all assistance and cooperation to the University in the event of any inquiry relating to any such incident or accident.
- 1.31. No advance payment shall be made to the successful bidder. Payment shall be made only after due scrutiny, verification and certification by the authorized personnel of the University who shall necessarily be officer(s)/official(s)/end user(s) designated by the University for the purpose regarding the successful execution of the allotted task/assignment by the authorized representative of the bidder.
- 1.32. The successful bidder is liable to forfeit their Performance Security money and be barred from bidding in the future if after receipt of supply contract/ Purchase Order, they fail to deliver the minor lab equipment and/or fulfil due obligations with respect to the same. For any deficient service, the University reserves the right to terminate the contract/ P.O. and initiate such further penal, including legal, action as deemed appropriate.
- 1.33. The successful bidder shall not delegate or sublet/subcontract the supply assignment or any part thereof to any other entity/company/agency/contractor/supplier/vendor or business partner without the prior written consent/approval of the University; and such consent, even if provided, shall not relieve the bidder from any liability or any obligation under the supply contract/ Purchase Order.
- 1.34. Statutory levies and taxes, as applicable from time to time, might be deducted at source {as Tax Deducted at Source (TDS)} from the invoice of the successful bidder at the time of settlement of the same unless the bidder produces a certificate {from the Income Tax authorities} to the contrary. TDS certificate, wherever applicable, shall be issued by the University to that effect. Taxes, as applicable, shall be paid as per rules.
- 1.35. The successful bidder must observe all the laws and be solely responsible for any prosecution or liability arising from breach of any of those laws. The bidder must be responsible for compliance with all central and state laws as per rules/ regulations/ bye-laws/ orders of the local authorities and statutory bodies as may be in force from time to time during the subsistence of the supply contract/ Purchase Order (P.O.) and period of warranty. The bidder must also indemnify the University and its officer(s)/official(s)/end user(s) from any claim or consequences/damages for any lapse or non-compliance thereof. If, at any point of time, it is found that any type of liability/ responsibility has been fixed on the University or its employees by any government or local body/authority with respect to the contract/ P.O., then the total responsibility must be borne by the bidder.
- 1.36. Mere submission of the bid does not confer any right on any eligible bidder for being selected as a successful bidder and to subsequently obtain the Award of Contract (A.O.C.)/Purchase Order (P.O.).

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- 1.37. **Non-conformity** to any of the stipulated **terms and conditions** and/or non-submission of any of the documents/ testimonials/ fees etc., reference of which is made in the '**Enclosures-cum-Checklist**' Section, shall amount to the bid being '**incomplete**' thereby **disqualifying the bidder** owing to which their **bid shall not be considered, but instead, summarily rejected** by the bid opening and evaluation committee.
- 1.38. The **bid shall be rejected if:-**
- (i) the authenticity of any of the supporting documents is found to be fabricated or false or untrue or incorrect or forged or deceitful; or
 - (ii) the bidder is found to have been blacklisted by any government/ non-government organization/ Public Sector Undertaking in the preceding three(3) years; or
 - (iii) the bidder is convicted, punished, charge-sheeted in a criminal case involving moral turpitude; or
 - (iv) the bidder tries to canvass the bidding process or influence any official of the University, in any manner whatsoever; or
 - (v) the bid or any part of it is found to be conditional or contradictory in nature and interpretation.
- 1.39. **If, at a later date, it is found that any of the information, documents, testimonials or certificates** submitted by the successful bidder is **wrong/ forged/ fake/ false/ manipulated,** then the **supply contract/ Purchase Order (P.O.)** shall stand **cancelled with immediate effect** and that the **Performance Security money** shall be **forfeited** without any claim whatsoever against the University.
- 1.40. Selection shall not *ipso facto* (by itself) confer any right on the successful bidder to receive the Award of Contract (A.O.C.)/ Purchase Order (P.O.) from the University and that it shall in no way guarantee or ensure allotment of task/assignment. The University reserves the right to procure the goods from any other reliable entity/company/agency/contractor/supplier/vendor or business partner which might not be selected as per this or any other bid.
- 1.41. The University reserves the **right to cancel the supply contract/ Purchase Order** by giving a notice in writing without assigning any reason whatsoever in lieu thereof. Any notice sent by the University to the address recorded in the bidding document of the successful bidder shall be deemed to have been properly served for any of the purposes mentioned herein.
- 1.42. The **decision** of Cotton University on all matters connected with or incidental to selection of supplier(s)/vendor(s) shall be **final and binding on all,** and that it shall not be called in question on any ground. In case of any ambiguity or dispute that may arise in the interpretation of any of the clauses in this bidding document, the interpretation of the Registrar, Cotton University shall be final and binding on all.
- 1.43. Cotton University reserves the **right to amend or withdraw any of the terms and conditions and also update/ modify/ relax/ waive/ supplement the minimum criteria/requirements at any point of time.** The University also reserves the **right to accept the offers in full or in parts or reject the same summarily or partly.** Additionally, the University reserves the **right to accept, consider or reject any or all of the offers without assigning any reason** in lieu thereof.
- 1.44. **The Registrar, Cotton University or any officer/official authorized** by the University, shall have the discretion to **review or ascertain and enforce due and proper observance of the laws, rules and regulations.** The **officer(s)/official(s) so authorized** by the University, or the Registrar, may by himself, investigate into any complaint in the case of any default on the part of the successful bidder

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vis-à-vis terms and conditions of the bid. **No bidder shall be allowed to be represented by any legal expert during the course of any mutual discussion, consultation, investigation, enquiry, appeal or any other proceeding** conducted by or before any officer/official of the University against the bidder.

- 1.45. In the event of any **ambiguity or dispute or difference between the parties involved** relating to or concerning the **interpretation of the supply contract/ Purchase Order** or any **alleged breach** thereof or any **matter relating to the contract or the bid**, the same shall be settled by the parties concerned, as far as possible, **by mutual discussions and consultations** between themselves. The dispute shall be so settled only when the same has arisen during or after the placement of the Purchase Order (P.O.) and/or during subsistence of the supply contract or its period of warranty; and that the **decision taken by the Registrar, Cotton University** shall be **final and binding** on all parties concerned.
- 1.46. The **law of the land shall apply** to the supply contract(s)/ Purchase Order(s) arising out of this bid. **All disputes** in this connection and all matters arising out of the same shall be **settled exclusively in the courts falling under the jurisdiction of Kamrup Metropolitan district authority.**


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2. Enclosures-cum-Checklist:

- ❖ Documents etc. which must be placed inside the sub-envelope titled 'Techno-commercial Bid' are:
- Counterfoil {UNIVERSITY'S COPY} of ICICI Bank Challan- FEE CODE 011 indicating payment of the processing fee worth INR 1000/-
 - Earnest Money Deposit (EMD) in the form of Banker's Cheque/ Demand Draft to the tune of 3% of the quoted value and alternatively, Certificate issued by MSME/NSIC, Govt. of India.
 - Copy of the bidding document duly sealed and signed by the authorized signatory representing the bidder thereby implicating that all terms and conditions stipulated in the bidding document are unconditionally acceptable to the bidder
 - Copy of Proprietary Article Certificate (PAC) or valid Letter/Certificate of Authorization/ Dealership or Manufacturer Authorization Form (MAF) issued by Original Equipment Manufacturer (OEM) exclusively against this particular bid number
 - Copy of OEM's Product Brochures/ Technical Literatures regarding the offered products which include detailed specifications, images, sketches, diagrams, test reports, energy ratings, etc. as applicable
 - Statement/Table indicating Technical Compliance stating the University's required items' specifications vis-à-vis the bidder's offered items' specifications in the letterhead of the bidder
 - Copy of the up-to-date Trade License issued by respective administrative jurisdiction in respect of the district or Union territory
 - Copy of the Certificate of Registration pertaining to GSTIN and document(s) indicating up-to-date GST filing
 - Copy of document(s) indicating Income Tax Returns (ITR) filing for Financial Years 2019-20 and 2020-21 {i.e. for Assessment Years 2020-21 and 2021-22}
 - Copy of documents/testimonials [set(s) of purchase orders along with delivery challans and installation reports/certificates] indicating previous work experience of having supplied similar equipment to government or semi-government organisation(s)/ higher educational institute(s) of repute situated in north-eastern region of India
- ❖ Document which must be placed inside the sub-envelope titled 'Financial Bid' are:
- Copy of the prescribed format of 'Schedule of Prices' duly filled up in neat and legible handwriting


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3. Specifications:

| Sl. No. | Name and Category of Items with Detailed Specifications |
|---------|---|
| 1 | <p><u>Diamond Core Drilling Bits:</u></p> <p>Diameter: 54.74mm dia (NX size) (2 pieces)</p> <p>Diameter: 50 mm dia (2 pieces)</p> <p>Length of core: 200 mm minimum to 250 mm maximum.</p> |
| 2 | <p><u>Muffle Furnace:</u></p> <p>Maximum Temperature 1200°C, Working Temperature 1150°C, with Digital Controller cum Indicator with Safety Alarm, Size 150 x 150 x 300mm</p> |
| 3 | <p><u>Liquid Limit Device:</u></p> <p>motorised, with Casagrande grooving tools and gauge block (suitable for operation on 50 Hz, single phase AC Supply) Ref. Standards: IS:2720 (Part 5), IS:9259, BS 1377: - This standard covers the requirements of liquid limit device, grooving tool and gauge block used for determination of liquid limit of soils by mechanical method.</p> <ul style="list-style-type: none">• Motorised model with integral blow counter, The Liquid Limit Device consists of a hard rubber base (vulcanized rubber having hardness 86 IRHD) carrying a sliding carriage assembly to which a brass cup is hinged. The cup is raised and allowed to fall through a height of 1 cm on to the hard rubber base, with the help of a lead screw provided at the back of the sliding carriage. Supplied complete with Casagrande Grooving Tool and Gauge Block (Type A of IS : 9259). Suitable for operation on 220 V, 50 Hz, single phase, AC supply. Hard rubber base, carrying housing sliding carriage and a cam to which a pulley is attached and which is belt driven by a 120 rpm synchronous motor. 1No. <p>Revolution counter fixed to the cam shaft having drop rate 2Rev/Sec: 1No.</p> <p>Casagrande type – A grooving tool: 1No.</p> <p>10mm brass gauge block :1No.</p> <p>Copy of Operating Instructions with General Assembly Drawing: 1No.</p> <p>Plastic Limit</p> <p>set comprising of glass plate, Brass rod, Spatula, Moisture Tin & Porcelain Dish. as per IS: 2720 (Part V) 1985. Plastic limit set comprising of:-</p> <p>glass plate (ground-glass plate about 20 x 15 cm),</p> |

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Brass Rod(3 mm in diameter and about 10 cm long),
Spatula(flexible, with the blade about 8 cm long and 2 cm wide),
Moisture Tin & Porcelian Dish(about 12 cm in diameter)

Core Drilling Machine (without Bits):

Specification:- The equipment comprises of the following:

1. Drill Machine – 1Set

2. Spanner -2Set

3. Water cutlet pipe -1Set

4. Clamping Bracket 1-Set

5. Bolts for clamping bracket -2 set

- Machine specifically used in the laboratory for cutting core samples from hard material such as rock and concrete. It should be equipped with a safety friction clutch, and should be easy safe and reliable to use.

- The Machine can be used in all direction on the reinforced concrete, brick and Stone.

- Laboratory coring shall be done with thin walled rotary diamond drill bits. The diameter of the core may vary from 35 to 150 mm. The bits should preferably be of the diamond impregnated type.

4 - The drill travel shall be sufficient to permit continuous runs of at least 150 mm and preferably 250 to 300 mm without need for stopping the machine.

- Diameter EX to 100mm, cores to a maximum size 75 mm dia. x 140 mm height.

- The machine has two rotary gears for two speed configurations and by turning the knob speed cab be varied.

- Clamping arrangement to hold specimen with regular/ irregular shapes to the base of machine to prevent any movement.

- Cutting feed provided with water fed swivel head which can relate to suitable water supply for flushing and cooling the machine.

- For moisture sensitive rocks, compressed air shall be used.

- Two cutting speed at no load 950/2100 RPM

- The feeding arrangement of the drilling machine shall preferably be a constant force hydraulic one. Electrical overload breaker shall be used to prevent the possible damage due to overload.

- Drill bits of different size.

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Slake Durability Apparatus with 2 Drum & Tank Assembly:

Specification

The equipment comprises of the following:

1. The main unit consisting of:

- i. Wooden board -1Set
 - ii. Electric motor with reduction gear box fitted in a box -1Set
 - iii. Electrical cable for power supply -1Set
2. Acrylic Water tanks to accommodate brass drums 1Set
3. Brass Drums 4 Nos.

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- The test drum shall be made from a 2.0 mm wire mesh of unobstructed length of 100 mm and diameter 140 mm with a solid fixed base. The drum shall be able to withstand a temperature of 105°C. The drum shall have solid removable lid. The drum shall be sufficiently strong to retain its shape during use, but neither the exterior of the mesh nor the interior of the drum should be obstructed, by reinforcing members.

- A trough, to contain the test drum supported with its axis horizontal in a manner allowing rotation, capable of being filled with a slaking fluid, such as water, to a level 20 mm below the drum axis. The drum shall be mounted to allow 40 mm unobstructed clearance between the trough and the base of the mesh.

- Water Tanks made of acrylic plastic can be coupled to the motor shafts with the help of couplings. Guide rails are provided to keep the water tank assembly in position.

- A motor drive, capable of rotating the drum at a speed of 20 rev/min, the speed to be held constant to within 5 percent for a period of 10 minutes

Laboratory Electric Oven:

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with Digital Indicator Cum Controller with Safety Alarm, range 50° to 250°C +/-1°C with Air Circulating Fan, S.S. Inside Size 600 x 600 x 600mm

Compression Testing Machine with Automatic Pace Rate Controller:

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Capacity 500kN with NABL calibration certificate

Least Count(kN):- 0.02kN

Maximum clearance between Platens(mm):- 435mm

Maximum distance between side plates(mm):- 260mm

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Platen Size(mm):-140.0mm Square

Piston Dia(mm):- 111.2mm

Piston Stroke(mm):- 50mm

- Micro Controller based Compression Testing Machine is controlled by an intelligent Pace Rate Controller.
- This facilitates Automatic Pace Rate Control, Data Logging, Data Printing, Load Hold etc.
- It has a full 3 term PID feedback control which uses a high torque Stepper Motor.
- It consists of a Loading Unit, an Electrically Operated Hydraulic Pump & an Intelligent Pace Rate Controller.
- Micro Controller based Compression Testing Machine is In addition to all the features of Compression Testing Machine with digital display, this machine has automatic pace rate control with the facility of data logging, storage & printing for analysis.
- The operation of the machine is detailed in the operating manual supplied with the machine.
- The operation is user friendly with a menu driven interface and prompts for an operator
- Meets the Exceeds specifications of IS 14858 (2000), Machines Conforming to ASTM C-39, AASHTO T-22, BS, and
- Automatic Pace Rate Control at a preset value.
- Pace deviation bar graph.
- Automatic stress determination and display.
- Overload safety protection.
- Self-aligning platen with fast accessory change capability.
- Configurable Engineering Unit for machine selection.
- Predefined Machine capacities for each engineering unit.
- Specific capacity can be selected from the drop down menu.
- Flexible Calibration Points
- Calibration can be done on 5 to 10 points.
- Peak Load, Peak Stress, Unique Record No. is displayed.
- EDI has provision to configure more than one Mode.
- Mode1-Compression/Mode2-Flexure/Mode3-Prism Testing/Mode4-Tensile Splitting strength. Each mode will have independent calibration points and calibration points are also flexible.
- Mode-4 runs with Mode-1 calibration.
- Dynamic Calibration
- Any Centronics dot matrix Printer.
- Menu Driven sample details
- Data storage approx 2000 records.
- Data Download thru RS232 in ASCII format.
- User can set break point.
- Store records can be viewed & print.
- Peak stress calculation based on sample type and shape.
- Easy to operate.
- Password protection for system & calibration setup.

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- 2% overload facility to calibrate the machine upto full capacity.
- Start, Stop, Pause & Reset.
- Multifunction Keyboard
- Over travel safety protection
- The loading frame has a fully welded construction with a top crosshead, base, and solid side walls with the precision ground hydraulic piston fixed to the base.
- The machine's platens are hardened, ground, and polished; the upper platen comes with a self-aligning action and suitably sized spacers to accommodate a variety of different sizes of specimen - the specification table shows which platen set comes with the machine.
- The two speed pump allows the fast approach of the platens, for daylight closure, and also allows the automatic, precise control over the load application; a pace rate bar on the display gives operator feedback on the loading rate.
- The controller incorporates a four line digital display and features the integral load pacing bar display, maximum load and stress result display, parallel port output, and an RS232 output.
- Results from approximately 2000 completed tests can be stored in the memory and these results can be in Imperial/English, Metric, or SI units.
- The calibrated operating range of the machines is from 10% to 100% of the machine capacity, over which range the accuracy is +/- 1% of the applied load.

Point Load Index Tester: - Ref. Standard - IS:8764.

Point Load Index Tester, is used for determining the Diametral Point Load Strength Index of rock cores and irregular lumps which can be tested without any treatment. The Point Load Test is primarily an Index Test for strength classification of rock materials. This instrument is mainly intended for field measurements on rock specimen but it can also be used in the laboratory. The results of the test may also be used to predict the uniaxial compressive strength of rock from correlations. The apparatus is light and portable. It can be used in the laboratory as well as in the field.

- The equipment consist of the following replaceable parts :
 - a) Load Gauge 0 - 100kN x 0.50kN
 - b) Conical Loading Platens
 - c) Loading Frame fitted with Hydraulic Jack, capacity 100kN & Hand Pump
 - d) Load Gauge 0 - 25kN x 0.25kN (For Analogue Model)

Brazilian Test Apparatus: - Pair of Jaws for 60mm dia samples

Workstation specification

HP Workstation (Model HPZ2)

12th Generation Intel i7 Processor

32 GB RAM DDR5, 512 GB SSD NVME M.2, 24-inch Monitor

USB Keyboard and Mouse, RTX T1000 Graphics, Win10 or Win 11

UPS: 1100 VA (Preferred make: APC)

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Printer specification

HP LaserJet Pro P1108

Universal Multi Channel data logger:

Features:-

Can connect up-to 4 No's of Two wire Sensor

- **Analog Channels** : Two wire isolated: 4
- **Analog Sensors**: Thermocouples: Types: B, C, D, E, G, J, K, N, R, S, T
- Calibration standard: ITS-90
- RTDs: Materials supported: Pt, Ni, Cu Resistance range: 10Ω to 10KΩ
- Thermistors: Types: YSI 400xx Series, other types : Resistance range: <10kΩ
- Monolithic Temperature Sensors: Types supported: LM34 -60, AD590, 592, TMPxx LM135, 235, 335
- Strain Gauge and Bridge Sensors: Configurations: ¼ , ½ & full bridge & full bridge Excitation: voltage or current
- Current & Voltage Sensor
- Excitation: voltage or current

Digital Channels:

Digital Input/Outputs

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- 4 bi-directional channels
- Input Type: 4 logic level (max 20/30V)
- Output Type: 3 with open drain FET (max: 30V, 100Ma), 1 with logic output Relay Output
- 1 latching relay, contacts (max: 30Vdc, 1A)

Low Speed Counters: Minimum 4 counters shared with digital inputs;

Dedicated Counter Inputs: Minimum 4 high speed

Input Voltage range: 0 to +/- 30 V

Input Current range: 0 to +/- 30 Ma

Liner Resolution: 18 bits

Linearity: Minimum 0.01%

Sensor compatibility: RTD, Thermocouple, Thermister,

Pressure Sensor, Flow, LVDT, Load Cell, 4 to 20 Ma current loops and any other

Sensor with voltage and current output

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Common mode rejection: >90Db

Inputs

Inter-Channel Isolation: 100V (relay switching)

Analog Section Isolation: 100V (opto-isolated)

Input impedance: 100K_Ω, >100M_Ω

Common mode range: ±3.5V or ±35V on 30V range

Alarms:

- Condition: high, low, within range and outside range
- Delay: optional time period for alarm response
- Actions: set digital outputs, transmit message, and execute any data taker command.

Data Storage:

Internal Store:

- Storage of 10,000,000 data points
- Larger storage available refer to technical support
- Removable USB store device (optional accessory)
- Types: compatible with USB 1.1 or USB 2.0 drives, e.g. Flash drive.

Real Time Clock: Normal resolution: 200μs

Operating Temperature range: -45°C to 70°C

PC Communication Interfaces:

Ethernet Port

USB Port

Host RS232 Port

Serial Sensor Port

- Interface: RS232, RS422m, RS485
- Protocols: Modbus (Master & Slave), Serial Sensor

Peak Power: 12W (12Vdc 1A)

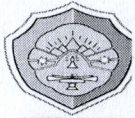
USB memory for easy data and program transfer;

Scheduling of Data Acquisition

Number of schedules: 11

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Schedule rates: 10ms to days

Software:

Easy configurable Windows based software.

Real-time and historical data for analysis, charts, mimics and tables, Custom pages can be defined, Download data in CSV format. An extensive range of Arithmetic, Trigonometric, Relational, Logical and Statistical functions should available.

Resistivity Meter:

The Resistivity Meter with measurement of direct Resistivity, SP, IP, Voltage and Current in the field. Transmitter, Receiver, Display, Keypad, Data Storage, Battery etc., all are should be in one single box. No other electronics or Laptop are required for field data acquisition.

1. The system should be Micro-processor controlled
2. The input power through internal Battery for both Transmitter (at least 7AH, 12V) and Receiver. Must have provision for connecting external 12V Rechargeable Battery for Transmitter (external battery is optional).
3. Output Power should be 125 Watts or more
4. Output Current should be 2Amp or more
5. Output Voltage should be 400V (800V peak to peak).
6. Frequency should be less than or equal to 0.125 Hz
7. Noise rejection should be 100db or more with linear drift.
8. Potential measuring resolution should be 10 micro volts or less.
9. It should have automatic ranging & calibration.
10. Stacking should be 250 or more, with option of minimum and maximum user selectable.
11. Should have Rejection Filters 50Hz and 60 Hz.
12. Resistance measuring range should be up to 10 kΩ.
13. It should have built-in color LCD display and keypad for complete field operation.
14. It should have automatic SP Cancellation and should record SP value for each measurement.
15. It should have built-in facility to check and store RS values (Resistance between the electrodes).
16. It should have 24-bit ADC/dynamic range.
17. Input impedance should be 100 Mega Ω or more.
18. Voltage Measurement precision should be 0.1% or less.
19. Current Measurement should be 0.5% or less.
20. Resistivity Accuracy should be 1% or less.
21. Internal memory should be 16GB or more.
22. Measurement time cycle should be up to 16s
23. It should have USB port for data transfer to any windows-based PC or USB Drive.
24. It should have protected against circuit overloads
25. System should be light weight, say approx. 10 Kgs.

Software: 1D Data Inversion Software

Schedule of requirement:

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1. Resistivity Meter complying the above technical specifications – 1 No.
2. Continues contact cable for Current (AB), 500mtrs with winches- 2Nos.
3. Continues contact cable for Voltage (MN), 150mtrs with winches- 2Nos.
4. Stainless steel Electrodes with jumper cable - 6 Nos.
5. Hammers- 2Nos.
6. Essential Tool Kit and Multi meter – 1 set
7. External Battery – 65AH - 12V with connecting cables – 1
8. 1D Data inversion software


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4. Schedule of Prices:

| Sl. No. | Item with Brand | Per Unit Base Rate {INR} | HSN Code | Value of GST@ applicable rate {INR} | Per Unit Price {INR} | Quantum* | Total Price {INR} | Delivery Schedule {No. of Days} |
|---------|--|--------------------------|----------|-------------------------------------|----------------------|----------|-------------------|---------------------------------|
| [A] | [B] | [C] | [D] | [E] | [F=C+E] | [G] | [H=FxG] | [I] |
| 1 | Diamond Core Drilling Bits | | | | | 4 set | | |
| 2 | Muffle Furnace | | | | | 1 set | | |
| 3 | Liquid Limit Device with accessories | | | | | 1 set | | |
| 4 | Core Drilling Machine (without Bits) with accessories | | | | | 1 set | | |
| 5 | Slake Durability Apparatus with 2 Drum & Tank Assembly with accessories | | | | | 1 set | | |
| 6 | Laboratory Electric Oven | | | | | 1 set | | |
| 7 | Compression Testing Machine with Automatic Pace Rate Controller with accessories | | | | | 1 set | | |
| 8 | Universal Multi Channel data logger with | | | | | 1 set | | |

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| | | | | | | | | |
|---|------------------------------------|--|--|--|--|-------|-------------|--|
| | accessories | | | | | | | |
| 9 | Resistivity Meter with accessories | | | | | 1 set | | |
| | | | | | | | Value {INR} | |

*N.B.: Quantum of order is subject to revision at a subsequent stage without any provision for revision in offered per unit base rate(s) and per unit price(s)

Name of the **Bidder**:

Address of the **Bidder**:

Contact Number(s) of the **Bidder**:

E-Mail ID(s) of the **Bidder**:

Type of Business Entity of the **Bidder** [Proprietorship/Partnership/Company]:

Full Name {in BLOCK Letters} of the **Authorized Signatory**:

Full Signature of the **Authorized Signatory** with Date:

Office Seal/Stamp:


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