



**Chandigarh Industrial & Tourism Development Corporation Limited**

CIN: U45202CH1974SGC003415

(A Chandigarh Administration Undertaking)

Regd Office: SCO – 121-122, Sector 17-B, Chandigarh – 160017

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**E-tender**

E-Tender on Turn Key basis for “setting up of Civil Lab” at Industrial Development Cum Facility Centre (A Unit of CITCO), Plot No. 182/40-42, Industrial Area, Phase- I, Chandigarh

CITCO invites e-tender/ e-bids from eligible and qualified Original Equipment Manufacturers (OEM) or Authorized Distributors of OEM or Authorized Dealers of OEM for “Supply, Installation, Testing, Commissioning for the complete setting up of Civil Lab for its Industrial Development Cum Facility Centre Unit, located at Plot No. 182/40-42, Industrial Area, Phase - I, Chandigarh on F.O.R basis

The detailed Technical specification of the machines is at T-1 and the other terms & conditions regarding documentation, packing, Installation & Commissioning is enclosed herewith as Annexure T-2.

## **Terms and Conditions:-**

### 1. Abbreviations:

Throughout this tender document”, the word/ term:

- a) “CITCO” means Chandigarh Industrial & Tourism Development Corporation Limited
- b) “Working day” means Monday to Friday in week.
- c) “Machine” means the machines/ equipment as detailed at Annexure T-1 If context so requires, “singular” means “plural” and vice versa.
- d) “EMD” means Earnest Money Deposit.
- e) “Purchaser“ means CITCO
- f) “Bid” means the document and financial details submitted by bidder.
- g) “Bidder” or “Tenderer” means the eligible and qualified Original Equipment Manufacturers or Authorized Distributors or Authorized Dealers.
- h) “OEM” means Original Equipment Manufacturer
- i) “IDFC” means Industrial Development Cum Facility Centre Unit (a Unit of CITCO).
- j) “FOR” means Freight on Road at IDFC.

### 2. **Pre-Bid Meeting:**

A pre-bid meeting will be held on 08.04.2025 at 11:00 AM at Industrial Development Cum Facility Centre (A Unit of CITCO), Plot No. 182/40-42, Industrial Area, Phase - I, Chandigarh to clarify any concerns regarding the tender document.

### 3. **Clarification of Tender Documents:**

A Bidder may seek clarification of the Tender Document from Office/ Contact Person provided the clarifications are raised before 7 days before the deadline for the bid submission via E mail [info@citcochandigarh.com](mailto:info@citcochandigarh.com). The response to query will be done within 5 working days on receipt of such E mail request for clarification. Any modification of the Tender Document that may become necessary due to the clarification will be made by through an Addendum/ Corrigendum issue under the sub-clause above.

When the response to clarification changes the requirement significantly and /or when there is not much time left for the bidders to respond to such responses, the time and date of submission of tenders can also be suitably extended.

### 4. **Eligibility Criteria for Participation in this tender :**

Participation in this Tender Process is open to all bidders who fulfill the ‘Eligibility’ and ‘Qualification criteria. Bidder should meet the following eligibility criteria as of the date of his bid submission and should continue to meet these till the award of the contract. The Bidder,

- a) must:

- i) be a natural person, private entity, or public entity (State-owned enterprise or institution).
  - ii) be a manufacturer of the product offered or be dealer authorized by the Principal/ OEM.
- b) must:
- i. not be insolvent, in receivership, bankrupt or being wound up, not have its affairs administered by a court or a judicial officer, not have its business activities suspended and must not be the subject of legal proceedings for any of these reasons.
  - ii. (including their affiliates or subsidiaries or Contractors/ subcontractors for any part of the contract)
    - (a) Not stand declared ineligible/ blacklisted/ banned/ debarred by the Procuring Organization or Ministry/ Department from participation in its Tender Processes; and/ or
    - (b) Not be convicted (within three years preceding the last date of bid submission) or stand declared ineligible/ suspended/ blacklisted/ banned/ debarred by appropriate agencies of Government of India from participation in Tender Processes of all of its entities, for:
      - offences involving moral turpitude in business dealings under the Prevention of Corruption Act, 1988 or any other law; and/or
      - offences under the Indian Penal Code or any other law for causing any loss of life/ limbs/ property or endangering Public Health during the execution of a public procurement contract and/ or
      - suspected to be or of doubtful loyalty to the Country or a National Security risk as determined by appropriate agencies of the Government of India.
    - (c) Not have changed its name or created a new business entity as covered by the definition of "Allied Firm", consequent to having been declared ineligible/ suspended/ blacklisted/ banned/ debarred as above;
    - (d) Not have an association (as a bidder/ partner/ director/ employee in any capacity)
      - of retired Manager (of Gazetted Rank) or a retired Gazetted Officer of the Central or State Government or its Public Sector Undertakings if such a retired person has not completed the cooling-off period of one year after his retirement. However, this shall not apply if such managers/ officers have obtained a waiver of the cooling-off period from their erstwhile organization.

- of the near relations of executives of procuring Entity involved in this tender process.
- iii. Not have a conflict of interest, which substantially affects fair competition. The prices quoted should be competitive and without adopting any unfair/unethical/anti-competitive means. No attempt should be made to induce any other bidder to submit or not to submit an offer for restricting competition.

Bidder shall be required to declare fulfillment of following **Eligibility Criteria in Form 1.2 (Eligibility Declarations)**.

**I. Experience and Past Performance:**

- a) The bidder (manufacturer or principal of authorized representative – hereinafter referred simply as ‘The Bidder’) should have regularly for at least the last five years, ending 31<sup>st</sup> March 2024, manufactured, supplied and commissioned the machine, with the same or higher specifications and
- b) The bidder should have manufactured, supplied, erected and commissioned at least 3 numbers (hereinafter referred to as ‘The Qualifying Quantity’) of the machine in last seven years ending on 31<sup>st</sup> March 2024, and out of which:
- c) at least two number of offered version/ model of machine should be in successful operation for at least 1 year on the date of bid opening.

Note : The machine hereby indicate the major instruments/equipment such as Servo Compression Testing Machine, Rotational Viscometers, Asphalt Content testers, CBR Testing Machine, Marshall Apparatus, Shear Test apparatus and Ultrasonic Pulse Velocity Tester.

The intending Bidder, in case of OEM shall submit a self-declaration on their letter-head, along with the Technical Bid, confirming that they are regular in manufacturing & supplying the similar machine, as asked in this tender.

The intending Bidder, in case of Authorized Distributor of OEM or Authorized Dealer of OEM shall possess valid authorized Distributorship or Dealership license from OEM which shall be engaged in regular manufacturing and supply of similar machine.

For the purpose, the bidder is required to submit relevant papers/ documents

## II. Equipment & Manufacturing Facilities:

- a) 'The bidder' must have an annual capacity to manufacture, supply and commissioned at least 'The Qualifying Quantity' (see criteria I-b) above).  
For the purpose, the bidder is required to submit relevant papers/ documents

## III. Financial Standing :

- a) **Turn-over:** The average annual financial turnover of 'The bidder' during the last three years, ending on 31st March, 2024 should be at Rs.47 Lakhs (or equivalent in foreign currency at exchange rate prevalent on 31st March 2024) as per the annual report (audited balance sheet and profit & loss account) of the relevant period, duly authenticated by Chartered Accountants with UDIN.
- b) **Net-worth:** The net worth of the Bidder firm (manufacturer or principal of authorized representative) should not be negative 31st March, 2024 and also ii) should have not eroded by more than 30% (thirty per cent) in the last three years, ending on 31st March, 2024. Duly authenticated by Chartered Accountants with UDIN.

For the purpose, the bidder is required to submit relevant papers/ documents

- IV. The bidder is required to submit specific technical brochure of machine along with allied information such as Technical documents, packaging and supplies, inspection process/procedure at supplier's site, Installation and commissioning and relevant ISO certifications required for manufacturing of the machine/equipment.

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**NOTE:-** There will be no Relaxation to Startups for the condition of prior turnover and prior experience for start-up enterprises recognized by Department for Industry & Internal Trade (DPIIT). Startups may be MSMEs or otherwise.

Supporting documents submitted by the bidder must be certified as follows:-

- i) All copy of supply/work order; respective completion certificate and contact details of clients; documents issued by the relevant Industries Department/ National Small Industries Corporation (NSIC)/ manufacturing license; annual report, etc. in support of experience, past performance and capacity/capability should be authenticated by the by the person authorized to sign the tender on behalf of the bidder. Original Documents must be submitted for inspection, if so demanded.
- ii) All financial standing data should be certified by certified Chartered Accountants.

**5. Purchase preference to Class-I local Suppliers:**

Since the Goods are not divisible, and the bid is to be evaluated on price [the lowest bid (L-1)] alone among all qualified bids. If L-1 is 'Class-I local Supplier', the contract will be awarded to L-1. If L-1 is not 'Class-I local Supplier', the lowest bidder among the 'Class-I local Supplier' will be invited to match the L-1 price subject to Class-I local Supplier's quoted price falling within the margin of purchase preference, and the contract will be awarded to such 'Class-I local Supplier' subject to matching the L-1 price. If such lowest eligible 'Class-I local Supplier' fails to match the L-1 price, the 'Class-I local Supplier' with the next higher and so on, bid within the margin of purchase preference will be invited to match the L-1 price, and the contract will be awarded accordingly. If none of the 'Class-I local Supplier' within the margin of purchase preference matches the L-1 price, the contract will be awarded to the L-1 bidder.

**6. Purchase Preference to MSEs:**

MSEs interested in availing benefits must enclose Form 1.2 with their offer the Udhya Registration Certificate with the Udhya Registration Number as proof Tender Document - Tend No./ xxxx. The certificate shall be of latest but before the deadline for submission of the bid.

MSEs shall be treated as owned by SC/ ST or women entrepreneurs: The proprietor(s) shall be SC/ ST or women In proprietary MSEs At least 51% shares shall be held by the SC/ ST or women partners in a partnership MSEs. At least a 51% share shall be held by SC/ ST or women promoters in Private Limited Companies MSEs. Support to MSEs shall be exempted from payment of Earnest Money. (MSEs will be required only to submit Bid Security Declaration Form 7).

**7. Authorization for submission of tender:**

- a) The original and all copies of the bid shall be signed by a person duly authorized to sign on behalf of the Bidder. The written confirmation of authorization (in form of letter on the bidder's letter head) to sign on behalf of the bidder confirming the signature as a person duly authorized to sign should be attached with the technical bid of the tender.
- b) The person signing the tender form or any other documents on behalf of the Bidder shall be deemed to warrant that he has authority to bind the Bidder. If subsequently comes to light that the person so signed had no authority to do so, the purchaser may without prejudice to any other civil & criminal remedies cancel the tender and hold the Bidder liable for all costs, charges and damages.

**8. Location of supplies:**

- a) The details of location where the machine is required to be supplied through this tender are as under:-

<b>Sr. No.</b>	<b>Location</b>	<b>Address of Supplies</b>
1	Industrial Area, Phase - I, Chandigarh	Industrial Development Cum Facility Centre (A Unit of CITCO), Plot No. 182/40-42, Industrial Area, Phase - I, Chandigarh

- b) The bidder is free to inspect the location in the premises before submitting the bid under this tender.

**9. Scope of Supplies:**

- a) The machines shall be supplied in compliance to the specifications mentioned in Annexure-T-1 of the tender document alongwith the NABL accredited calibration certificate of each equipment/machine. The Calibration certificate shall have the validity of one year initially and to be renewed thereafter till the expiry of warranty period
- b) After the supply of machine as per specifications mentioned in the Annexure-T-1, the bidder has to execute its installation & commissioning at the designated Location. No extra cost shall be paid for this reason.
- c) After the installation & commissioning of machine, the training to the IDFC Staff shall be given wherein the training about the machine's operations, maintenance, information about Do's & Don'ts as well as trouble shooting & all other areas which are necessary for smooth functioning of machine shall be provided to at least two persons designated by purchaser, at site, by the bidder. No extra cost shall be paid to the successful bidder for imparting this training.
- d) The bidder shall offer on-site comprehensive warranty of machine for at least two years from the date of successful commissioning of machine at the designated location. The purchaser is not liable to pay any extra charges on any account during warranty period.
- e) The Bidder has to supply fits & fixture for all the machines/equipment which includes proper storage of accessories and proper slabs, storage area cupboard, working table for all the machinery/equipment is to be provided.
- f) The bidder has to setup a dedicated room for the cement testing lab with proper partition and setup required to maintain the environmental conditions to perform the test as per NABL guidelines
- g) The environmental conditions required to perform the testing on all machine/equipment is to be provided as per the NABL guidelines.

- h) The bidder has to setup operational requirement of all the machines/equipment like washbasin, pneumatic compressor etc and is to handover the complete civil lab in the operational condition.

The bidder has to submit the detail report of the scope of supplies including layout plan, fits and fixtures, cupboards, working table, setup of cement testing room, setup of environmental conditions.

**10. Delivery: -**

- a) The bidder is required to complete the delivery of machine within 120 days from the date of issue of supply order.
- b) The material shall be inspected on receipt at site and bidder shall be responsible for any damage during the transit of machine/ equipment.
- c) The bidder shall not arrange part shipments and/or trans-shipments without the permission of purchaser. The insurance cover including insuring the goods against the loss or damage incidental to manufacture or acquisition, transportation, storage and delivery / Installation & Commissioning shall be obtained by the bidder in his own name and not in the name of purchaser. The purchaser will as soon as possible but not later than 30 days from the date of arrival of goods at destination shall notify the bidder of any loss or damage to the goods.
- d) The delivery of goods thereof is accepted after the expiry of the original delivery period, LD a sum equivalent to 0.5 (half) per cent of the delivered price (including elements of GST, freight and variations) of the delayed Goods for each week of delay or part thereof until actual delivery, subject to a maximum deduction of the 5% of the total contract value will be deducted.
- e) Inexcusable delays of more than one-fourth (25%) of the total completion period shall be treated as inordinate delays. Such inordinate delays will be treated as a breach of contract and will be noted as deficient performance and held against the contractor in future tenders. A show-cause notice will be issued to the contractor before declaring it a deficient performance. In case Competent Authority decides to allow performance of contract, after inordinate delays, maximum limit on LD shall be 10% (instead of 5%) of the total contract value,

**11. Goods Receipt and Acceptance: -**

A preliminary receipt of goods in premises will be only an acknowledgement of the quantity received. Goods Receipt and Inspection Report (GRIR) will be separately issued which will be an acknowledgement of receipt of the correct quantity as well as quality of goods.

If the received material successfully passes the quantity and quality checks, accounting of the material received shall be based on the Goods Receipt and Inspection Report prepared after inspection and acceptance of the material,



which the concerned officers will sign. This includes for payment to be made on proof of dispatch, for which inspection at the suppliers' premises is conducted by an authorized Officer prior to dispatch by suppliers.

In case the received material fails to pass quantity and quality checks, a rejection GRIR will be issued, noting the reasons for rejection. The rejection GRIR will be instructions for the supplier to take back the rejected goods within a 21 number of days. During such time the materials lies with the consignee at supplier's risk and cost.

In case the supplier does not lift the rejected goods within the stipulated time, a ground rent 2% per day of the value of goods will be charged and If the supplier does not respond within 15 days from stipulated time, the material will be treated as scrap and will be disposed it off as deemed fit.

## **12. Warranty**

- a) The bidder shall offer on-site comprehensive warranty of machine for two years (02) from the date of successful commissioning of machine at the designated location & shall cover each and every part of the machine including parts having limited life etc. The purchaser is not liable to pay any extra charges on any account during warranty period.
- b) Warranty Bank Guarantee - The Successful Bidder has to submit fresh warranty bank guarantee equivalent to 10% of the value of good supplied and valid upto 60 days beyond the warranty period. In such case performance security will be returned only after satisfactorily delivery and commissioning and receipt of Warranty Bank Guarantee.
- c) Any part or parts fail or proved defective within the on-site warranty period specified above, owing to defect in design, material or workmanship, the bidder shall have to replace them at the place of installation without asking for any charges.
- d) During the warranty period, expert(s) shall be deputed at site by the bidder within three working days from the date of request from purchaser, to rectify and fixing the defects of machines at the location where machine supplied. The cost of deputation of expert(s) and any other associated expenditure shall be borne by the bidder.
- e) The bidder shall ensure to render after sales services during the warranty period to the satisfaction of purchaser.
- f) The bidder will depute their engineer within three working days to attend the service call received in writing from purchaser.
- g) A penalty of 0.5% of the contract value for every week of delay in response time beyond the specified time as detailed above shall be recoverable from the Performance/ Warranty Guarantee. The maximum penalty for warranty failure will be 5% (Five per cent) of the contract value during the whole warranty period. If there is further such delay after

reaching this limit, the purchaser is entitled to encashment of the whole of Performance/ Warranty Guarantee Bonds, besides recording the adverse performance of the contractor for future tenders.

- h) In case of any rectification of a defect or replacement of any defective Goods during the warranty period, the warranty for the rectified/ replaced Goods shall remain till the original warranty period.
- i) If the bidder, having been notified, fails to rectify/ replace the defect(s) within 21 days, it shall amount to a breach of Contract for default, and the buyer is entitled to avail any or all remedial action(s) thereunder, including forfeiture of Warranty/ Performance Bank Guarantee.

**13. Earnest Money:**

- a) The bidder will be required to deposit earnest money (EMD) of Rs.2,90,000/- in the form of Bank Draft in favour of "CITCO" in any scheduled bank at Chandigarh. The amount of earnest money shall not be accepted through cheque.
- b) The bidder is required to submit EMD offline to the under mentioned address upto the last date of submission of bids. On the envelope, it should be clearly mention as "EMD for e-tender for ..... (name of machine) for IDFC": -  
  
Dy. General Manager (Technical/ IDFC)  
Chandigarh Industrial & Tourism Development Corporation Limited  
Regd. Office SCO 121-122, Sector – 17B, Chandigarh (U.T)
- c) The earnest money shall be refundable to the unsuccessful Tenderer. In the case of successful Tenderer(s), EMD amount shall be released upon receipt of Performance Security.
- d) The Purchaser shall not be liable for payment of any interest on EMD.
- e) If any Bidder withdraws his tender before the period of 120 days from the date opening of technical bid or makes any modifications in the terms and conditions of the tender which are not acceptable to the purchaser, then the purchaser shall, without prejudice to any other rights or remedy, be at liberty to forfeit the EMD. Further, in case the Bidder fails to submit performance security within 21 days from the date of allotment, then in that case also, EMD will be forfeited.
- f) The tender shall be liable for outright rejection without earnest money or the same is not deposited as per the laid down procedure.

#### **14. Tender System-cum-e-Reverse Auction (Technical & Financial Bid)**

E-Tenders are invited online under two-bid system i.e. Technical Bid and Financial Bid to be uploaded as composite tender. Technical Bid shall be technically evaluated by the Technical Committee constituted by Competent Authority-Managing Director as per the Technical Criteria & Specifications laid down in the Tender Document. CITCO shall verify the technical credentials as supplied. After scrutiny of the information received in the Technical bid, if any other information/clarification will be required, the same will be provided. In case, any information is found false/incorrect, the technical bid of the supplier shall be liable for rejection out rightly. Refer Form 6 check list for Bidders.

E-Tenders/ E-bids shall be eligible/ considered for opening of financial bid after fulfilling the technical criteria as laid down for machine. The financial bid of the only Technical Qualified Bidder shall be opened and evaluated as per the recommendations of the Technical Committee constituted by the competent authority which shall be final and binding for all. Further, the financial bids shall be evaluated.

Therefore, the bidder shall quote financial bid (i.e. individual rates adhering to the technical and allied parameters for the supply and installation of the machines/equipment) for machine in the financial bid/ BOQ on FOR basis at IDFC, Plot No. 182/40-42, Industrial Area, Phase - I, Chandigarh

In the financial bid, the Taxes/ Levies, if applicable, should be indicated clearly in the Tender Form as extra alongwith the percentage as applicable failing which it will be treated that the rates quoted by the Bidder are inclusive of all taxes/levies. After this no representation/request regarding payment of such taxes/levies shall be entertained. These taxes/levies will be paid to the Bidder provided the statutory requirements to claim such Taxes/Levies are fulfilled by the Tenderer. Income tax shall be deducted as per rules. If a bidder quotes NIL charges, the bid shall be treated as unresponsive and will not be considered.

**e-Reverse Auction:** The e-Reverse Auction process will be conducted after the financial bid opening (declaration of L-1 landed price/s), provided at least 3 number of valid bidders are there. The procedure for e-reverse auction is as follows:-

Shortlisting of bidders eligible to participate in e-Reverse Auction: The highest bidder(s) in the tabulation of prices in the financial bid will not be disallowed from participating in the Reverse Auction (e-RA). If the highest bidders quote the same rate, the Price Offer received last, as per the time log of the Portal, shall be removed first, on the principle of last in first out by the system.

Section II: Instructions To Bidders Tender Document - Tend No./ xxxx If the number of valid bidders is less than the 03 number of bidders, then Reverse auction will not be conducted, and the financial bids will be evaluated.

In the case of 4 to 6 valid bidders lowest three (3) bidders will be allowed to participate in the reverse auction. In the case of more than 6 valid bidders, only 50% of the bidders (rounded up to next integer) will be allowed to participate.

However, if MSE bidders or Class-I Local suppliers under the Make in India policy do not come under the above criteria, but their prices in financial bids are within the policy's margin of preference, they will be allowed to participate. Such bidders would be over and above the short-list mentioned above.

Reverse Auction Process (RAP) Note: If the Portal RAP process is different from the one described below, the portal provisions will prevail.

Upon opening the financial bids, a reverse auction platform will be created. The reverse auction will be started within two hours of the bid. There are no participation fees for the e-Reverse auction. L-1 landed price in financial bid (as per the calculation schema based on the Tender Document evaluation criteria) will be the start bid price on which the auction shall be initiated. The decrement value will be 0.5% of the start bid price rounded off to the next unit, tens, hundreds, thousands etc., with a minimum of Rs. 1. The reduction will have to be made as per decrement value or in multiple thereof. All times and periods are as per server time-stamp. There will be auto extensions of time by ten minutes in case of any reduction recorded in the last auto-extension period. The Maximum number of auto extensions will be 50. In case of service disruption at the service provider's end during the reverse auction, the reverse auction process shall start all over again, with the last recorded lowest price of prematurely ended RAP as the 'Start bid' price. The prices quoted in the prematurely ended RAP shall be binding on all the bidders for consideration if the restarted process does not trigger within the stipulated time (or by 5.00 pm on the same day, if not stipulated). Disruption and restarting of RAP shall be intimated to all the bidders through system/ SMS/ e-mail through the e-procurement portal. Bidders must submit only the landed price in the reverse auction, and only the item wise L-1 price shall be displayed without disclosing the number of bids and names of the bidders.

The landed price shall not be the same for two bidders, even if any bidder makes such an attempt. On the auction's closing time expiry, the bid history showing all the last valid bids offered along with the name of the bidders shall be published. All bidders will have the facility to see and get a print of the same for their record. All electronic bids submitted during the reverse auction process shall be legally binding on the bidder.

If a bidder does not submit his bid in the Reverse Auction, the price quoted in the financial bid shall be considered the valid price of that bidder. The status of Bidder (L-1, L-2 etc.) shall be evaluated considering either the bid price submitted in Reverse auction or the Price quoted in the financial bid, whichever is lower.

The successful L-1 bidder, after the reverse auction, has to upload within 2 working days, the breakup of Landed Prices in the shortfall documents, at which the contract shall be awarded. While giving the breakup, the Bidder shall include the same taxes and duties as quoted while submitting the financial bid. If the L-1 bidder fails to submit the breakup of landed price within the stipulated period, the Procuring Entity shall place an order based on the breakup of the financial bid submitted by Bidder, and the same shall be binding on the bidder. Purchase Preference Short-listed bidders, eligible for any purchase preference policy as

per the Tender Document, shall get an opportunity to match the L-1 prices concluded after the reverse auction if their final prices in Reverse Auction fall within the permitted percentage.

**15. Payment Terms:**

- a) The contractor has to quote/submit in Indian currency i.e. rupees.
- b) The rates quoted shall be inclusive of supply, Installation, Testing and commissioning of the machine - F.O.R. Chandigarh - IDFC, Plot No 182/40-42, Industrial Area Phase -I Chandigarh.
- c) 75% of the total payment will be made after inspection at supplier's site, submission of certificate supplied by OEM confirming technical specifications and dispatch documents given to CITCO.
- d) Balance 25% payment will be made within 30 days after successful installation/ commissioning of machine/equipment at IDFC and receipt of Warranty Bank Guarantee.
- e) The bidder is required to mention the following GST No while issuing invoice for supply of machine.

<b>Sr. No.</b>	<b>Address of Supplies</b>	<b>GST No.</b>
1	Industrial Development Cum Facility Centre (A Unit of CITCO), Plot No. 182/40-42, Industrial Area, Phase - I, Chandigarh	04AAACC6783HAZF

**16. Performance Security:**

The performance security equivalent to 5% of the total cost of machine including insurance, freight etc. shall be given by the successful Bidder within 21 days from the date of award of contract. Performance Security may be furnished in the form of an Account Payee Demand Draft, Fixed Deposit Receipt from a Commercial bank, online payment or bank guarantee which shall be valid upto 8 months from the date of allotment letter. Further, in case the Bidder fails to submit performance security within 21 days from the date of allotment, then in that case also, EMD will be forfeited and purchase order will be cancelled.

**17. OTHER TERMS & CONDITIONS**

- a) Any corrigendum/amendment in the terms and conditions of the tender document or any other change, if required, will be issued/ published/ uploaded on portal only. It will be the responsibility of the bidder to note amendments and submit in his bid accordingly.

- b) Conditional/telegraphic tender/tender received through fax, tenders without earnest money and submitted not on the prescribed form shall not be entertained.
- c) Tender should only be signed by the authorized signatory along with the seal of the firm. Correction/ overwriting, if any, should be authenticated under the signature of the Tenderer.
- d) In case of allotment, the Bidder shall be duty bound to supply the machine conforming to the technical specification as mentioned in the Annexure ('T/1') and following the other conditions (Annexure 'T/2') such as Documentation, packing, Installation and commissioning, Machine/ Equipment acceptance criteria for the inspection at supplier's site or at the final payment release in Technical Bid to CITCO. After quoting the rates, no request whatsoever may be the reason for increase in the rates will be entertained.
- e) Failure to comply with the contractual/supply obligations by the Tenderer, will lead to blacklisting of the firm for future tendering in the Corporation upto three years and the security deposit shall be forfeited.
- f) The validity of tender/financial bid shall be for 120 days from the date of receipt of tender.
- g) The make mentioned by the Bidder against each item other than prescribed in the Tender document shall be evaluated by a Committee and if found equivalent to the make prescribed then evaluation made will be considered at par and shall be binding and no correspondence in this regard will be entertained.
- h) CITCO reserves the right to withdraw any item mentioned in the Tender Form and no compensation shall be payable for the same.
- i) CITCO shall not be in any manner concerned with the internal affairs of the Bidder i.e. dispute and dissolution, etc. or affairs concerning any other (third) party that the Bidder may be having.
- j) The Managing Director reserves the right to accept or reject any or all the tenders without assigning any reason whatsoever.
- k) The Managing Director may impose additional terms and conditions as may be required in the interest of the Corporation.
- l) The aforementioned terms & conditions shall be binding and operative between the Bidder and CITCO.
- m) Any dispute is subject to the jurisdiction of Chandigarh only. In the event of dispute, the same shall be referred for arbitration to the Managing Director, CITCO, or any person appointed by him/her. The award of the Arbitrator shall be final and binding on both the parties.

Managing Director

**ANNEXURE T -1**  
**FORMING PART OF TECHNICAL BID**

**CEMENT & CONCRETE TESTING LAB. EQUIPMENT**

<b>S.No.</b>	<b>Equipments Name</b>	<b>Qty.</b>
1.	BLAINE AIR PERMEABILITY APPARATUS -	01 Each

**IS 1727, IS 4031, IS 4825**

**Features:**

Time resolution : 0.01 s

Temperature resolution: 0.1 C

Real time displaying of temperature, constant K, passing time and other parameters.

Up to 1000 complete data test can be memorized in a nonvolatile memory.

USB 2.0 communication for memorized data export i.e. to Excel Multilanguage

**Comprises the following elements:**

Blain cell made in stainless steel with plunger and perforated disc

Support made in stainless steel to keep the cell in vertical position and to facilitate the introduction of the cement specimen

Extractor for the permeability cell (to extract the tested cement and the perforated disc)

An U-Tube glass manometer is fit to the steel stand.

Rubber aspirator, Glass Thermometer

50 ml fill oil, 50 ml light grease

Filter papers 12.8 mm Dia,

Temperature Sensor

Brush

Reference calibration sand

<b>S.No.</b>	<b>Equipments Name</b>	<b>Qty.</b>
2.	VICAT NEEDLE APPARATUS	01 Each

**IS 4031, 2645, 2542 (PART-1), 1727, 5513 & 712 BS 12, 146, 915, 1370, 4027, 4246, 4248  
AASHTO T 129, E 131.**

This instrument is used for determining the normal consistency and setting times of cement and 'A' class limes.

## **Specification:**

[1] **A frame** made of cast iron having a movable rod made of brass with a cap made of brass at one end - needle and plunger can be attached at the other end. The needles and plunger shall be capable of being fixed centrally into the movable rod by means of clamping screw

[2] **Needles** The needles for initial and final setting time shall be of hardened and tempered steel. Their end fitting shall be of brass. There shall be about 6 mm clearance between the bottom end of the needle, when it is raised, and the top edge of the ring mould, to enable the mould to be located in position without damage to the needle.

[3] **Plunger** Plunger shall be of polished brass  $10 \pm 0.05$  mm in dia. with a projection of the fitting end for insertion into the movable rod. The lower end shall be flat. Its length shall be  $50 \pm 1$  mm.

[4] **Movable Rod:** Movable rod shall carry an indicator which moves over a graduated scale attached to the frame. A clearance of 0.25 mm around the movable rod is kept to facilitate free movement. A suitable arrangement shall be provided to secure the movable rod in rest position when the apparatus is not in use.

[5] **Graduated Scale: Graduated** scale shall be of 40mm in length and the smallest division of the scale shall be 1mm.

[6] **Vicat Mould :**The Vicat Mould shall be in the form of frustum of a cone with an internal dia of 70 ( $\pm 0,5$ mm)at the top, 80 (+/- 0,5mm)at the bottom and height of 40 ( $\pm 0,5$ mm) The mould shall have minimum wall thickness of 4mm. A non porous base plate of glass or metal of 3mm thickness shall also be provided.

Split type mould with clamping shall also be supplied along with the main unit.

<b>S.No.</b>	<b>Equipments Name</b>	<b>Qty.</b>
3.	FLOW TABLE (electrically operated)	01 Each

### **IS 1727, IS 2645, IS 4031, ID 6932 (Part 8)**

The apparatus is used for measuring the consistency of pozzolana, cement mortar and hydrated lime.

### **Specification:**

It shall consist of a machined brass table top  $250 \pm 2.5$ mm dia. Mounted on a rigid stand. The table top is reinforced with equally disposed ribs and allowed to conical brass mould 100mm i.d. top dia. and 50mm high. Electrically operated to raise and drop the table top, approx. 15 times in 15 seconds. Fitted with a motor, connected to the cam shaft through a reduction gear to give approximately 100 R.P.M. Suitable for operation in Single Phase 230 V A.C. 50 Cycles, Supply.

### **Accessories**

Mild steel plate 25mm thick and 25cm square for fixing to the underside of the base.



S.No.	Equipments Name	Qty.
4.	LE CHATELIER MOULD Test Set	5 box (100pcs)

**IS 269, 712, 5514, 1727, 2645, 6932 (PART IX) BS 6463**

The apparatus is used for the determination of soundness by expansion method of ordinary and rapid hardening Portland cement, low heat Portland cement and class 'A' Limes.

**Specification:**

It shall consist of a small split cylinder forming a mould. On either side of the split cylinder, there shall be two parallel indicating arms with pointed ends are attached. Two glass plates and a lead weight shall also be supplied along with it.

- 30 mm in diameter, with 30 mm height and 150 mm in length from a special alloy material is produced by combining the two branches.
- Le Chatelier moulds 3 pcs.
- 50x50 mm glass plates 6 pcs.
- 300 gr Weights 1 pcs.
- 100 gr Weight, 3 pcs.
- Tamping Rod 17 mm dia. X 70 gr
- Steel Ruler
- Carrying Case

S.No.	Equipments Name	Qty.
5.	HEAT OF HYDRATION APPARATUS WITH DIGITAL	01 Each

**IS 11262-1985, ASTM C 186 IS4031: PART 9**

This equipment is required to determine the heat of hydration of cement as expressed in calories per gram.

**Specification:**

The equipment shall comprise of the following:-

1. The entire assembly of Heat of Hydration apparatus consists of a Digital Beckman Thermometer with 0.001 °C resolutions, a open mouthed thermos flask, insulating material, container (WOODEN HOUSING), hinge, stirring motor, Glass stirring rod (Propeller), Cork stopper and Glass funnel.
2. A wide mounted double walled vacuum flask with a stop cock 38 mm & a insulating container for the flask
3. A Beckman thermometer shall be held tightly by the cock stopper in such a way as to avoid accidental contact with the stirrer blade & the reading lens. The cock stopper shall be in two halves to facilitate the easy removal.
4. A constant speed stirrer (double bladed propeller type) extended to within 38 mm from the bottom of the flask.
5. A funnel (Gooch type) with a stem of 6 mm inner dia & a body approx 25 mm long and 25 mm dia is fitted to the cock stopper for introducing the sample.
6. Dewar flask (Open mouthed flask) is contained in an insulated material and housed in a wooden box, which is hinged, so that the flask can be easily removed or replaced.
7. Constant speed stirrer maintains uniform temperature throughout the stirring liquid and supplied sufficient agitation to keep solid reactant suspended in the acid mixture.
8. Temperature range : -40 to 300 °C
9. Temperature accuracy : 0.01 °C

S.No.	Equipments Name	Qty.
6.	MICROPROCESSOR BASED FLAME PHOTOMETER	01 Each

**BS 4550, ASTM C 114-17**

It is an ideal instrument for the determination of Sodium, Potassium, Calcium and Lithium.

**Specification:**

Range	General	Serum	Urine
	Na: 0-100 ppm Upto 250 meq/l, 1: 100 dil K: 0-100 ppm Upto 250 meq/l, 1: 100 dil Ca: 0-100 ppm Upto 250 meq/l, 1: 100 dil Li: 0-100 ppm Upto 250 meq/l, 1: 100 dil	Na:- 0-200 1:100 dil  K: 0-10 1: 100 dil  ----- ---.  Li: 0-2 1: 5 dil	Na: 0-250 1: 100 dil  K: 0-100 1: 100 dil  Ca: 0-10 1:2 dil  ----- -----
Sensitivity	Na: 0.5 ppm, K: 0.5 ppm, Ca: 15 ppm (Optional), Li: 50 ppm (Optional)		
Resolution	0.1 ppm/meq		
Accuracy	< 2 % Error when 3 ppm Na/K and 5 ppm Li are set as maximum standards		
DisplayUKT	Graphical LCD With Backlit		
Calibration	Up to- 5 Point Calibration		
Gas Control	Adjustable With Knobs		
Atomizer	Axial Flow Type		
Ignition System	Auto Ignition System		
Repeatability	+/- 2 Counts		
Detector	Silicon Photodiode		
Filters	Narrow Band Interference Glass Filters		
Flame System	LPG and Dry Oil Free Air		
PC Interface	USB Port		
Power Supply	230V, +/-10 % AC, 50 Hz		

S.No.	Equipments Name	Qty.
7.	MORTOR MIXER 5 LTR.	01 Each

**IS : 4031,1727**

It is used for mixing cement pastes, mortars and pozzolanas.

**Specification:**

Capacity            5 LTR  
Automation        Grade Semi-Automatic  
Material            MS  
Frequency          50Hz

The apparatus shall consist of an epicyclic type stainless steel paddle imparting both planetary and revolving motion, by means of gears. It shall have two speeds of 140 + 5 r.p.m. and 285 + 10 r.p.m. with planetary motions of approximately 62 r.p.m. + 5 r.p.m. and 125 r.p.m.+/-10 r.p.m. respectively. The stand of the mixer shall have arrangement to raise or lower the bowl. Complete with stainless steel bowl of about six litres capacity. Suitable for operation on 230 volts, 50 cycles, single phase, A.C. supply.

S.No.	Equipments Name	Qty.
8.	DIGITAL VIBRATING MACHINE	01 Each

**Quality Standard: As Per IS 4031, IS 10080**

Vibrating Machine is used for vibrating the mix in moulds

**Specification:**

- Vibration Machine with built-in Digital Timer with NABL Calibrated certificate.
- A Vibration Machine is to be used for vibrating the mix in moulds at a frequency of 12,000±400, cycles per minute,
- The table is of low carbon mild steel (Carbon-16%-17%), Hardness of material: 45 RHC,
- Paint quality: Powder coating 70-80 Micron thick
- The centre of gravity of the vibrator including the cube and mold is either at the centre of the eccentric shaft of within 25mm below it. Each machine is to be supplied with one cube mould with ISI Certification Mark as per IS: 10080 and a poking rod.
- The electric motor will be of reputed make such as GODREJ/CROMPTON MOTOR
- Instrument is also fitted with digital timer for ease of operation task.
- Fitted With time switch.
- With side supporting springs (Set of four), Springs for Fitting Mould (Set of two), Endless belt with belt guard and eccentric shafts with bearing.
- Poking Rod-Rubber, Gauging trowel- 8 inches
- Supplied complete with one cube mould of 7.06 cms with base plate.
- Suitable for operation on 230 Volt, 50 Hz, single phase, AC supply.

	<b>Equipments Name</b>	<b>Qty.</b>
9.	SLUMP TEST APPARATUS	01 Each

**As Per IS 1199, IS 7320**

**Specification:**

The Slump Cone apparatus for conducting the slump test shall consist of metallic mould in the form of a frustum of a cone having the internal dimensions as: Bottom diameter: 200 mm, Top diameter : 100 mm, Height : 300 mm and the thickness of the metallic sheet for the mould should not be thinner than 1.6 mm.

<b>S.No.</b>	<b>Equipments Name</b>	<b>Qty.</b>
10.	COMPACTION FACTOR APPARATUS	01 Each

**IS 1199, 5515. & BS 1881-103**

The apparatus is used for determining the work ability of fresh concrete, provided the maximum size of the aggregate does not exceed 38mm. The test is particularly useful for concrete mixes of very low work ability where true slump values are not reliable.

**Specifications:**

It shall consist of two rigid conical hoppers and a cylinder mounted on a rigid metal frame. The lower openings of the hoppers shall be fitted with hinged trapdoors having quick release catches. A circular metal plate shall be provided to cover the top of the cylinder. The supply shall be complete with one plasterer's trowel and one tamping rod, 16mm dia x 600 mm long, one end rounded.

<b>S.No.</b>	<b>Equipments Name</b>	<b>Qty.</b>
11.	LABORATORY CONCRETE MIXER (MOTORISED)	01 Each

**Specification:**

The Laboratory Concrete Mixer is used for preparing Mix Design of Concrete. It consists of a steel vessel of 110 Litres capacity, mounted on a frame. The vessel is rotated at 20-22 RPM with the help of a motor and a pulley arrangement. The vessel of laboratory concrete mixer can be tilted to any angle by a hand wheel and counter weight. Blades shall be inside the vessel to mix the material thoroughly. The large pulley wheel facilitates manual rotation of the drum during power failure. The drum, pulley wheel, and motor, etc, are mounted on a steel frame. The concrete mixer is fitted with ½ HP motor.

<b>S.No.</b>	<b>Equipments Name</b>	<b>Qty.</b>
12.	<b>Digital Computerize Servo COMPRESSION TESTING MACHINE 3000KN</b>	01 Each

along with 200KN flexural test attachment

Standards: IS 516, EN14651, 14488-3, ASTM-078

## DESCRIPTION:

This machine consists of loading unit and pumping unit.

Loading Unit: Loading unit shall have high stiffness welded frame for high stability. Heavy duty spherical seat in lubricating oil bath, allowing initial free alignment at the initial contact with the specimen and automatic jamming up to the end of test. The hydraulic jack is fixed to the base, the upper plate have aligning action & shaft attached which passes to the cross head and can be raised and lowered for initial clearance for adjustment the lower plate rests on the jack ram and is positioned with the help of centering pin. The lower and upper plates of the machine are hardened, ground and polished.

Rockwell hardness 53-60 HRC and frame stiffness 4MN/mm or better stiffness certificate to be submitted

Pumping Unit: The double stage hydraulic pump has motorized unit connected to a jack by means of a steel connecting tube. This consists of Dual stage pump, centrifugal for fast approach and multi-piston for loading, AC motor.

Automation and Computerization: This whole system shall fulfill following features.

- Automatic performance of the complete test cycle with closed lube digital feedback.
- Full computerized system with dual user interface display and PC. Compatible with new intuitive easy to use data manager software.
- Reduced power consumption and silent operation by Energy Saving Technologies.
- Internal graphic printer including load time plot.
- Simultaneous display of load-specific load, actual load rate and load / time graph;
- LAN connection to PC; advanced memory management;
- multi coefficient calibration.
- Recording facility of up to 10 test profiles for each channel including type of test (e.g. compression, flexural, indirect tensile), specimen size and shape, load rate, standard in use and other general information.
- Each one of the recorded test profile should be recalled automatically to save time.
- **NABL calibration.**

Hardware: Touch screen colour graphic display, sampling rate 1Hz or faster, large storing capacity on PC, internet port. Safety features: Includes Max. Pressure valve to avoid machine overloading; piston travel limit switch; emergency stop button; front door and rear transparent fragment guard.

## TECHNICAL SPECIFICATION

Specification	3000 KN
Max vertical daylight, mm	350 to 400
Horizontal daylight, mm	330 to 400
Max piston stroke, mm	50
Platen dimensions	320 to 320mm dia.
Platen surface hardness	53-60 HRC
Platen flatness tolerance	0.03 mm
Weight Approx. (Kg)	1100 to 1200
Pace Rate Control	Automatic Pace Rate control.
Display	Colour Touch Screen
Pump	Servo Pump
laptop, i7, SSD, 16GB Ram and printer laser jet	

S.No.	Equipments Name (Accuracy Equivalent to ISI Marked )	Qty.
13.		
	Cube Mould Mortar Cube Mould 70.6 x 70.6 x 70.6mm with base plate. Made of Cast Iron	2 set (18 nos,)
	Cube Mould Concrete Cube Mould 100 x 100mm with base plate. Made of Cast Iron	2 set (18 nos,)
	Cube Mould Concrete Cube Mould 150 x 150 x 150mm with base plate. Made of Cast Iron	12 set (36 nos,)
	Cube Mould Concrete Cube Mould 150 x 150 x 150mm with base plate. Made of Cast Iron	12 set (36 nos,)

S.No.	Equipments Name	Qty.
14.	CYLINDRICAL MOULD 15 X 30 cm with base and top plate. Made of Cast Iron	1 set (3 nos)
	CYLINDRICAL MOULD 15 x 16 cm with base and top plate. Made of Cast Iron	1 set (3 nos)
	CYLINDRICAL MOULD 10 x 20 cm with base and top plate. Made of Cast Iron	1 set (3 nos)

S.No.	Equipments Name	Qty.
15.	BEAM MOULD 15 X 15 X 70CM with base and top plate. Made of Cast Iron	1 set (3 nos)
	BEAM MOULD 10 X 10 X 50CM with base and top plate. Made of Cast Iron	1 set (3 nos)

S.No.	Equipments Name	Qty.
16.	ACCLERATEDCURING TANK 12 MOULD	01 Each

S.No.	Equipments Name	Qty.
17.	VIBRATING TABLE 1MTR X 1MTR.	01 Each

**SPECIFICATION:-**

- The vibro motor and AC drive arrangement permits the frequency to be varied step between 60 Cycles / second 43 cycles / sec. Suitable for operation on 220V, 50Hz, Single Phase, Ac supply.
- Size:- 1mtr x 1mtr

S.No.	Equipments Name	Qty.
18.	AIR ENTRAINMENT METER	01 Each

**IS 1199 1959 & BS 1881-106**

**Specification:**

- I. Capacity 5 litres
- II. Graduations 0.1% up to 6;  
0.2% from 6 to 8;  
0.5% from 8 to 15%
- III. Tamping Rod, Ø16×600 mm
- IV. Straight Edge
- V. An inner and an outer (J-Type ) calibration pipes
- VI. Air Entrainment Meters are used for determining the air content of fresh concrete.
- VII. a flanged 8 liter capacity cylindrical vessel and cover assembly incorporating a pressure gauge, air pump and valves.
- VIII. Calibration vessels and compacting bar with square section should also be sup

S.No.	Equipments Name	Qty.
19.	PYCNOMETERS	3 nos

**As Per IS 2386 (P-III)**

**Specification :**

The Pycnometer Bottle shall be used to test a wide range of materials from clay to sand and gravel smaller than 10mm. It consists of 1kg Glass Jar with Brass Cone, Locking Ring and Rubber Seal.

S.No.	Equipments Name	Qty.
20.	Brass Sieve 20 cm Dia. (7 Pcs Set) 1.18mm, 2.36mm, 4.75mm, 150mic., 300mic., 600mic. with Lid and Pan	1 set each
	GI Sieve 30 cm Dia. (7 Pec Set) 1.18mm, 2.36mm, 4.75mm, 10mm, 20mm, 40mm with Lid and Pan	
	GI Sieve 45 cm Dia. (7 Pec Set) 1.18mm, 2.36mm, 4.75mm, 10mm, 20mm, 40mm with Lid and Pan	

S.No.	Equipments Name	Qty.
21.	CORE DRILLING MACHINE 65-150MM ENGINE TYPE	01 Each

Suitable to cut/drill cores of concrete, rocks, stones, tiles or the similar materials. The machine is suitable for core samples of size upto 150 mm diameter with the help of thin walled diamond bits which are at extra cost. The machine has sturdy base with pillar support in which rack and pinion is provided for adjustment in height and penetration assembly. The leveling screws are provided at the base. For gripping the sample in position suitable grips are provided. A suitable petrol engine is fitted in the machine with cooling arrangement with water. The base frame is also fitted with wheels for ease of transportation.

**Dimension approx, are as under:**

**Height:** 1300 mm

**Base:** 600 x 1200 mm,

**Head travel on rack:** 350mm,

**Drill speeds:** 1100 R.P.M

**Drive:** 6HP petrol engine

**Water swivel:** Built in the machines

**Accessories:**

(1) Thin wall diamond bits. 65 to 150 all 2nos

(2) Core barrel.

S.No.	Equipment's Name	Qty.
22.	Ultrasonic Pulse Velocity Tester	01 Each

Ultrasonic Pulse Velocity Tester is used to measure the velocity of propagation of ultrasonic pulses through concrete. A pulse of longitudinal vibrations is produced by an electro-acoustical transducer held in contact with one surface of the concrete under test. After traversing a known path length in the concrete, the pulse of vibrations is converted into an electrical signal by a second transducer and electronic timing circuits enable the transit time of the pulse to be measured.

BS EN 12504-4:2004 gives guidance on testing fresh concrete, hardened concrete and concrete in structures. It specifies a method for the determination of the velocity of propagation of pulses of ultrasonic longitudinal waves in concrete.

It shall comply with the specifications as per latest IS code standards Conforming to IS 13311 – 1992(Part 1), EN 12504.

- The Display should have 4digit seven segment with LED over range indication
- Time measurement 0.1to 9999.9microseconds in single range and Least Count 0.1microsecond
- Accuracy should be +/- 0.1microseconds for entire range and measuring range approximately 5meter
- Pulse Repetition rate Nominal should be between 3 & 30
- It should have Power supply of Mains 230 V +/-155, 50-60 hertz .In addition, 12VBattery, 7 Amp, more than 6 hour capacity.

Measuring range: 0.1-9999 microsecond, accuracy 0.1 microsecond.

S.No.	Equipments Name	Qty.
23.	Digital Rebound hammer for concrete	01 Each

Standard: IS 13311-1992(Part 2) and ASTM C805, D5873

- The Instrument is used for the non-destructive testing of concrete.
- It should have measuring range of 10 to 70 N/mm<sup>2</sup>.
- It should have the tilt function of +/- 15 degree.
- The Impact energy for the instrument should be of 2.250 Nm
- The instrument to be provided with valid NCCBM calibration.



## GEOTECH. LABORATORY

S.No.	Equipments Name	Qty.
24.	Laboratory Electric Oven	01 Each

Laboratory Electric Oven, Thermostatically Controlled, range 50° to 250°C +/- 3°C with Air Circulating Fan, S.S. Inside Size 450 x 450 x 450mm.

S.No.	Equipments Name	Qty.
24.	PLASTIC LIMIT SET	01 Each

**Standards:** IS 2720 (PART-VII) ASTM D-42, BS 1377 AASHTO T 90

**Specification:** The complete set shall consist of one each :

- Glass plate 20cm x 15cm having round ends Brass or stainless
- steel rod 3mm dia x 150mm long
- Flexible spatula 15 cm Set of 6 moisture containers
- Porcelain basin 150mm dia
- Plastic wash bottle 500ml.
- Carrying Case

S.No.	Equipments Name	Qty.
25.	SHRINKAGE LIMIT SET	01 Each

**IS 2720 (PART-VII) ASTM D 427, BS 1377, AASHTO T 92.**

**Complete set consists of one each following parts and accessories.:**

- Porcelain evaporating Dish.
- Brass shrinkage dish.
- Glass cup.
- Perspex plate with three metal pronge.
- Flexible spatula.
- Glass measuring cylinder 25ml.
- Steel straight edge.
- with 750 gm mercury.
- Packed in nicely wooden box.

S.No.	Equipments Name	Qty.
26.	Digital Soil Cone Penetrometer	01 Each

**IS 2720 (PART IV)**

The unit is to be supplied complete with a stainless steel penetration test cone 35 mm long with smooth polished surface with an angle of 30°, total weight of cone & plunger is 80 gm.

- Facility exists for adjusting cone height in relation to the specimen.
- Provision of Recording & Displaying Temperature & Humidity.
- System having analog 16-bit resolution and inbuilt LCD display
- Automatic Tare of Initial Penetration Reading
- Sample detection with Penetration Cone
- Inbuilt Real Time Clock for real time operation & display in stand - alone mode

- Automatic data storing for every test
- Provision for data storing up to 4000 readings
- Data stored with test number, date, time, temperature, humidity, mode, test time & penetration value
- Windows Based Software for unloading data
- Data download through RS232 in text, excel & csv format.
- Date and time setting facility
- Dual mode operation: Automatic & Manual
- Clear memory facility
- Displacement range 0 to 40 mm
- Variable test time between 0 to 99 Sec
- Least count of Penetration measurement 0.01mm

The equipment shall consist of the following replaceable parts:

- Soil Penetration Test Cone with adjustable weight
- Soil Penetration Test Cup 50 mm diameter x 50 mm deep

S.No.	Equipments Name	Qty.
27.	Liquid Limit device Motorized	01 Each

#### **IS 2720 (PART V), BS 1377-2 , ASTM D 4318**

Specifications

Counter Mechanical records number of cup drops.

Cup Spun brass pin and slot mounting.

Base Molded hard rubber.

Cam Molded self-lubricating plastic.

fitted with a motor geared down to give approximately 120 rpm.

#### **Accessories**

Casagrande Grooving Tool Aashto

ASTM Plastic Grooving Tools

ASTM Slider and Pin Cup Holder Assembly

Brass Cup

S.No.	Equipments Name	Qty.
28.	Hydrometer	01 Each

#### **ASTM D 422 AASHTO T 88, BS 1377-2.**

Used for grain size analysis of soils where more than 10% of the material will pass through 75 microns B.S. sieve. Manufactured from clear transparent glass having uniform clarity throughout the upper end on which density scale is engraved. The scale range is 0.995 to 1.030 0 density (gms./cc) at 27oC smallest division on the scale is 0.0005.

S.No.	Equipments Name	Qty.
29.	PLUMMET BALANCE	01 Each

#### **ASTM D 2419, AASHTO T 176**

- Specific Size (Pipette method), max 0.02 millimeter
- Supplied with Perspex plummet, Measuring jar, rider weight

- Automation Grade Manual
- Material Plastic
- Scale 0-100% x 2%
- Hydrometer Method Particle Size , micron 75
- Finishing Polished
- A vertical rod mounted on a sturdy base having leveling screws.
- A pointer with steel pivots turns on jewel bearing moves over a graduated scale.
- Rack and pinion arrangement is to be provided on the vertical rod for adjusting the height.
- Supplied with a chart showing relationship between "K" and temperature of suspension of soils of varying specific gravity from 2.4 to 2.8 to help in solving stroke's equation.
- Supplied complete with one Perspex plummet one measuring jar and one rider weight for zero adjustment and rider weight for adjusting the pointer to 100%.

S.No.	Equipments Name	Qty.
30.	MARSH CONE	01 Each

#### ASTM D 2419, AASHTO T 176

This cone is used to find out viscosity of bentonite slurry and similar material. The marsh cone is 6 inch in diameter at the top and 12 inch long, and tapers to join a tube 2 inch long and 3/16 inch inside dia. The capacity of the funnel is 1500cc. Time in seconds required to flow out 1000cc of slurry from cone is measured as funnel viscosity of the material.

S.No.	Equipments Name	Qty.
31.	MDD Set mold & hammer 6inch x 12 inch	6 nos. mold & 1 hammer

Moulds and rammers are used for determining the relationship between the moisture content and density of compacted soil. Made of plated steel, includes collar, mould body and base plate. Rammers are used to compact the soil sample in the Proctor Moulds and made of plated steel. Different models are available conforming to the relevant standards.

S.No.	Equipments Name	Qty.
32.	MUD BALANCE	01 Each

#### ASTM D 2419, AASHTO T 176

These **Mud Balances** shall be designed to find out specific gravities of semi liquids like mud and other liquids having densities in the range 0.8 to 2.7. It has a stainless steel beam calibrated specific gravities from 0.8 to 2.7. A stainless steel cup with lid and overflow vent is fitted on one side of the beam. A counter weights with cursor slides over the graduated scale. The beam has a knife-edge at centre which rests in a fulcrum fitted in the stand. Leveling screws and spirit level are fitted to the stand. Supplied complete with wooden box.

S.No.	Equipments Name	Qty.
33.	UNIVERSAL AUTOMATIC COMPACTOR	01 Each

#### ASTM D698, ASTM D1557, IS 2720 (PART VII and VIII)

**Specification:**

It is a motor driven mechanical compactor useful for soil compaction into 100mm or 150mm diameter moulds.

Two sets of Rammers:

one of 2.6 kg and arranged for 310mm drop

other 4.89kg and arranged for 450mm drop.

The rammer assembly is provided with a ratchet and pawl arrangement to lift it from the top of the soil layer. When the rammer ratchet and pawl arrangement to lift it from the top of the soil layer. When the rammer reaches the required height the pawl release the rammer which falls freely on soil surface. The release mechanism shall have provision by an arm moving up and down which is connected to a reduction gear coupled to the motor through another arm.

An automatic blow counter fitted to the compactor is used to set the number of blows. The base plate of the specimen mould is to be fitted to the rotating base plate of the instrument which marks 1/5" revolution per stroke.

S.No.	Equipments Name	Qty.
34.	PROCTOR NEEDLES (SPRING TYPE)	01 Each

**ASTM D 1558**

The instrument consists of a needle attached to a spring loaded plunger, the stem of which is calibrated to read 0 to 40 kg division. Long stem is graduated at every 12.5mm to read depth of penetration and for use with needles of larger areas. The small penetration stem is also graduation in 12.5mm division and is used with needles of smaller areas. Needle points one each of 0.25, 0.5, 1.0, 1.5, 2.0, 3.5 and 6.0 sq Cm. And one tommy pin is to be supplied. Complete as above in a wooden carrying case.

S.No.	Equipments Name	Qty.
35.	SOIL PERMEABILITY TEST APPARATUS	01 Each

**As Per IS 2720 (Part XBII)- 1966 BS 1377; ASTM D2434;**

**AASHTO T215**

**Set up consists of following parts and accessories:**

1. Gunmetal mould 100mm dia x 127.3mm height x 1000ml volume, with collar of 100mm dia X 60mm high (as per IS:11209 1985)
2. Drainage base plate
3. Drainage cap
4. Metallic clamping ring
5. Two porous stone for base and cap
6. Dummy plate
7. Air release valve
8. Rubber tube of 3 meter length
9. Pinch cock for rubber tube
10. Over head tank made of G.I. sheet with six outlet at bottom and inlet port on top (For constant head test)
11. With a set of three glass stand pipes approximately 6mm, 10mm and 20mm diameter x 1 meter length mounted on a wooden board
12. The end of the glass tube is serrated to connect rubber tube of 3 meter length with pinch cock.

13. Compaction device.

S.No.	Equipments Name	Qty.
36.	Sand Pouring Cylinder 100 mm Dia.	01 Each
	Sand Pouring Cylinder 150 mm Dia.	
	Sand Pouring Cylinder 200 mm Dia.	

**As Per IS 2720 (P-XXVIII) BS 1377-9**

**Specification:** The complete apparatus consists of a Sand Pouring Cylinder fitted with Conical funnel and Shutter, Cylindrical Calibration Container, and a Metal tray with a central hole.

	Diameter of cylinder	Height of Cylinder	Capacity of Cylinder	Diameter of Container	Height of Container	Size of Tray
Small	115	380m m	3 Liters	100mm	150mm	300x300x 40mm
Medium	165	510m m	9 Liters	150mm	200mm	380x380x 45mm
Large	215	610m m	16.5 Liters	200mm	250mm	450x450x 50mm

S.No.	Equipments Name	Qty.
37.	CORE CUTTER WITH HAMMER	Core cutter 6nos , 1 hammer

**IS 2720 (PART XXIX) 1966 & BS 1377-9**

**Core Cutter Specifications:**

- Core cutter is shall be made out of stainless steel
- The standing rod is 127.3 mm long with an internal diameter of 100 mm.
- The dolly has a lip which helps in placing it over the core cutter.
- Rammer comes with a detachable steel rod.

**SPARE, OPTIONAL EXTRA AND ACCESSORIES: -**

1. Cylindrical core cutter 100mm i.e. x 175mm long
2. Dolly
3. Test form pad of 50.

S.No.	Equipments Name	Qty.
38.	Water Test Kit lab Grade	01

Water chemical test kit that measures six parameters common in water quality testing: alkalinity, chloride, hardness, iron, pH, and sulfite. This kit should equipped with all the necessary reagents and equipment to perform over 100 tests for each parameter, with the exception of iron, which includes reagents for 50 tests. pH is obtained with Hanna's pHep®, pH electronic tester and longer life than traditional litmus paper.

- Pre-made reagents for ease of use
- All reagents marked with expiration date and lot number for traceability
- Portable carrying case for easy transport

S.No.	Equipments Name	Qty.
39.	TDS meter lab Grade	01

S.No.	Equipments Name	Qty.
40.	RELATIVE DENSITY TEST APPARATUS WITH ALL ACCESSORIES	01 Each

**IS 2720 (PART XIV), ASTM D 4253 & ASTM D 4254**

The equipment is used for the determination of the relative density of cohesion less free draining soils and meets the essential requirements.

**Specification:**

The equipment consists one each of:

- Vibratory table, with a cushioned steel vibrating decks about 75cm x 75cm.
- frequency of approximately 3600 vibratory table, minute under a 11.5kg load.
- Variable Amplitude in between 0.65mm in step of 0.05 to 0.25mm, 0.25 to 0.45 mm and 0.45 to 0.65mm.
- Suitable for operations on 415V, Three Phase supply.
- Cylindrical metal unit weight mould, 3000ml. Capacity. Guide sleeve with clamp assembly.
- Surcharges base plate for mould. Handle for surcharge base plate. Surcharge weight. The total weight together with surcharge base plate and handle is equipment to 140 kg. /sq. cm.
- For mould. Cylindrical metal unit weight moulds 15000 ml. capacity. (Total weight together with the above mould& surcharge weight is equivalent to 140 kg./sq. cm) dial gauge 0.01mm x 50mm travel. Extension piece 25mm for dial gauge.

S.No.	Equipments Name	Qty.
41	DIRECT SHEAR TEST APPARATUS Motorized (Twelve SPEED) WITH ALL ACCESSORIES	01 Each

The apparatus comprises of the following.

Unit is to be electrically operated to give the following 12 rates or strains. 1.25, 0.625, 0.25, 0.125, 0.05, 0.025, 0.01, 0.005, 0.002, 0.001, 0.004 and 0.0002 mm/min.

**Loading Unit:**

Supplied with load yoke with direct and lever system for applying load. Normal stress capacity 8 kg/sq. cm. Provision of providing the applied Load either directly or through a counter balanced detachable lever. Provision shall be made for the load to be applied either through a steel ball recessed in the loading pad or direct through a boss on the pre calibrated loading yoke. The loading unit is to be provided with V strips and roller strips for frictionless movement of shear box housing.

**Shear Box Assembly:**

Comprising direct shear box in two halves for a square specimen size 60 x 60 x 25mm one pair of plain gripper plates, One pair of perforated gripper plates, one pair of porous stones, one top of loading pad.

**Shear Box Housing:**

Accommodates the direct shear box assembly.

Complete with two ball roller strips.

Specimen cutter: for cutting 60 x 60 x 25 mm.

Specimen form larger samples. Set of weights to give a normal stress of 3kg/sq.cm. Through larger as following :

To give kg/cm. sq.	Qty.
0.05	4 nos.
0.1	1 no.
0.2	1 no.
0.5	3 nos.
1.0	1 no.

**Essential Accessories:**

- High sensitivity compression proving ring. Cap 200kg.
- One consolidation dial gauge 0.01mm x 25mm and one strain dial gauge 0.01mm x 25mm
- Additional set of weights to give a normal stress of 5 kg/cm<sup>2</sup>.
- Soil sampler for 60mm x 60mm specimen and test forms pad of 50.

**Spares:**

Porous stone for 60mm x 60mm size sample available in pairs.

S.No.	Equipments Name	Qty.
42.	UNCONFINED COMPRESSION TEST with all accessories	01 Each

**IS 2720 (PART X) ASTM T 208**

**Specification:**

Comprises a screw operated load frame, cap.5000kg with a gear box and motor drive giving 1.25 mm/min. Rates of strain, a pair of cone seating, adaptor for proving ring, and stain dial gauge bracket. Supplied with one pair of male/female coning tools for 38mm dia samples with ring and dial gauge. Suitable for operation on 230 V, Single Phase A.C. Supply.

**Accessories:**

Coning tools in pairs (Male & Female) for samples having diameter 38mm, 50mm, 75mm & 100mm.

S.No.	Equipments Name	Qty.
43.	Digital CBR TESTING MACHINE with accessories	01 Each

**IS : 9669, IS : 2720 (Part XVI)**

The machine is designed to be mounted on a suitable bench and comprises of a robust and compact two column frame with adjustable upper cross beam. The frame is 50 kN capacity. Three test speeds are provided 1.25 mm/min, 1.50 mm/min & 2.5 mm/min tests. This main feature allows the user to perform tests. Laboratory California Bearing Ratio Apparatus with software & PC interface.

**Apparatus shall have:**

- No need of separate observation on dial gauge and proving ring.
- Facility to readout rate of loading in mm/minute.
- Tare system to nullify initial load
- The digital lcd display will retain the peak value until it is cleared.
- Flow value and load on a single screen.
- Flow value with a least count of 0.01 mm with accuracy of 1%.
- Load value with a least count of 0.1 kg / 0.001 kn with accuracy of 1%.
- Back light facility to observe the readings even in the dark.
- Two line readout showing load, flow, and speed.
- Software interface to PC and plot live graph.

**Technical Specifications:**

- Three Speed Load Frame, 50kn ( 5000 Kgf) Capacity
- Mould 150mm Id X 175mm High
- Perforated Base Plate for 2 Mould
- Extension Collar, 150mm Id X 50mm High
- Penetration Piston, 50mm Face Dia.
- Adjustable Bracket, for Penetration Dial Gauge
- Circular Metal Spacer Disc. with Detachable Handle 148mm Dia X 47.7mm Hight
- Annular Metal Weight, 2.5Kg, 147mm Dia with 53 mm Dia Central Hole
- Perforated Metal Weight 2.5 Kg. 147mm Dia, with 53mm Dia Soft
- Perforated Plate, 148mm Dia, with Adjustable Stem and Lock Nut
- Metal Tripod for Dial Gauge
- Cutting Collar
- Rammer 2.6Kg, 310mm Controlled Drop
- Rammer 4.9Kg, 450mm Controlled Drop
- S Type Load Cell Capacity 50 kN
- LVDT, 25 mm Travel, 0.01mm Least Count

S.No.	Equipments Name	Qty.
44.	VANE SHEAR TEST APPARATUS motorized	01 Each

**IS 2720 (XXX)-1968 BS 1377.**

Specifications: Consists of a torque head adjustable in height by means of a lead screw rotated by a drive wheel to enable the vane to be lowered into the specimen. Rotation of the vane is by means of an electrically which operates a worm gear arrangement during the upper end of a calibrated torsion spring. Vane dia., rod dia., vane size & vane height as per IS specifications. The Vane Shaft is attached through the hollow upper shaft to a resettable pointer, which indicates the angle of torque on a dial graduated in degrees. The dial reading multiplied by spring factor gives the torque. A container for soil sample is also to be supplied, and a sampling tube of 38 mm I.D. & 150 mm long as container. Supplied with set of four springs, one each of approx. 2 kg.cm., 4 kg.cm., 6 kg.cm., and 8 kg.cm. Complete as above in a wooden carrying case. Rate of rotation is 1/60 r.p.m. Suitable for operation on 230 volts, single phase, 50 cycles, A.C.supply.



S.No.	Equipments Name	Qty.
45.	SIEVE SHAKER- FOR 20 CM DIA SIEVES WITH DIGITAL TIMER-	01 Each
	GSA Sieves	ISO (1 Set) ASTM (1Set) Wet-Wash Sieves (1Set) 3” Acrylic Frame Test Sieves(1Set) 3” Non-Metallic Sieves (1Set)

Structure of the Machine	Fully made of Cast Iron
Sieving action	Right to left and left to right shaking with tapping from top
Shaking per Minute	140160
Tapping per Minute	280300
Timer display	Digital Presettable
Time Range	099 Minutes
Power Supply	230 V, 50 Hz, Single Phase, AC

Produces Circular (280300 RPM approx) and tapping (140160 RPM approx) motion with a uniform mechanical action which ensures accurate and dependable test results.

#### Construction details:

1. Robust & Heavy design
2. Doesn't require special foundation
3. Shaking in both the direction
4. Tapping action from the top
5. The mechanism for imparting circular action and tapping is permanently lubricated in a tank and is motorized.
6. The shaker can accommodate up to 7 Nos Sieves of diameter 200mm (7 nos sieves + 1 set of LidPan).
7. Fitted with Digital time switch adjustable from 199 minutes.

### AGGREGATE TESTING EQUIPMENTS

S.No.	Equipments Name	Qty.
46.	THICKNESS GAUGE	01 Each

#### As Per IS 2386 (P-I)

**Specification:** Used for Determination of flakiness index of coarse aggregates. It consists of a steel frame with a sliding panel having slots of different dimensions

S.No.	Equipments Name	Qty.
47.	LENGTH GAUGE	01 Each

#### As Per IS 2386 (P-I)

**Specification :**

Used for determination of elongation index of aggregates. It consists of a steel frame having slots of different dimensions. The frame is fixed on a hard wooden base.

S.No.	Equipments Name	Qty.
48.	Measuring cylinder 100ml,250ml,500ml,100ml Metal Measure 5, 10 Ltr.	01 Each 01 Each

**AS PER IS: 2386 (Part- III)**

Determines bulk density or unit weight of aggregates.

**Specifications:**

Calibrated cylindrical measures of sheet iron with handles. Consists of 3 measures one each 3 liters capacity, 15 liters capacity and 30 liters capacity. Complete with one tamping rod, round, 16mm dia. and 600mm long, one end rounded.

S.No.	Equipments Name	Qty.
49.	Specific Gravity & Water Absorption of Aggregates	01 Each

**As Per IS: 2386 (Part III)**

**Specific Gravity Frame** is used in conjunction with a suitable electronic balance for specific gravity determination of fresh and hardened concrete and aggregates. The buoyancy balance system consists of a rigid support frame, incorporating a water tank mounted on a platform. A mechanical lifting device is used to raise the water tank through the frame height immersing the specimen suspended below the balance. The balance supplied may also be used as a standard weighing device, thus providing a versatile and comprehensive weighing system in the laboratory

**Specification:**

Electronic balance, capacity 15 kg. Least Count 0.5 gram, provision is made in this balance to suspend density basket under material pan. This balance is mounted on an angle iron frame stand. 1 No

- Density basket 200 mm diameter x 200 mm height 3.35 mm. 1 No
- GI Tray of area not less than 450 cm sq. 1 no.
- Absorbent cloths 75cm x 45cm. 2 Nos.

S.No.	Equipments Name	Qty.
50.	Riffle Sample Divider	01 Each

**As Per IS: 1607-1960**

**Specification:**

It consists of sheet metal boxes mounted on legs and fitted with a series of chutes or equal width which discharge the material alternatively in opposite directions into separate pans. The chutes of the riffle are steep enough to allow rapid flowing of the material. The chutes of the riffle are steep enough to allow rapid flow of the material. The sample divider is supplied with two containers and a sampling scoop.

- 13 mm 14 Chutes
- 25 mm 16 Chutes
- 38 mm 12 Chutes
- 50 mm 12 Chutes
- 63 mm 12 Chutes

S.No.	Equipments Name	Qty.
51.	Aggregate Crushing Value Apparatus	01 Each

**As Per IS 2386 (P-IV)**

**Specification:**

- Made of Mild Steel comprising of: Cylindrical Cell, 150mm internal dia. x 130 to 140mm height,
- Plunger, 148mm dia. x 100 to 115mm height,
- Base Plate, 200 to 230mm square x 6mm thickness,
- Tamping Rod, 16mm dia. x 450 to 600mm length.
- Metal Measure, 110mm internal dia. x 180mm height.

S.No.	Equipments Name	Qty.
52.	Aggregate Impact Tester	01 Each

**As Per IS 2386 (P-IV)**

This Apparatus is used to determine aggregate impact value of coarse aggregate. The hammer of the tester fall freely from 380 mm height on coarse aggregate for 15 times/15 sec. the crushed aggregate removed from the cup, then sieved and weighed. The % ratio of the weight passing 2.36mm sieve and weight of oven dried sample is Aggregate Impact value.

**Specification:**

- The instrument consists of a circular base with two vertical guides.
- The hammer of weight  $13.75 \pm 0.25$  kg can be raised to fall freely down the vertical guides.
- The height of fall can be adjusted through  $380 \pm 5$ mm.
- The hammer is provided with a locking arrangement. The hammer falls freely to the base and is removable for emptying.
- Supplied complete with metal measures 75mm dia x 50mm high (for specimen preparation) and tamping rod 230mm long x 10mm dia.

S.No.	Equipments Name	Qty.
53.	Digital Los Angeles Abrasion Testing Machine	01 Each

**As Per IS 2386 (P-IV) ASTM: C131, AASHTO T-96**

**Specification:**

**Specification:** The machine consists of a hollow cylinder mounted horizontally on a sturdy frame on ball bearings. There is an opening which can be closed with a dust tight cover to facilitate charging and discharging the drum with the material under test. A detachable shelf which extends throughout the inside length of the drum which catches the abrasive charge and does not allow it to fall on the cover. The drum is rotated by an electric motor through a heavy reduction gear at a speed of 30-33 r.p.m. A revolution counter is fitted to the frame. A tray is supplied for collection of the material at the end of the test. Complete with abrasive charges consisting of a set of twelve hardened steel balls, approximately 48mm dia. Suitable for operation on 440 volts, 3 phase, 50 cycles, A.C. supply

<b>S.No.</b>	<b>Equipments Name</b>	<b>Qty.</b>
54.	Tile Abrasion Testing Machine	01 Each

- Tiles specimen of size 7.06 cm x 7.06 cm is pressed face-wise under specific load on a grinding path and abrasive powder is evenly spread on the rotating grinding disc the second parallel side of the tile is subjected to wear for similar number of rotations.
- The wear of the tile is measured on a thickness gauge specifically made for the purpose.
- The machine consists of a disc rotating at a speed of 30 R.P.M. in a circular tray.
- A bracket is provided to hold the specimen.
- A counter balance lever loads the specimen.
- Load applied is 30 Kgf.
- A funnel is fitted to evenly spread abrasive powder on the grinding path.
- A Pre-set Counter automatically stops the machine after 22 revolutions.
- This counter is Re-adjustable.
- The machine works on 440 V A.C. Three Phase electrical supply.

## **BITUMEN TESTING EQUIPMENTS**

<b>S.No.</b>	<b>Equipments Name</b>	<b>Qty.</b>
55.	RING & BALL APPARATUS ELECTRICAL	01 Each

### **IS 1205 1985, IP 58/63 and ASTM D 36.**

#### **Specification :**

This apparatus is meant for determination of softening point of bituminous materials according to IP 58 and IS 1205. Softening point is that temp. at which the specimen under test becomes soft enough to allow a steel ball of specific dimension to fall a required distance under test condition.

The apparatus consist of

- Glass beaker of heat resistant glass of internal dia 8.5 cm x 12 cm depth,
- Two steel balls each of 9.5mm dia,
- Two tapered brass rings,
- Two ball guides, ring stand
- a MOTORIZED stirrer.
- Electrical motorized with heater and temp.
- Regulator with DC motor

<b>S.No.</b>	<b>Equipments Name</b>	<b>Qty.</b>
56.	STRIPPING VALUE APPARATUS	01 Each

For determining stripping value of bituminous mixes having

**Aggregate size:** 1.0mm to 75 micron.

#### **Specification**

A circular tray rotates in a vertical plane at a rate of approximately 100 R.P.M. by an electrical geared motor. 4 bottles of approximately 400 cc are mounted on this circular tray at an angle of 90 . To each other with their mouth towards center of the tray. A time switch is provided. Suitable for operation on 230 V A.C. Single Phase.

<b>S.No.</b>	<b>Equipments Name</b>	<b>Qty.</b>
57.	Digital MARSHALL STABILITY TEST APPARATUS	01 Each

### **Motorized ASTM: D 1559- T -62.**

The apparatus consists of:

- A loading unit motorized capacity 5000kgf with two telescopic pillars and an adjustable cross head. Limit switches are fitted inside to control upward or downward movement of the pillars. On-off reversing switch and indicator lamps are on the front side while a hand wheel to manually move the pillars is on the right. The load frame has fixed speed of 5.08cm per minute. Operated on 230 Volts A.C.
- 1 No. Compaction pedal with specimen mould holder.
- 2 Nos. Compaction Rammers, 4.5kg weight and free fall 45.7cm.
- 1 No. Breaking head assembly with provision to fix flowmeter.
- 3 Nos. Specimen mould 10.16cm I.D. x 7.6cm high with base plate and extension collar.

- 1 No. Kit for specimen extraction consists of one each load transfer bar, steel ball, specimen extracting plate.

**Accessories:**

- Integral type Proving Ring capacity 3000 kgs.
- A dial gauge 0.01 x 25mm
- Universal Water Bath S.S. with false bottom and pyramid shaped lid to accommodates 3 Nos. marshall specimen
- Thermometer 0 - 250°C x 1°C

S.No.	Equipments Name	Qty.
58.	DUCTILITY TESTING APPARATUS	01 Each

**IS 1208-1058, ASTM D 113, IP32, 55, AASHTO T 51**

**Specifications** : The apparatus consists of a Water bath with a thermostatic heater, and a circulating pump to maintain uniform water temperature. One half of the briquette moulds is fixed on a fixed plate in the water bath, the other half of the briquette mould is fixed to a carrier which slides over a rotating threaded shaft with a clutch. The motor and gears to rotate the shaft are housed in a cabinet fixed above the other end of the bath. A pointer fixed to the carrier moves over a scale graduated from 0-110 cm x 1mm fixed on the bath with “0” (zero) of the scale towards the fixed plate side. The rotating shaft has 2 speeds of travel for the bracket, 5cm/min and 1 cm/min., selected by a clutch. Water bath inside is aluminum, it is an insulated water bath. Water bath is provided with a drain. A heater with thermostatic control is fixed inside the water bath. Control switches for motor, stirrer, heater and indicator lamps are fixed at a convenient place on the water bath, complete with three briquette moulds and one base plate, all made of brass. Operates on 230 volts A.C. single phase.

**Salient Features**

The Machine consist of the following :

Stainless steel bath

Temperature controller (Thermostatic/Digital)

Immersion electric heater

Constant speed Pump cum stirrer

Carriage holding up to three standard briquette moulds

Electric motor with gear mechanism

Stainless steel scale and pointer

Control Panel

Accessories : 1. Thermometer IP 38 C, range 23°C to 27°C. 2. Briquette mould with base-plate 3Nos

S.No.	Equipments Name	Qty.
59.	BENKELMAN BEAM	01 Each

**AASHTO T 256**

Lightweight Aluminum construction, Ease of Transportation, Unique Telescopic Design Simplifying Field set up, Compact, Thereby reducing the amount of storage space needed. Benkelman Beam utilizes the technique of using balanced beam in conjunction with a suitable vehicle to measure road flexure The improved Benkelman Beam is a convenient, accurate device for measuring the deflection of flexible pavements under moving wheel loads. Operating on a simple lever arm principle, the unit consists. Supplied with carrying case.

S.No.	Equipments Name	Qty.
60.	Asphalt content tester	01 Each

### Asphalt Content Tester

- **Ref. Standard:** ASTM D6307 & EN 12697 39
- **Function:** Determines the asphalt content of hot mix asphalt (HMA), paving mixtures, and pavement samples by removing the asphalt in an ignition furnace with heating by means of sample heating, not by solvents.
- **Power Requirements:** 415V, 50Hz, 20A, 3phase, AC supply.

#### Technical Specifications:

- **Working Temperature:** 540°C ± 5°C
- **Combustion Temperature:** 750°C
- **Balance Capacity:** 10 kg
- **Accuracy of Balance:** 0.1 g
- **Balance Capacity (Usable):** 2500 g
- **Recommended Weight:** 1500 g
- **Test Time Duration:** 30 to 45 min
- **End Point Sensitivity:** 0.01% for 3 consecutive minutes
- **Data Output:** SD Card
- **Chamber Size:** 300mm x 340mm x 400mm
- **Outer Size:** 580mm x 775mm x 1300mm
- **Power Rating:** 5 kW
- **Accessories:**
  - Sample Bucket (2 Sets)
  - Safety Cover for Bucket (1 No.)
  - Lifting Handle (1 No.)
  - Asbestos Gloves (1 Pair)
  - Safety Helmet (1 No.)

S.No.	Equipments Name	Qty.
61.	Rotational Viscometer	01 Each

### ROTATIONAL VISCOMETER

Rotational Viscometer is specially designed for conducting high-temperature testing of asphalt binders, in compliance with ASTM D4402 and BIS 73 standards. It serves the purpose of determining the absolute viscosity of Newtonian liquids and the apparent viscosity of non-Newtonian liquids.

**Precise Temperature Control:** This standalone unit ensures precise temperature control, maintaining a constant and accurate testing temperature. This is essential for achieving accurate viscosity measurements of asphalt samples.

- **User-Friendly Interface:** An easy-to-use, standalone instrument for viscosity measurement
- **Level Indicators:** Surface level indicators are present on both the temperature control unit and the main unit to ensure equipment remains level
- **High-Visibility LCD:** The LCD display features a white backlight for enhanced visibility and clarity
- **Automatic Range Calculation:** The viscometer offers automatic Full-Scale Range (FSR) calculation for

100% viscosity measurement and maximum viscosity with specific spindle and speed combinations

- Versatile Spindle Options: Various spindle options are available, capable of withstanding the demanding conditions of asphalt testing
- Built-In Micro Printer: The instrument is equipped with a built-in micro-printer for convenient result printing.
- Windows-Based Software: Includes Windows-based software for creating viscometer vs. temperature curves, with test data conveniently stored in Excel format.
  
- Rotation Speed: 5, 10, 20, & 50 r/min
- Viscosity Measurement Range: 100 mPa•s to  $2 \times 10^5$  mPa•s (expandable to  $4 \times 10^5$  mPa•s with No.30 spindles)
- Spindles: No. 21, 27, 28, & 29 (No.30 spindle optional)
- Temperature Controlling Range: Ambient to 200 C
- Temperature Controlling Accuracy:  $\pm 0.1$  C
- Cubage of Sample Cylinder: 20ml
- Working Environment: Ambient temperature: 15 C to 35 C,  $\leq 85\%$
- Operating Voltage: AC (220V  $\pm 10\%$ )V, 50Hz, Single Phase
- Equipment to be supplied with an NABL Accredited calibration certificate for temperature and speed parameter.

Signature of Bidder with seal



**Annexure 'T/2' OTHER CONDITIONS:**

<b>1.</b>	<b>DOCUMENTATION:</b> Three sets of following documents (Hard copies) in English language should be supplied along with the machine
●	Operating manuals of Machine/ Equipment. wherever applicable.
●	Detailed Maintenance manual of the Machine/Equipment with all drawings of machine assemblies/sub-assemblies/parts including Electrical / Pneumatic and water circuit diagrams. All Assembly/ Sub Assembly Drawings shall be supplied with the part list also wherever applicable.
●	Catalogues, Operation & Maintenance Manuals of all bought out items including drawings, wherever applicable.
●	Complete list of parts/items (Bill of materials) used in the machine in English language wherever applicable.
<b>2.</b>	<b>PACKING</b>
	Seal worthy & rigid packing for all items of machine, controls, mechanical movement System, all Accessories and other supplied items to avoid any damage/loss in transit. When machine is dispatched in containers, all small loose items shall be suitably packed in boxes.
<b>3.</b>	<b>INSTALLATION &amp; COMMISSIONING</b>
●	Installation & Commissioning of the complete machine and other accessories/attachments with all electrical & mechanical connections shall be responsibility of the supplier
●	Supplier shall submit the preliminary layout drawings, if foundation required, for getting IDFC's approval within one month from the date of Letter of Intent (LOI) or Purchase Order, whichever is earlier.
●	Tools, Tackels, instruments, foundation bolts and other necessary equipment required carrying out all Installation & commissioning activities should be arranged and brought by the supplier.
●	Commissioning spares, required for commissioning of the complete equipment within stipulated time, shall be brought by the supplier on returnable basis.
●	Schedule of Installation and Commissioning shall be submitted with the offer.
●	Terms & conditions for Installation & Commissioning should be furnished in detail separately by supplier along with offer.
●	Portion, if any, of the machine, accessories/attachments and other supplied items where paint got rubbed or peeled off during transit or Installation should be repainted and matched with the original adjoining paint by the supplier. For this purpose, the supplier should supply sufficient quantity of touch-up paint of various colours/shades of paints used. The supplier shall ensure performing touching after commissioning but before final acceptance.
●	All first fills of any kind shall be under supplier's scope of supply.
<b>4.</b>	<b>Machine/Equipment acceptance criteria for the inspection at supplier's site or at the final payment release:-</b>
●	Demonstration of all features of the machine, control system & accessories to the satisfaction of IDFC for efficient and effective use of the equipment.

•	<u>Job Proving for Equipments:</u> The complete equipment should be tested (for the performance of the systems and all sub systems) at its lower and maximum range.
•	Training of IDFC operators in operation & maintenance of complete machine & accessories etc by the supplier's experts / engineers during their stay at IDFC works.
•	Final acceptance of machine shall be given after successful commissioning and job proving at IDFC works.

Signature of Bidder with seal

**FINANCIAL BID**

<b>S.No.</b>	<b>Specifications of instrument/machine as per details mentioned in Technical bid.</b>	<b>Total Bid Value Including taxes on FOR basis (In Rs.)</b>
1.	Turn Key basis for “setting up of Civil Lab” with Specifications mentioned at Annexure ‘T/1’ in the Technical Bid.	

**Form 1: Bid Form (Covering Letter)**

(To be submitted as part of Technical bid, along with supporting documents, if any)

(On Bidder's Letter-head)

Bidder's Name \_\_\_\_\_ [Address and Contact Details]

Bidder's Reference No. \_\_\_\_\_

Date.....

To

The Managing Director  
CITCO.

Ref: **Your Tender Document No. Tend No./ xxxx; Tender Title: GOODS.**

Sir/ Madam,

Having examined the abovementioned Tender Document, we, the undersigned, hereby submit/ upload our Techno-commercial and Financial bid (Price Schedule) for the supply of Goods in conformity with the said Tender Documents.

*(Please tick appropriate boxes or strike out sentences/ phrases not applicable to you)*

**1) Our Credentials:**

(a) We are submitting this bid: -

- on our behalf, and there are no agents/ dealers involved in this tender, and hence no agency agreement or payments/ commissions/ gratuity is involved. Our company law and taxation regulatory requirements and authorization for signatories and related documents are submitted in Form 1.1 (Bidder Information).

Or

- as authorised dealer offering goods manufactured by our OEMs. Our OEM's law and taxation regulatory requirements and authorization for signatories and related documents are submitted in Form 1.3 (OEM's Authorization).

Or

as agents/associates of our foreign principals. Our foreign principal's law and taxation regulatory requirements, as well as authorization for signatories and related documents, are submitted in Form 1.4 (Declaration by Agents/ Associates of Foreign Principals/ OEMs).

(b) We..... hereby certify that  We/  our Principals/ OEM M/ s .....are proven, established, and reputed manufacturers with factories at .....which are fitted with modern equipment and where the production methods, quality control, and testing of all materials and parts manufactured or used by us shall be open to inspection by the representative of the Procuring Entity.

**2) Our Eligibility and Qualifications to participate**

We comply with all the eligibility criteria stipulated in this Tender Document, and the relevant declarations are made along with documents in Form 1.2 of this bid-form. We fully meet the qualification criteria stipulated in this Tender Document, and the relevant details are submitted along with documents in Form 4: 'Qualification Criteria - Compliance.'

**3) Our Bid to supply Goods:**

We offer to supply the subject Goods of requisite quality and within Delivery Schedules in conformity with the Tender Document. The relevant details are submitted in Form 2: 'Schedule of Requirements - Compliance and Form 3: 'Technical Specifications and Quality Assurance - Compliance.'

**4) Prices:**

We hereby offer to perform at our lowest prices and rates mentioned in the separately uploaded Price-Schedule. It is hereby confirmed that the prices quoted therein by us are:

- (a) based on terms of delivery and delivery schedule confirmed by us; and
- (b) Cost break-up of the quoted cost, showing inter-alia costs (including taxes and duties thereon) of all the included incidental Goods/ Works considered necessary to make the proposal self-contained and complete, has been indicated therein, and
- (c) based on the terms and mode of payment as stipulated in the Tender Document.

We have understood that if we quote any deviation to terms and mode of payment, our bid is liable to be rejected as nonresponsive, and

- (d) The prices in this offer have been arrived at independently, without restricting competition, any consultation, communication, or agreement with any other bidder or competitor relating to:
  - i) those prices; or
  - ii) the intention to submit an offer; or
  - iii) the methods or factors used to calculate the prices offered.
- e) The prices in this offer have neither been nor shall be knowingly disclosed by us, directly or indirectly, to any other bidder or competitor before bid opening or contract award unless otherwise required by law.

5) **Affirmation to terms and conditions of the Tender Document:**

We have understood the complete terms and conditions of the Tender Document. We accept and comply with these terms and conditions without reservations, although we are not signing and submitting some of the sections of the Tender Document. Deviations, if any, are submitted by us in Form 5: 'Terms and Conditions - Compliance'. We also explicitly confirm acceptance of the Arbitration Agreement as given in the Tender Document.

6) **Bid Securing Declaration**

We have submitted the Bid Securing Declaration (BSD, in lieu of Bid Security) in stipulated format vide Form 7: 'Documents Relating to bid security.'

7) **Abiding by the Bid Validity**

We agree to keep our bid valid for acceptance for a period upto, as required in the Tender Document or for a subsequently extended period, if any, agreed to by us and are aware of penalties in this regard stipulated in the Tender Document in case we fail to do so.

8) **Non-tempering of Downloaded Tender Document and Uploaded Scanned Copies**

We confirm that we have not changed/ edited the contents of the downloaded Tender Document. We realise that any such change noticed at any stage, including after the contract award, shall be liable to punitive action in this regard stipulated in the Tender Document. We also confirm that scanned copies of documents/ affidavits/ undertakings uploaded along with our Technical bid are valid, true, and correct to the best of our knowledge and belief. If any dispute arises related to the validity and truthfulness of such documents/ affidavits/ undertakings, we shall be responsible for the same. Upon accepting our financial bid, we undertake to submit for scrutiny, on-demand by the Procuring Entity, originals, and self- certified copies of all such certificates, documents,

affidavits/ undertakings.

9) **A Binding Contract:**

We further confirm that, if our bid is accepted, all such terms and conditions shall continue to be acceptable and applicable to the resultant contract, even though some of these documents may not be included in the contract Documents submitted by us. We do hereby undertake that, until a formal contract is signed or issued, this bid, together with your written Letter of Award (LoA), shall constitute a binding contract between us.

10) **Performance Guarantee and signing the contract**

We further confirm that, if our bid is accepted, we shall provide you with performance security of the required amount stipulated in the Tender Document for the due performance of the contract. We are fully aware that in the event of our failure to deposit the required security amount and/ or failure to execute the agreement, the Procuring Entity has the right to avail any or all punitive actions laid down in this regard, stipulated in the Tender Document.

11) **Signatories:**

We confirm that we are duly authorized to submit this bid and make commitments on behalf of the Bidder. Supporting documents are submitted in Form 1.1 annexed herewith. We acknowledge that our digital/digitized signature is valid and legally binding.

12) **Rights of the Procuring Entity to reject bid(s):**

We further understand that you are not bound to accept the lowest or any bid you may receive against your above-referred Tender Document.

.....  
(Signature with date)

.....  
(Name and designation)

**Form 1.1: Bidder Information**

(To be submitted as part of Technical bid)

(On Company Letter-head)

(Along with supporting documents, if any)

Bidder's Name \_\_\_\_\_

[Address and Contact Details]

Bidder's Reference No. \_\_\_\_\_

Date.....

Tender Document No. Tend No./ xxxx; Tender Title: GOODS

**Note:** Bidder shall fill in this Form following the instructions indicated below. No alterations to its format shall be permitted, and no substitutions shall be accepted. Bidder shall enclose certified copies of the documentary proof/ evidence to substantiate the corresponding statement wherever necessary and applicable. Bidder's wrong or misleading information shall be treated as a violation of the Code of Integrity. Such Bids shall be liable to be rejected as nonresponsive, in addition to other punitive actions provided for such misdemeanours in the Tender Document. (Please tick appropriate boxes or strike out sentences/ phrases not applicable to you)

1) **Bidder/ Contractor particulars:**

(a) Name of the Company:.....

(b) Corporate Identity No. (CIN): .....

(c) Registration, if any, with The Procuring Entity:  
.....

(d) GeM Supplier ID (if registered with GeM, it is mandatory at the time of placement of Contract)

(e) Place of Registration/ Principal place of business/ manufacture  
.....

(f) Complete Postal Address: .....

(g) Pin code/ ZIP code: .....

(h) Telephone Nos. (with country/ area codes): .....

(i) Mobile Nos.: (with country/ area codes): .....



(j) Contact persons/ Designation: .....

(k) Email IDs: .....

*Submit documents to demonstrate eligibility - A self-certified copy of registration certificate – in case of a partnership firm – Deed of Partnership; in case of Company – Notarized and certified copy of its Registration; and in case of Society - its Byelaws and registration certificate of the firm.*

**2) Taxation Registrations:**

(a) PAN number: .....

(b) Type of GST Registration as per the Act (Normal Taxpayer, Composition, Casual Taxable Person, SEZ, etc.): .....

(c) .....GSTIN number in Consignor and Consignee States.

(d) Registered/ Certified Works/ Factory where the Goods would be mainly manufactured and Place of Consignor for GST Purpose: .....

(e) Contact Names, Nos. & email IDs for GST matters (Please mention primary and secondary contacts): .....

We solemnly declare that our GST rating on the GST portal/ Govt. official website is not negative/ blacklisted.

*Documents to be submitted: Self-attested Copies of PAN card and GSTIN Registration.*

**3) Authorization of Person(s) signing the bid on behalf of the Bidder**

(a) Full Name: \_\_\_\_\_

(b) Designation: \_\_\_\_\_

(c) Signing as:

- A sole proprietorship firm. The person signing the bid is the sole proprietor/ constituted attorney of the sole proprietor.

- A partnership firm. The person signing the bid is duly authorized being a partner to do so, under the partnership agreement or the general power of attorney,
- A company. The person signing the bid is the constituted attorney by a resolution passed by the Board of Directors or in pursuance of the Authority conferred by Memorandum of Association.

*Documents to be submitted: Registration Certificate/ Memorandum of Association/ Partnership Agreement/ Power of Attorney/ Board Resolution.*

4) **Bidder's Authorized Representative Information**

(a) Name:

(b) Address:

(c) Telephone/ Mobile numbers: (d) Email Address:

(Signature with date)

.....

(Name and designation)

DA: As above

**Form 1.2: Eligibility Declarations**

(To be submitted as part of Technical bid)

(On Company Letter-head)

(Along with supporting documents, if any)

Tender Document No. Tend No./ xxxx; Tender Title: GOODS

Bidder's Name \_\_\_\_\_

[Address and Contact Details]

Bidder's Reference No. \_\_\_\_\_ Date.....

*Note: The list below is indicative only. You may attach more documents as required to confirm your eligibility criteria.*

Eligibility Declarations

*(Please tick appropriate boxes or cross out any declaration not applicable to the Bidder)*

We hereby confirm that we are comply with all the stipulation of tender document and declare as under and shall provide evidence of our continued eligibility to the Procuring Entity as may be requested:

- 1) Legal Entity of Bidder: \_\_\_\_\_
- 2) OEM/ Manufacturer/ Agent/ Dealership Status: \_\_\_\_\_
- 3) We  are/  are not a JV \_\_\_\_\_
- 4) We solemnly declare that we (including our affiliates or subsidiaries or Constituents):
  - a) are not insolvent, in receivership, bankrupt or being wound up, not have our affairs administered by a court or a judicial officer, not have our business activities suspended and are not the subject of legal proceedings for any of these reasons;
  - b) (Including our Contractors/ subcontractors for any part of the contract):
    - (i) Do not stand declared ineligible/ blacklisted/ banned/

debarred by the Procuring Organization or its Ministry/ Department from participation in its Tender Processes; and/ or

- (ii) Are not convicted (within three years preceding the last date of bid submission) or stand declared ineligible/ suspended/ blacklisted/ banned/ debarred by appropriate agencies of Government of India from participation in Tender Processes of all of its entities, for offences mentioned in Tender Document in this regard. We have neither changed our name nor created a new "Allied Firm", consequent to the above disqualifications.
  - c) Do not have any association (as bidder/ partner/ Director/ employee in any capacity) with such retired public official or near relations of such officials of Procuring Entity, as counter-indicated, in the Tender Document.
  - d) We certify that we fulfil any other additional eligibility condition if prescribed in Tender Document.
  - e) We have no conflict of interest, which substantially affects fair competition. The prices quoted are competitive and without adopting any unfair/ unethical/ anti- competitive means. No attempt has been made or shall be made by us to induce any other bidder to submit or not to submit an offer to restrict competition.
- 5) Restrictions on procurement from bidders from a country or countries, or a class of countries under Rule 144 (xi) of the General Financial Rules 2017:

**We certify as under:-**

*"We have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on subcontracting to contractors from such countries, and solemnly certify that we fulfil all requirements in this regard and are eligible to be considered. We certify that:*

- (a) *we are not from such a country or, if from such a country, we are registered with the Competent Authority (copy enclosed). and;*
- (b) *we shall not subcontract any work to a contractor from such countries unless such contractor is registered with the Competent Authority.*

6) **MSME Status:**

Having read and understood the Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 (as amended and revised till date), and solemnly declare the following:-

- a) We are - Micro/ Small/ Medium Enterprise/ SSI/ Govt. Deptt. / PSU/Others:.....
- b) We attach herewith, Udyam Registration Certificate with the Udyam Registration Number as proof of our being MSE registered on the Udyam Registration Portal. The certificate is the latest up to the deadline for submission of the bid.
- c) Whether Proprietor/ Partner belongs to SC/ ST or Women category. (Please specify names and percentage of shares held by SC/ ST Partners):.....

7) **Start-up Status**

We confirm that we  are/  are not a Start-up entity as per the definition of the Department of Promotion of Industrial and Internal Trade – DPIIT.

8) **Make in India Status:**

Having read and understood the Public Procurement (Preference to Make in India PPP - MII) Order, 2017 (as amended and revised till date) and related notifications from the relevant Nodal Ministry/ Department, and solemnly declare the following:-

**(a) Self-Certification for the category of suppliers:**

(Provide a certificate from statutory auditors in case of Tenders above Rs 10 Crore for Class-I or Class-II Local Suppliers). Details of local content and location(s) at which value addition is made are as follows:

Local Content and %age	
Location(s) of value addition	

Therefore, we certify that we qualify for the following category of the supplier (tick the appropriate category):

Class-I Local Supplier/ Class-II Local Supplier/Non-Local Supplier.

(b) **We also declare that**

There is no country whose bidders have been notified as ineligible on a reciprocal basis under this order for an offered Goods, or

We do not belong to any Country whose bidders are notified as ineligible on a reciprocal basis under this order for the offered Goods.

9) **Self-Declaration by Indian Agents/ Associates of Foreign Principals**

(a) Self-attested documentary evidence about their identity (PAN, Aadhar Card, GSTIN registration, proof of address, etc.), business details (ownership pattern and documents, type of firm, year of establishment, sister concerns etc.) to establish that they are a bonafide business as per Indian Laws – are submitted as part of Form 1.1 annexed herewith.

(b) Agency Agreement shall be submitted with Form 1.4. It shall cover

(i) the precise relationship, services to be rendered, mutual interests in business - generally and/ or specifically for the tender and

(ii) any payment the agent or associate receives in India or abroad from the foreign OEM/ principal, whether a commission or a general retainer fee.

(c) Our Foreign principals, explicitly authorizing us to make an offer in response to the tender, either directly or in association with them, are listed in Form 1.3 and 1.4 annexed herewith. That also indicates their name, address, nationality, status (i.e., whether manufacturer or agents of manufacturer holding the Letter of Authority of the Principal).

(d) The amount of commission/ remuneration included in the price(s) quoted by Bidder for agents or associated bidder is detailed in Form 1.4.

- (e) Confirmation is given in Form 1.4 annexed herewith from the foreign principals that the commission/ remuneration, reserved for Bidder in the quoted price(s), if any, shall be paid by the Procuring Entity in India, in equivalent Indian Rupees on satisfactory completion of the Project or supplies of Goods and Spares.

10) **Penalties for false or misleading declarations:**

We hereby confirm that the particulars given above are factually correct and nothing is concealed and undertake to advise any future changes to the above details. We understand that any wrong or misleading self-declaration would violate the Code of Integrity and attract penalties as mentioned in this Tender Document.

.....  
(Signature with date)

.....  
(Name and designation)

Duly authorized to sign bid for and on behalf of

.....  
.....

DA: As in Sr 9 to 14 above, as applicable

**Form 1.3: OEM's Authorization**

(To be submitted as part of Technical bid) OEM's

Name \_\_\_\_\_

Date.....

[Address and Contact Details]

OEM's Reference No. \_\_\_\_\_

The Managing Director,  
CITCO, Chandigarh.

Dear Sirs,

**Ref.: Your Tender Document No. Tend No./ xxxx; Tender Title: GOODS.**

- 1) We, \_\_\_\_\_ are proven and reputable manufacturers of the Tendered Goods.
  
- 2) We have factories at \_\_\_\_\_, We hereby authorize Messrs \_\_\_\_\_  
(*name and address of the authorized dealer*) to submit a bid, process the same further and enter into a contract with you against above referred Tender Process for the supply of above Goods manufactured by us. Their registration number with us is \_\_\_\_\_ dated/ since \_\_\_\_\_.
  
- 3) We further confirm that no Contractor or firm or individual other than Messrs. .... (*name and address of the above-authorized dealer*) is authorized for this purpose.
  
- 4) As principals, we commit ourselves to extend our full support for warranty obligations, as applicable as per the Tender Document, for the Goods and incidental Works/ Services offered for supply by the above firm against this Tender Document.
  
- 5) Our details are as under:
  - (a) Name of the Company:.....
  - (b) Complete Postal Address: .....
  - (c) Pin code/ ZIP code: .....
  - (d) Telephone nos. (with country/ area codes): .....
  - (e) Fax No.: (with country/ area codes): .....



- (f) Mobile Nos.: (with country/ area codes): .....
- (g) Contact persons/ Designation: .....
- (h) Email IDs: .....

6) We enclose herewith, as appropriate, *our (Bye-Laws/Registration Certificate / Memorandum of Association/ Partnership Agreement/ Power of Attorney/Board Resolution).*

Yours faithfully,

.....

[signature with date, name, and designation]

for and on behalf of Messrs.....

DA: As above

**Form 1.4: Declaration by Agents/ Associates of Foreign Principals**  
**(Required only for Agents/ Associates of Foreign Principals)**

(Along with supporting documents, if any)

(To be submitted as part of Technical bid)

Agent's Name \_\_\_\_\_

Date.....

The Managing Director,  
CITCO.

Dear Sirs,

**Ref. Your Tender Document No. Tend No./ xxxx; Tender Title: GOODS.**

1. We \_\_\_\_\_, are a bonafide business as per Indian Laws. We have been retained as agent/ associates by our foreign principals/OEM, Messrs. .... (*name and address of the principal*) to associate with them for participation in this Tender Process.
2. We understand that any failure or non-disclosures, or mis-declarations by us, shall be treated as a violation of the Code of Integrity. Our Bids shall be liable to be rejected as nonresponsive, in addition to other punitive actions by the Procuring Entity as per the Tender Document.
3. The required details as are as follows :-
  - (a) Name of the Agent/ Associate: \_\_\_\_\_
  - (b) Documents regarding ownership pattern: as appropriate – Bye Laws/ Registration Certificate/ Memorandum of Association/ Partnership Agreement/ Power of Attorney/ Board Resolution.
  - (c) Year of establishment : \_\_\_\_\_
  - (d) Sister Concerns \_\_\_\_\_
  - (e) Corporate Identity No. (CIN): \_\_\_\_\_
  - (f) Aadhar Card of Owner/ CEO/ Partner

- (g) PAN number: \_\_\_\_\_
- (h) Complete Postal Address: \_\_\_\_\_
- (i) Pin code/ ZIP code: \_\_\_\_\_
- (j) Telephone nos. (with country/ area codes): \_\_\_\_\_
- (k) Mobile Nos.: (with country/ area codes): \_\_\_\_\_
- (l) Contact persons/ Designation: \_\_\_\_\_
- (m) Email IDs: \_\_\_\_\_
- (n) Type of GST Registration (Registered, Unregistered, Composition, SEZ, RCM etc.): \_\_\_\_\_
- (o) GSTIN number \_\_\_\_\_ in Consignor and Consignee States.
- (p) Registered office from where agency/ association services would be mainly provided for GST Purpose: \_\_\_\_\_
- (q) Contact Names, Nos. & email IDs for GST matters (Please mention primary and secondary contacts): \_\_\_\_\_

4) Details required regarding the foreign principal/ OEM are given below :-

- (a) Name of the Company : \_\_\_\_\_
- (b) Nationality/ Country of operation/ incorporation \_\_\_\_\_
- (c) Status:
  - (i) manufacturer or
  - (ii) agents of manufacturer holding the Letter of Authority of the Principal, specifically authorizing the agent to make an offer in India in response to tender either directly or through the agents/ representatives.
- (d) Complete Postal Address: \_\_\_\_\_
- (e) Telephone nos. (with country/ area codes): \_\_\_\_\_

- (f) Mobile Nos.: (with country/ area codes): \_\_\_\_\_
- (g) Contact persons/ Designation: \_\_\_\_\_
- (h) Email IDs: \_\_\_\_\_

- 5) *Because of price-sensitive information, agency/ dealership/ any other agreement with foreign principals/ OEM shall be submitted on-demand, after the financial bid opening. It shall contain details of payments of all commissions, gratuities, or fees concerning the tender process or execution of the contract that we have paid/ received, or shall pay/ receive, as per the following format :-*

Name of Recipient	Address	Services to be provided	Amount and Currency

- 6) Our principals have authorized us to confirm that the commission/ remuneration, if any, to us under the contract shall be paid in India, in equivalent Indian Rupees, on satisfactory completion of the Project or supplies of Goods and Spares.
- 7) We enclose herewith: as appropriate, our Bye-Laws/ Registration Certificate / Memorandum of Association/ Partnership Agreement/ Power of Attorney/ Board Resolution.

Yours faithfully,

.....  
 .....

[signature with date, name, and designation]

for and on behalf of Messrs.....

DA: 1. As above

**Form 2: Schedule of Requirements - Compliance**

Schedule of Requirements

(To be submitted as part of Technical bid)

(on Company Letter-head)

Tender Document No. Tend No./ xxxx; Tender Title: GOODS

Bidder's Name \_\_\_\_\_

[Address and Contact Details]

Bidder's Reference No. \_\_\_\_\_ Date.....

*Note to Bidders: Fill up this Form regarding Section VI: Schedule of Requirements maintaining the same numbering and structure. Add additional details not covered elsewhere in your bid in this regard.*

Tender Title										
Tender Reference No.			Tend.No./ xxxx							
Schedule	Item Sr.	HSN Code	GST %	Local Content (%)	Description of Goods	Quantity	Units of Quantity	Delivery offered	Destination, State	Bidder's GSTIN
1	2	3	4	5	6	7	8	9	10	11
Schedule-1	1.1									
	1.2									
	1.3									

\_\_\_\_\_

<sup>4</sup> Mention total % and breakup into CGST, SGST, IGST, Cess etc.

Tender Document - Tend No./ xxxx

Tender Title			Tend.No./ xxxx							
Tender Reference No.			Tend.No./ xxxx							
Schedule	Item Sr.	HSN Code	GST %	Local Content (%)	Description of Goods	Quantity	Units of Quantity	Delivery offered	Destination, State	Bidder's GSTIN
1	2	3	4	5	6	7	8	9	10	11
Schedule-2	2.1									
	2.2									
	2.3									

- (1) Background of Goods offered:
- (2) Transportation:
- (3) Delivery Schedule:
- (4) Terms of Delivery:
- (5) Scope of Supply (Accessories, Spare Parts):
- (6) Incidental Works/ Services:

**Deviations from Schedule of Requirements**

*Note to Bidders: Highlight deviations, if any, from Section VI: Schedule of Requirements in this Form.*

Sl. No.	Ref of Tender Document Section, Clause		Subject	Confirmation/ Deviation/ Exception/ reservation	Justification/ Reason
	Section	Clause/ sub-clause			

We shall comply with, abide by, and accept without variation, deviation, or reservation all requirements detailed in Section IV: Schedule of Requirements in the Tender Document, except those mentioned above. If mentioned elsewhere in our bid, contrary terms and conditions shall not be recognized and shall be null and void.

.....  
 (Signature with date)

.....  
 (Name and designation)

**Form 3: Technical Specifications and Quality Assurance - Compliance**

(To be submitted as part of Technical bid)  
(on Company Letter-head)

Tender Document No. Tend No./ xxxx; Tender Title: GOODS

Bidder's Name \_\_\_\_\_

The Managing Director,  
CITCO.

Bidder's Reference No. \_\_\_\_\_ Date.....

*Note to Bidders: Highlight in this form deviations, if any, from Section VII: Technical Specifications and Quality Assurance, maintaining the same numbering and structure. Submit copies of original test certificates for standards/ specification tests on the Goods and other relevant documents like technical data, literature, drawings, etc. Add additional details not covered elsewhere in your bid in this regard.*

Sl. No.	Ref of Technical Specification and Quality Assurance Clause		Subject	Confirmation/ Deviation/ Exception/ reservation	Justification/ Reason
	Section	Clause/ sub-Clause			

We shall comply with, abide by, and accept without variation, deviation, or reservation all Technical Specifications, Quality Assurance and Warranty requirements in the Tender Document, except those mentioned above. If mentioned elsewhere in our bid, contrary terms and conditions shall not be recognised and shall be null and void.

.....  
(Signature with date)

.....  
(Name and designation)

DA: Relevant documents like technical data, literature, drawings, and other documents



### **Form 4: Qualification Criteria - Compliance**

(To be submitted as part of Technical bid)

(on Company Letter-head)

Tender Document No. Tend No./ xxxx; Tender Title: GOODS

Bidder's Name \_\_\_\_\_

The Managing Director,  
CITCO.

Bidder's Reference No. \_\_\_\_\_ Date.....

*Note to Bidders: Furnish statements and documents to confirm conformity to Qualification Criteria may be mentioned/ attached here. The list below is indicative only. You may attach more documents as required for qualification criteria. Add additional details not covered elsewhere in your bid in this regard. Non-submission or incomplete submission of documents may lead to rejection of the bid as nonresponsive. Also highlight in this form deviations, if any, from Section VIII: Qualification Criteria.*

- 1) Location of the manufacturing Factory
- 2) Details of Plant and Machinery executed and function in each department (Monographs & description pamphlets) be supplied, if available.
- 3) Details of arrangement for quality control of products such as laboratory etc.
- 4) Details of Technical Supervisory staff-in-charge of production and quality control
  - (a) Skilled labour employed.
  - (b) Unskilled labour employed.
  - (c) The maximum number of workers (skilled & unskilled) employed on any day during the 18 months preceding the date of application.

5) Installed production capacity of item(s) quoted for, with the existing plant and machinery.

(a) The installed monthly production capacity for \_\_\_\_\_ and the type of \_\_\_\_\_.

(b) What portion of the production capacity shall be reserved for this contract?

Indicate reserved capacity in terms of the number of items of Goods per month.

(c) Average monthly production of during the last 5 years on a single shift basis.

(d) Existing order on hand for \_\_\_\_\_.

6) Have you supplied the Goods tendered for or other identical items in the past? If so, details of supplies in the last five years may be furnished in Form 4.1.

7) Details relating to Section VIII: Qualification Criteria  
\_\_\_\_\_

8) Documents Attached supporting the compliance to qualification criteria:

<b>Sr.No.</b>	<b>Document Attached, duly filled, signed, and copies self-attested</b>
1.	
2.	
3.	

\_\_\_\_\_  
(Signature with date)

\_\_\_\_\_  
(Name and designation)

DA: As above, if any

**Form 4.1: Performance Statement**

Statement of Supplies During Last Five Years and Outstanding Current Orders

(To be submitted as part of Technical bid)

Tender Document No. Tend No./ xxxx; Tender Title: GOODS

The Managing Director,  
CITCO.

Bidder's Reference No. \_\_\_\_\_ Date : \_\_\_\_\_

*Note to Bidders: Fill up this Form your past performance highlighting their qualification to supply relevant Goods. Statements and Documents to the Performance Statement may be mentioned/ attached here. The list below is indicative only. You may attach more documents as required to showcase your past performance. Add additional details not covered elsewhere in your bid in this regard.*

Order Issued by	Order No. & Date	Qty ordered	Quantity supplied	Price at which supplied	The total value of the order	Status as on date _____

.....  
(Signature with date)

.....  
(Name and designation)

DA: Performance records/ contracts

**Form 5: Terms And Conditions – Compliance**

(To be submitted as part of Technical bid)

Bidder's Name \_\_\_\_\_

The Managing Director,  
CITCO.

Bidder's Reference No. \_\_\_\_\_ Date \_\_\_\_\_

Tender Document No. Tend No./ xxxx; Tender Title: GOODS

*Note to Bidders: Fill up this Form regarding Terms and Conditions in the Tender Document, maintaining the same numbering and structure. Add additional details not covered elsewhere in your bid in this regard.*

Sl. No.	Ref of Tender Document Section, Clause		Subject	Confirmation /Deviation/ Exception/ reservation	Justification /Reason
	Section	Clause/ sub-Clause			

We shall comply with, abide by, and accept without variation, deviation, or reservation all terms and conditions of the Tender Document, except those mentioned above. If mentioned elsewhere in our bid, contrary terms and conditions shall not be recognized and shall be null and void.

.....

(Signature with date)

.....

(Name and designation)

DA: If any, at the option of the Bidder.

### **Form 6: Check-List for Bidders**

(To be submitted as part of Technical bid)

Bidder's Name \_\_\_\_\_

The Managing Director,  
CITCO.

Bidder's Reference No. \_\_\_\_\_

Date : \_\_\_\_\_ Tender Document No. Tend No./ xxxx; Tender Title: GOODS

*Note to Bidders: This check-list is merely to help the bidders to prepare their bids, it does not over-ride or modify the requirement of the tender. Bidders must do their own due diligence also.*

<b>Sr. No.</b>	<b>Documents submitted, duly filled, signed</b>	<b>Yes/ No/NA</b>
1.	Form 1.- bid Form (to serve as covering letter and declarations applicable for both the Techno-commercial bid and Financial bid)	
2.	Form 1.1: Bidder Information along with Power of attorney and Registration Certificates etc.	
2.a	Self-attested copy of Registration certificates etc. of the firm	
2.b	Self-attested copy of PAN	
2.c	Self-attested copy of GSTIN registration(s)	
2.d	Self-attested copy of Power of Attorney etc. authorizing signatories on stamp paper to sign the bid	
3.	Form 1.2: Eligibility Declarations, along with supporting documents	
3.a	Self-attested copy of Registration certificate for bidders/ subcontractors from restricted neighboring countries	
3.b	Self-attested copy of MSME registration	
3.c	Self-attested copy of Start-up registration/ status	
4.	If applicable, Form 1.3: OEM's Authorization Form duly filled up (if applicable to Bidder concerned)	
4.a	Self-attested copy of Registration certificates etc. of the OEM/principal	
4.b	Self-attested copy of Power of Attorney etc. authorizing signatories on stamp paper to sign Form 1.3 of OEM/ Principal	

5.	If applicable, Form 1.4: Declaration by Agents/ Associates of Foreign Principals/ OEMs	
5.a	Self-attested copy of Registration certificates etc., of the agent/dealer.	
5.b	Self-attested copy of Power of Attorney etc. authorizing signatories on stamp paper to sign Form 1.4 of Agent Dealer	
6.	Form 2: Schedule of Requirements – Compliance	
7.	Form 3: Technical Specifications and Quality Assurance – Compliance	
7.a	Relevant documents like technical data, literature, drawings, and other documents, at the option of Bidder	
8.	Form 4: Qualification Criteria – Compliance	
8.a	Documents Attached supporting the compliance to Qualification Criteria	
9.	Form 4.1: Performance Statement	
9.a	Documents/ contracts supporting the performance statement	
10.	Form 5: Terms and Conditions – Compliance	
10.a	Documents if any at the option of Bidder, supporting deviation	
11.	Form 6: This Checklist	
12.	Form 7: Documents relating to Bid Security	
13.	Any other requirements, if stipulated tender document; or if considered relevant by the Bidder	

(Signature with date)

(Name and designation)

## **Form 7: Documents relating to Bid Security**

*Note: To be submitted as part of Technical bid, along with supporting documents, if any. Submit as Form 7 as part of Technical bid, a Bid Securing Declaration In lieu of bid security in the following format. Bidders exempted from submission of bid security are also required to submit this.*

### **Bid Securing Declaration**

(on Company Letter-head)

Bidder's Name \_\_\_\_\_

[Address and Contact Details]

Bidder's Reference No. \_\_\_\_\_

To

The Managing Director,  
CITCO.

Date.....

Ref: **Tender Document No. Tend No./ xxxx; Tender Title: GOODS**

Sir/ Madam,

We, the undersigned, solemnly declare that:

We understand that according to the conditions of this Tender Document, the bid must be supported by a Bid Securing Declaration in lieu of Bid Security.

We unconditionally accept the conditions of this Bid Securing Declaration. We understand that we shall stand automatically suspended from being eligible for bidding in any tender in Procuring Organisation for 2 years from the date of opening of this bid if we breach our obligation(s) under the tender conditions if we:

- 1) withdraw/ amend/ impair/ derogate, in any respect, from our bid, within the bid validity; or
- 2) being notified within the bid validity of the acceptance of our bid by the Procuring Entity:
  - (a) refused to or failed to produce the original documents for scrutiny or the required Performance Security within the stipulated time under the conditions of the Tender Document.

(b) Fail or refuse to sign the contract.

We know that this bid-Securing Declaration shall expire if the contract is not awarded to us, upon:-

- 1) receipt by us of your notification
  - (a) of cancellation of the entire tender process or rejection of all bids or (b) of the name of the successful bidder or
- 2) forty-five days after the expiration of the bid validity or any extension to it.

(Signature with date)

\_\_\_\_\_

(Name and designation)

DA : \_\_\_\_\_