



**राष्ट्रीय प्रौद्योगिकी संस्थान सिक्किम**  
**NATIONAL INSTITUTE OF TECHNOLOGY SIKKIM**  
(An Institute of National Importance, Ministry of Education, Govt. of India)

Tender No:46/NITS/CE/Transportation Lab 2020/49

Date: 10<sup>th</sup> December 2020

**Notice Inviting Tender**

National Institute of Technology Sikkim invites tenders/bids under two bid systems (Technical Bid & Financial Bid both in separate sealed envelopes) in sealed envelope for Supply and Installation of **Equipments for Transportation Engineering Laboratory for Dept. of Civil Engineering** as per the specifications, terms and conditions given in this tender. The tender documents can be downloaded free of cost from the website [www.nitsikkim.ac.in](http://www.nitsikkim.ac.in) or from the Central Public Procurement Portal.

**Schedule of Requirements**

S.No.	Particular	Qty	Place of Delivery	Delivery Period
1	Supply and Installation of Equipments for Transportation Engineering Laboratory ( As given in Annexure -I)	As Given in Annexure-I	Ravangla NIT Sikkim	120 Days

Details	Information
<b>Bidding System</b>	Two Bid system: Technical Bid & Financial Bid (Separate Sealed)
<b>Tender Floating Date</b>	10 <sup>th</sup> December 2020
<b>Tender Closing Date &amp; Time</b>	04 <sup>th</sup> January 2021; 12:30 PM
<b>Technical Bid Opening Date &amp; Time</b>	04 <sup>th</sup> January 2021; 03:00 PM
<b>Financial Bid Opening Date &amp; Time (Tentative)</b>	06 <sup>th</sup> January 2021; 11:00 AM
<b>EMD (Earnest Money Deposit)</b>	Rs.1,75,000/- (Rupees One Lakh Seventy-Five Thousand Only) By Demand Draft in favour of “Director, NIT Sikkim” payable at State Bank of India, Ravangla Branch (IFSC SBIN0007218).
<b>Address for communication</b>	The Registrar NIT Sikkim, Ravangla, South Sikkim - 737139
<b>For any Clarification</b>	registrar.office@nitsikkim.ac.in
<b>Institute Website</b>	www.nitsikkim.ac.in
<b>Tender Submission</b>	Tender may be deposited in the tender box or submitted in the Administrative Block at Reception/Registrar office.
<b>Number of pages in the tender document</b>	30

**Registrar**

**Note Carefully:** The Bidders are required to read carefully and understand all the terms and conditions, specifications, formats, instructions, etc. given in the Tender/Bid document with full understanding of its implications. Failure to furnish all information required for submission of a bid or bids not substantially responsive in every respect may result in outright rejection. The Bidder is required to give confirmation of their acceptance of all the terms and conditions mentioned in the Tender/Bid document. Failure to do so may result in rejection of Tender/Bid submitted by the Bidder.

## **General Terms & Conditions**

1. In this tender document the Institute means “National Institute of Technology Sikkim (NIT Sikkim)”, the BUYER means NIT Sikkim and SELLER/SUPPLIER means the successful bidder awarded the Purchase Order (PO)/work order. The word “Tender” and “Bid” is used interchangeably having same meaning. Here, the word supply/agreement/contract/project mean the Purchase order for the goods given in the scope of the work. Goods/Items/Stores means the items/service mentioned in the scope of work. A tender/bid document means all the pages of this document consisting of terms and conditions, specifications, bid formats, undertaking, etc.
2. **Scope of Work:** Supply and installation of “**Equipments for Transportation Engineering Laboratory**” as per specification for NIT Sikkim. Suppliers with track record of supply of similar type of goods/equipment may bid for the same.

3. **Format for submission of bid:**

The bid shall be submitted only in the *forms and formats* attached with this bid document and every page of the bid document should be signed and stamped by the authorized person. The bid should be forwarded by the bidder under their original memo/letter head inter alia furnishing all the required details like GST number, PAN, Bank details etc. and complete contact details (Postal address, email, fax, contact numbers) of their office. All bidding documents including technical and financial bids must be in English. One signed copy of the tender document, with bidding firm seal, agreeing to the terms & conditions and declaration etc. must also form the part of the submitted bid.

4. **Two Bid system:**

The bidding process shall consist of **Two** bid system. The bid must be submitted in two parts comprising:

**Part-I: Technical Bid [Annexure-II] & Part-II: Financial/Commercial/Price Bid** (all have same meaning) [Annexure-V].

**The Part-I** (Technical bid) should contain the EMD, compliance/non-compliance of detailed technical specifications as per the BID/TENDER document along with other desired information/certificate, eligibility documents etc.

**The Part-II** (Financial Bid) shall only contain the price offered in the Bid format provided with document along with other desired information/certificate, etc, if any.

Both the Bids should be properly placed in two **separate sealed envelopes** and marked accordingly (**must super-scribed TECHNICAL BID or FINANCIAL BID on the top of each respective envelope**) for their proper identification. These should again be sealed in a third bigger envelope super-scribing, “**Bid for Supply and installation of Equipments for Transportation Engineering Laboratory**”.

The Part-I (Technical bid) will be opened on the date of tender opening and the Part-II (Financial Bid) after evaluation of Part-I. The Part-II (Financial Bid) of only technically qualified bidders shall be opened, as decided by the Tender Evaluation Committee. The decision of the Tender Evaluation Committee shall be final and binding on all the bidders.

## 5. Enclosures:

The bidder must attach the suitable supporting documents. The **Technical and Financial bids** will be submitted in the specific formats enclosed with this tender document in separate sealed envelopes. All the enclosures attached with the bid shall also be signed and stamped by the bidder. Please ensure following:

(a) **Technical bid** must comprise of following:

- (i) A clause by clause compliance on Terms and Conditions of the tender and the pointwise compliance of all Technical Specifications, etc. for all the items.
- (ii) Duly filled, signed and stamped **Technical Bid (Bidder Profile)** on the **letter head of the bidder [Annexure-II]**.
- (iii) Duly filled, signed and stamped **Technical Specification Compliance Statement (Technical Criterion)** on the **letter head of the bidder [Annexure-III]**.
- (iv) Duly filled, signed and stamped **undertaking** on the **letter head of the bidder [Annexure-IV]**.
- (v) All the certificates and declarations required under the Specific Conditions of this TENDER/BID document.
- (vi) The bidder must submit/supply records and satisfactory supply certificate of completing similar item to IIT's, NIT's, and Government/Public undertakings/Organizations of National Importance in last two years.
- (vii) Income Tax Returns or Annual report/audited annual accounts showing the turnover of the bidder.
- (viii) EMD in the form of Demand Draft must be enclosed with the Technical Bid.
- (ix) **The bidder should provide complete technical details, printed literature of the manufacturer along with model/make and the same should be verifiable from the website of the vendor/OEM. Mere copying the technical specification provided in the Annexure-I will lead to rejection of the bid.**
- (x) Brief description about the company including orders executed with Government organizations/Institutions, showing size, cost and completion details of each supply.
- (xi) The **GST registration** number and photocopy of certificate.
- (xii) **The PAN number** of proprietor/firm/companies with photocopy of the PAN card.
- (xiii) **OEM certificate or authorized dealership/supplier certificate for the equipment/goods quoted in the tender.**
- (xiv) The enclosed formats in original should be used for the Bids. All sheets submitted must be signed by the authorized signatory of the company and duly affixed with firm's stamp. Additional sheets duly authenticated may be attached to elucidate specific issue, if any.
- (xv) The bidder must submit a self-certified declaration that the bidding firm/manufacturer or the consortium (any partner of consortium) has not been blacklisted from participating in the tendering/bidding process by any Central or any State Government Institute/Organization (including autonomous Institute/Organization) in Last Three Years.

Noncompliance of any of the above may result in rejection of the bid summarily and no query in this regard shall be entertained.

(b) **Financial Bid/Price Bid:**

Financial bid will comprise of duly filled, signed and stamped Financial Bid in the format given at **Annexure-V**. Financial Bid/Price Bid only and must be placed in separate envelope duly sealed and signed. This envelop must be super-scribed with "**Financial Bid for supply and installation of Equipments for Transportation Engineering Laboratory**".

**NIT Sikkim being a Public Funded Research Institution, vide Notification No. 45/2017-Central Tax (Rate) and No 47/2017-Integrated Tax (Rate) is eligible for concessional rate of GST on purchase of research items. Further concession on customs duty is also available on customs duty vide notification No. 51/96-Cus. DSIR certificate shall be provided by the Institute to claim such concessional rate. Bidders are required to take into account the said concession in the Financial Bid. The concessional rate of GST is 5%.**

6. **Bid Security:**

The Bid Security of **Rs.1,75,000/-** (i.e. Earnest Money Deposit, EMD) in the form of Demand draft from any scheduled bank drawn in favor of "Director, NIT SIKKIM" payable at RAVANGLA, South Sikkim-737139 must accompany with **Technical Bid. No interest shall be paid on the submitted EMD. The demand draft must be drawn from the bank after the date of publication of tender and must carry minimum validity of 3 months, failing which the bid shall be rejected.** Offer without EMD will be rejected summarily except in case of exempted bidders holding valid MSME/NSIC license exempting such bidders from furnishing of EMD.

The Bid Security of unsuccessful bidders shall be refunded after finalization of bid/award of contract to successful bidder. EMD of the unsuccessful Bidders will be returned to them at the earliest after expiry of the final bid validity and latest on or before the 30<sup>th</sup> day after the award of the contract.

The Bid Security of the successful Bidder will be returned after the receipt of Performance Security as called for in the contract/adjusted towards performance security. No interest shall be payable to any bidder on the EMD with the Institute. The EMD of the technically disqualified bidders may be returned in original (i.e. the Demand Draft submitted along with bid).

The Bid Security shall be forfeited, (i) if a Bidder withdraws its bid during the period of bid validity; or (ii) if a Bidder makes any statement or submits any information which turns out to be false, incorrect and/or misleading at any time and / or conceals or suppresses material information; or (iii) in case of successful Bidder, if the Bidder fails to execute the order or withdraws the offer or uses means to secure the order which is prohibited as per the terms and conditions in this document. The decision of the Institute authorities shall be final and binding on the bidder(s).

7. **Amendment in Bid/Tender Document:**

At any time up to the last date of receipt of Bids, the Institute may, for any reason, whether at its own initiative or in response to a clarification requested by a Bidder, modify the Bid/tender document by an amendment. The amendment will be notified in writing through Institute website or email (if provided) to all the prospective Bidders, the same shall be binding on all the prospective bidders.

The Institute may, at its discretion, extend the last date for the receipt of Bids/cancel the Bidding process. It shall be the responsibility of the interested bidder(s) to regularly visit the website for any amendment/ information.

8. **Bid Disqualification:**

The proposal is liable to be disqualified in the following cases, however, the decision of the Institute committee shall be final and binding on all the bidders:

- (a) Proposal not submitted in accordance with instructions provided in this document.
- (b) Proposal is received in incomplete form.
- (c) Proposal is received after due date and time.
- (d) Proposal is not accompanied by all requisite supporting documents mentioned in the tender document.
- (e) The Financial Bid/Price Bid is placed in the same envelope as the Technical Bid.
- (f) If bid is not accomplished with EMD as per the clause given in this bid document.
- (g) Canvassing by the Bidder in any form, unsolicited letter and post-tender correction will invoke summarily rejection of the bid and may result in forfeiture of EMD.
- (h) Conditional tenders/Bids will be summarily rejected.
- (i) Any false/misleading/ incorrect information/document.
- (j) Bidder fails to deposit the Bid Security/Performance security or fails to enter into a contract within specified date of notice of award of contract or within such extended period, as may be specified by the Institute.

**9. Queries and Clarification:**

The queries and clarification in this Bid/Tender must be addressed to “Registrar” and the same must be sent through conventional mail as well as email/Fax in the format below:

S.No.	Clause No. (as per the Bid/Tender)	Your understanding /interpretation	Clarification sought from Institute

**10. Clarification regarding contents of the Bids:**

During evaluation and comparison of bids, the Buyer (NIT Sikkim) may, at its discretion, ask the bidder for clarification of his bid. The request for clarification will be given in writing (post/fax/email) and no change in prices or substance of the bid will be sought, offered or permitted. The clarification must be provided within the time stipulated by the Institute else the bid submitted may be rejected. No post-bid clarification on the initiative/request of the bidder will be entertained.

**11. Withdrawal of Bid Submitted:**

Bidders unwilling to participate in the bidding process after submitting the bid must ensure that intimation to this effect must reached the Registrar, NIT Sikkim before the due date and time of the opening of the Bids, failing which the defaulting Bidder may be delisted and will result in forfeiture of EMD.

**12. Right to Accept/ Reject Bids:**

The Institute reserves the right not to accept any bid and to annul the tender/bid process and reject all bids at any stage, without thereby incurring any liability or assigning any reason to the affected Bidders or any obligation to inform the affected Bidders on the grounds for such action.

**13. Only One Bid per Bidder:**

Each bidder shall submit only one tender either by himself or as partner in joint venture or as a member of consortium. If a bidder or of any of the partner in a joint venture or any one of the members of the consortium participate in more than one bid, the bids are liable to be rejected. Further, enterprises under common holding may bid only through one such enterprise.

**14. Confidentiality:**

The Bidder and their personnel shall not, either during the term or after expiration of this work order, disclose any proprietary or confidential information relating to the services, agreement or the Institutes business or operations without the prior written consent from the Institute or vice-versa.

**15. Force Majeure:**

During the pendency of the service agreement if the performance in whole or part thereof, by either party is prevented/delayed by causes arising due to any war, hostilities, civil commotion, act of public enemy, sabotage, fire, floods, explosion, epidemics, non-availability of raw material and other consumables, or any other causes including breakdown of equipment beyond their reasonable control. Neither of the two parties shall be made liable for loss or damage due to delay or failure to perform the contract during the pendency of forced conditions provided that the happenings are notified in writing within 7 days from the date of occurrence. The work shall be resumed under the contract as soon as possible after the restoration of normalcy. The Institute reserves the right to grant time period extension on the request of bidder or otherwise.

**16. Termination of Purchase Order:** The Institute may, without prejudice to any other remedy for breach of agreement, may terminate the purchase order/agreement in whole or in part, by written notice of default sent to the Bidder, and the performance guarantee shall stand forfeited if:

- (a) The Bidder fails to deliver any or all of the obligations within the time period(s) specified in the purchase order/ work order/contract/agreement, or any extension thereof granted by the Institute.
- (b) The Bidder fails to perform any other obligation(s) under the work order/agreement and fails to rectify it within the notice period for the rectification of the same.
- (c) Information/document submitted in technical proposal is found to be misrepresented, incorrect or false accidentally/unwittingly or otherwise at any time during the processing of the bid/contract (no matter at what stage) or during the tenure of the contract including the extension period if any. This may also invite any action (legal/debarring future participation in the bids) against the defaulter as deemed fit by the Institute.
- (d) The loss incurred due to termination of the work and addition cost incurred in completion of the work by any other firm, selected by the Institute shall be recovered from the defaulted firm/party.

**17. Termination for Insolvency:**

The Institute may at any time terminate the work order by giving written notice to the Bidder without compensation, if the Bidder becomes bankrupt/insolvent, provided that such termination shall not prejudice or affect any right of action or remedy which has accrued thereafter to the Institute.

*Note: Termination shall be based on the advice of Technical Committee constituted by the Institute.*

**18. Bid Evaluation Criteria:**

The broad guidelines for evaluation of Bids will be as follows:

- (a) Only those Bids will be evaluated which are found to be fulfilling all the eligibility and qualifying requirements of the Bid/TENDER document, both technically and financially.
- (b) In respect of Two-Bid system, the technical Bids Submitted by the Bidders will be evaluated by the Buyer's Tender Evaluation Committee (TEC) with reference to the eligibility criteria

and technical specifications of the goods as mentioned in the BID/TENDER document. The Technical compliance of each Bid will be determined on the basis of the parameters and specifications specified in the BID/TENDER document. The Financial bids of only those Bidders will be opened whose Technical Bids shall qualify the technical evaluation.

- (c) The Bidders are required to spell out the **rates of GST, etc.** in unambiguous terms; otherwise their offers will be loaded with the maximum rates of duties and taxes for the purpose of comparison of prices.
  - (d) **The price bid shall be evaluated on a collective basis for all the items put together as a package. Price of individual items shall not be considered separately.**
  - (e) If there is a discrepancy between the **unit price and the total price** that is determined by multiplying the unit price and quantity, the **unit price** will prevail and the total price will be corrected by the Institute Committee. If there is a discrepancy between words and figures, the amount in words will prevail for calculation of price and comparison of bids.
  - (f) NIT Sikkim reserves the right to modify in exceptional case any of the stipulated terms and conditions on merit / genuine and justifying grounds if it is in the larger interest of the Institute. The final acceptance of the bid rests entirely with the NIT Sikkim who does not bind himself to accept the lowest tender. The lowest price may not be the sole criteria for deciding the successful bidder, the Institute is free to take other factors in deciding the successful bidder for award of purchase order/ work order/contract/agreement in the interest of the Institute and its stakeholders. The Institute committee reserves all rights in this regard and no query or complaints in this regard shall be entertained. The selection will be made purely on the basis of committee's recommendation, genuineness of the firm and based on the technical specification of various products as per printed catalogues & also on the basis of experience, performance, promptness of delivery and requirement of the Institute.
19. **Firms/Bidders shall be required to accept all the Terms and Conditions mentioned in this BID/TENDER or modified/amended and shall be the part of the purchase order/work order/contract/agreement.**

20. **Placement of Order:**

The **Purchase/Work Order** will be placed on successful completion of the process to the successful bidder called the "SUPPLIER". Once the order is placed, it will be the firm/vendor's responsibility to supply the goods and complete the work awarded to the satisfaction of the Institute. It shall be the sole responsibility of the firm/vendor (Successful Bidder) to make the project functional in all respect. **Any additional cost incurred on account of this, for which the firm/vendor has not bid/quoted at the time of submission of the bid offer, will be borne by the firm/vendor. The Institute reserves the right for pre-inspection of the goods/ equipment quoted by the bidder before issue of P.O.**

21. **Arbitration:**

All disputes or differences arising out of or in connection with the purchase order/work order/contract/agreement shall be settled by bilateral discussions. Any dispute, disagreement or question arising out of or relating to the Contract or relating to the performance, which cannot be settled amicably, may be resolved through arbitration. The standard clause of arbitration will be as per the Institute norms/decision. All disputes, differences, claims and demands arising under or pursuant to or touching the agreement shall be referred to the sole arbitrator to be appointed by the Institute. The award of the sole arbitrator shall be final and binding on both the parties under the provisions of the Arbitration and Conciliation Act, 1996 or by statutory modification/re-

enactment thereof for the time being in force. Such arbitration will be held at NIT SIKKIM. It is clarified that Civil court shall have no jurisdiction to entertain any such disputes.

22. **Jurisdiction of Courts:**

In all matters and disputes arising here under, the appropriate Courts at Sikkim/New Delhi only shall have jurisdiction to entertain and try them only after the failure of arbitration process, if any.

### **Specific Terms & Conditions**

1. The bidder must either be an Original Equipment Manufacturer (OEM) or an authorized dealer/supplier/licensed Sole distributor of the item offered in the bid. The certificate of OEM/ Authorized Dealership/supplier should be enclosed with the bid.
2. Bidder should have valid GST registration for the current financial year. Only invoices/Bills with serial numbers and printed with GSTIN number shall be accepted.
3. The bidder should have prior experience in supply of similar type of goods/equipment in IIT's, NIT's, and Government/Public undertakings/Organizations of National Importance in last two years. The bidder must enclose purchase order or satisfactory supply certificate from the respective organization with the technical bid/tender document submitted against this tender.
4. The bidder must submit a self-certified declaration that the bidding firm/manufacturer or the consortium (any partner of consortium) has not been blacklisted from participating in the tendering/bidding process by any Central or any State Government Institute/Organization (including autonomous Institute/Organization) in Last Three Years.
5. The bidder must have an average turnover of Rs.10,00,0000/- (Rupees One Crore only) in the related trade in each of the two previous financial years. The bidder must enclose annual report/audited annual accounts or income tax return as proof for the same.
6. Bid or order may be cancelled or delivered items may be not be accepted fully or partially at any time if it is found that **Goods** differs or deviates from the mentioned and accepted specification in the bid. The decision of the committee constituted by the Institute for this purpose shall be final and binding on the supplier(s). Any action under this clause shall make the EMD/security deposit liable to be forfeited.
7. **Packing, forwarding, insurance, freight, loading, unloading charges should be inclusive in the price. Prices must be quoted on F.O.R basis.** For any damage/loss during transit, **supplier** shall be solely responsible and damaged/lost items must be replaced by supplier at their own cost.
8. **Validity:** Bids shall remain valid for 180 days from date of the Tender closing Date.
9. All the terms and conditions mentioned herein must be strictly adhered to by all the bidders/ firms/suppliers. Conditional tenders shall not be accepted on any ground and shall be rejected straightway.
10. The information/orders/notices, etc. communicated through **E-mail/Fax** provided by the firms/suppliers shall be treated authentic means of communication for all purposes. Providing the **correct contact details (Telephone/mobile Nos., official E-mail IDs, address, etc.)** shall be the sole responsibility of the bidders/firms/suppliers. No reason for non-receipt or non-acceptance of the information/orders, etc. through **E-mail** shall be entertained by the Institute. **The Institute may not send the above through formal postal services, if firms/suppliers so wishes may collect the Hard copy form the concern office of the Institute.** It is mandatory to sign all important documents/orders/notices, etc. to be considered valid.



- 11. Delivery and Installation Period:** Total delivery period for the items shall be **120 days from date of issue of Purchase Order**. The Institute reserves the right to extend the delivery time on the request with valid reason. Liquidity damage as per the tender document shall be levied in case of failure to abide by the delivery period. If supplier fails to deliver the Goods within the delivery period, NIT Sikkim may cancel full order or parts of the order and EMD will not be returned to the bidder. NIT Sikkim also reserves the right to place the order for the GOODS to any other bidder/firm/supplier in case of failure of the successful bidder
- 12. Place of Delivery:** National Institute of Technology, Ravangla, South Sikkim, Sikkim, Pin-737139, India (**26 km from Namchi, Sikkim, 140 km from Siliguri, West Bengal**). The consignee for the contract is Registrar/Store Officer of the Institute.
- 13. Payment** shall be made in Indian Rupees as follows: Satisfactory Delivery & Inspection – 70 - 80% of total cost; Satisfactory installation and Acceptance – 20 - 30% of total cost.
- 14. Advance Payments:** No advance payment(s) will be made.
- 15. Paying Authority:**

The Director, NIT Sikkim shall be the payment authority. The payments shall be released on fulfillment of all obligations under the purchase order/tender/contract to the satisfaction of the Institute authorities. The Institute authority reserves the right to withhold payment. The payments of bills will be made on submission of the following documents by the **seller** to the paying authority;

  - (a) Ink-signed copy of Commercial invoice/contingent bill/seller's bill in triplicate copy.
  - (b) Exemption certificate for GST, if applicable (BY BUYER).
  - (c) Details for electronic payments viz. Account holder's name, Bank name, Branch name and address, Account type, Account number, IFSC code (if these details are not incorporated in supply order/contract).
  - (d) Performance Security as per the tender document.
  - (e) Any other document/certificate that may be provided for in the Supply Order/Contract.

*(Note: From the above list, the documents that may be required depend upon the peculiarities of the procurement being undertaken)*
- 16. Responsibility of ensuring quality with specification** lies with the supplier. Deviation of technical specification from the approved sample may lead to rejection of delivery or cancellation of order along with forfeiture of EMD. The specification (Annexure-I) given in the bid document shall form the integral part of this bid document and the P.O.
- 17.** Tenderer should have a 24 x 7 technical assistance in Eastern/Central part of India and the bidder must have service centers of their own preferably in eastern India/West Bengal with engineers qualified to handle the repair & maintenance work.
- 18.** Bidder must quote for all the items mention in the tender otherwise bid will be rejected without assigning any reason.
- 19. Warranty/Guarantee: Three (03) Years** onsite comprehensive warranty from the date of successful installation should be provided by the bidder. Certificate mentioning acceptance of this clause should be enclosed with the bid. Authorization certificate from the OEM/Principal assuring full guarantee and warrantee obligations during the liability period, for the goods offered. The supplier has to confirm supply of back up of spares for a min period of 5 years.
- 20.** Equipment/items should be supplied with operating manual, installation manual along with having testing procedure, machine BOM, electrical connection along with foundation drawing, etc. in hard or soft copy.

21. Bidder may depute authorized representative with proper authorization letter for attending bids opening as per the schedule notified by the Institute time to time.
22. A bid submitted with false information will not only be rejected but also the bidder will be debarred from participation in future tendering process of NIT Sikkim and may even invite a legal action against such bidder(s).
23. Any defect pointed out by the authorized representative/committee of the Institution in the goods/items, etc. in the scope of this tender, the same shall be rectified in reasonable time as per the directions of the Institute authority. It may consist of replacement of goods/ onsite rectification at supplier's own cost. Noncompliance of the Institute directions in stipulated time may invite other clause of this bid document.
24. The bidder must enclose certificates evidencing quality, or statutory compliance along with the bid documents duly certified to be true copies. Brochures of quoted model should also be attached with the bid documents. **The bidder should provide complete technical details (printed literature of the manufacturer along with model/make) and the same should be verifiable from the website of the vendor/OEM. Mere copying the technical specification provided in the Annexure-I may lead to cancellation of the bid.**
25. NIT Sikkim may waive any minor informality or non-conformity or irregularity in a bid, which does not constitute a material deviation, provided such a waiver, does not prejudice or affect the relative ranking of any bidder.
26. The items to be supplied under this contract shall conform to the standards mentioned in the technical specifications. And when no applicable standard is mentioned, to the authoritative standard appropriate to the goods' country of origin and such standards shall be the latest issued by the concerned institution/Organization.
27. NIT Sikkim reserves right to award the order to one or more bidder.
28. **Performance Security:**

Within 10 days (Ten Days) of the completion of order/ work order/contract/, the successful Bidder shall furnish a Performance Guarantee of an **amount equivalent to 5% of the order value**. Performance Guarantee submitted shall be from a Scheduled Commercial Bank only. Performance Bank Guarantee (PBG) in the form of Demand Draft, Fixed deposit receipt/Bank Guarantee in the standard format from a scheduled commercial bank shall only be acceptable. Performance Bank Guarantee (PBG) should be valid upto 60 days beyond the date of warranty/last date of contract period. In case of failure to submit the performance security, equivalent amount shall be deducted from the bill payable and kept as security till the PBG is submitted.

29. **Liquidated Damages (LD) and Penalty Clause for Delay:**

In the event of the Suppliers/firms failure to supply the goods and conduct trials, installation of equipment, training, etc. as specified in this contract, the Buyer may, at his discretion, withhold any payment until the completion of the required work(s) to the satisfaction of the Institute. The BUYER may also deduct any amount/penalty from the SELLER/SUPPLIER (successful bidder) payment due as deemed necessary. Liquidated damages for the delayed/undelivered stores/goods/services/installation as mentioned above, subject to the maximum value of the Liquidated Damages being not higher than 15% of the total PO/contract value.

In case of delay attributed solely to the negligence of the firm (service provider) in the execution of supply of goods, service, etc., penalties at the following rates shall be imposed;

- (a) 1% of the total cost for delay upto 15 days;
- (b) 2% of the total cost for delay more than 15 days but less than 30 days;
- (c) 5% of the total cost for delay more than 30 days but less than 60 days;
- (d) 10% of the total cost for delay more than 60 days but less than 90 days;

- (e) 15% of the total cost for delay more than 90 days.

The competent authorities of the Institute reserve the right to increase the supply/installation/service etc. time period on the request of the firm or its own reasons or waive off the penalty. Maximum delay of 150 days is tolerable, beyond which the order/agreement is liable to be cancelled. The loss incurred due to non-performance of the firm/vendor will be recovered from the firm/vendor.

**30. Effective Date of the Supply Order:**

The work/supply/contract Order shall come into effect from the date **three days** later of its issuance by the NIT Sikkim. The firm has to acknowledge the same and shall remain valid until the completion of the obligations of the parties under the Order. The deliveries supplies and performance of the services shall commence from the effective date of the Order. In case of non-receipt of acknowledgement from the Bidder, effective date of the Order will be the **three day from the date of signing this Order**. The information/orders/notices, etc. communicated through **E-mail** provided by the firms/suppliers shall be treated authentic means of communication for all purposes.

**31. Penalty for use of Undue influence:**

The Seller undertakes that he has not given, offered or promised to give, directly or indirectly, any gift, consideration, reward, commission, fees, brokerage or inducement to any person in service of the Buyer or otherwise in procuring the Contracts/work orders or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of the present Contract or any other Contract with the Institute for showing or forbearing to show favour or disfavour to any person in relation to the present Contract or any other Contract with the Institute. Any breach of the aforesaid undertaking by the Seller or any one employed by him or acting on his behalf (whether with or without the knowledge of the Seller) or the commission of any offers by the Seller or anyone employed by him or acting on his behalf shall entitle the Buyer to cancel the contract and all or any other contracts with the Seller and recover from the Seller the amount of any loss arising from such cancellation. A decision of the Buyer or his nominee to the effect that a breach of the undertaking had been committed shall be final and binding on the Seller. Giving or offering of any gift, bribe or inducement or any attempt at any such act on behalf of the Seller towards any officer/employee of the Buyer or to any other person in a position to influence any officer/employee of the Buyer for showing any favour in relation to this or any other contract, shall render the Seller to such liability/penalty as the Buyer may deem proper, including but not limited to termination of the contract, imposition of penal damages, forfeiture of the PBG and refund of the amounts paid by the Buyer.

**32. Termination of Contract:**

The Buyer shall have the right to terminate this Contract in part or in full in any of the following cases:

- (a) Contract can be cancelled/ terminated unilaterally by the buyer in case items are not received within the contracted delivery period. Extension of contracted delivery period will be at the sole discretion of the Buyer with applicability of LD (Liquidated Damages) clause mentioned above.
- (b) The Seller is declared bankrupt or becomes insolvent.
- (c) The delivery of material is delayed due to causes of Force Majeure by more than three months or as decided by the Institute.
- (d) The Buyer has noticed that the Seller has utilized the services of any Indian/Foreign agent in getting this contract and paid any commission to such individual/company etc.
- (e) As per decision of the Arbitration.

**33. Notice:**

Any notice required or permitted by the contract shall be written in the English language and may be delivered personally or may be sent by E-mail/FAX or registered pre-paid mail/airmail, addressed to the last known address of the party to whom it is to be sent.

**34. Transfer and Sub-letting:**

The Seller has no right to give, bargain, sell, assign or sublet or otherwise dispose of the Contract or any part thereof, as well as to give or to let a third party take benefit or advantage of the present Contract or any part thereof.

**35. Amendments:**

No provision of present Contract shall be changed or modified in any way (including this provision) either in whole or in part except by an instrument in writing made after the date of this Contract and signed on behalf of both the parties and which expressly states to amend the present Contract.

**36. Risk and Expense Clause:**

- (a) Should the stores/goods or any installment thereof not be delivered within the time or times specified in the contract documents, or if defective delivery is made in respect of the stores or any installment thereof, the Buyer shall after granting the Seller 30 days to cure the breach, be at liberty, without prejudice to the right to recover liquidated damages as a remedy for breach of contract, to declare the contract as cancelled either wholly or to the extent of such default.
- (b) Should the good/stores or any installment thereof not perform in accordance with the specifications/ parameters provided by the SELLER during the check proof tests to be done in the BUYER, the BUYER shall be at liberty, without prejudice to any other remedies for breach of contract, to cancel the contract wholly or to the extent of such default.
- (c) In case of a material breach that was not remedied within 30 days, the BUYER shall, having given the right of first refusal to the SELLER be at liberty to purchase, manufacture, or procure from any other source as he thinks fit, other stores of the same or similar description to successful completion of the project in all respect.
- (d) Any excess of the purchase price, cost of manufacturer, or value of any stores procured from any other supplier as the case may be, over the contract price appropriate to such default or balance shall be recoverable from the SELLER.

**37. Quality:** The quality of the stores/goods delivered according to the present Contract shall correspond to the technical specifications and standards valid for the deliveries of the same stores for in Seller's country or specifications enumerated as per BID/TENDER and shall also include therein modification to the stores suggested by the Buyer.

**38. Inspection Authority:** The Inspection will be carried out by a Technical Committee appointed by the Institute for this purpose. The mode of Inspection will be Technical Committee Inspection/or as defined by the Institute. The committee may suggest the seller with respect to above quality clause for compliance.

**39. Franking Clause:** The following Franking clause will form part of the contract placed on successful Bidder:

- (a) Franking Clause in the case of Acceptance of Goods "The fact that the goods have been inspected after the delivery period and passed by the Inspecting officer/committee will not have the effect of keeping the contract alive. The goods are being passed without prejudice to the rights of the Buyer under the terms and conditions of the contract".
- (b) Franking Clause in the case of Rejection of Goods "The fact that the goods have been inspected after the delivery period and rejected by the Inspecting officer/committee will not

bind the Buyer in any manner. The goods are being rejected without prejudice to the rights of the Buyer under the terms and conditions of the contract.” In this case action will be taken as per the clause given in this bid document.

**40. Claims:**

The following Claims clause will form part of the contract placed on successful Bidder:

- (a) The claims may be presented either;
  - (i) On quantity of the stores, where the quantity does not correspond to the quantity shown in the Packing List/Insufficiency in packing.
  - (ii) On quality of the stores/goods, where quality does not correspond to the specifications/quality mentioned in the contract.
- (b) The description and quantity of the stores are to be furnished to the Seller along with concrete reasons for making the claims. Copies of all the justifying documents shall be enclosed to the presented claim. The Seller will settle the claims within 30 days from the date of the receipt of the claim at the Seller’s office. In case no response is received during this period the claim will be deemed to have been accepted.
- (c) The Seller shall collect the defective or rejected goods from the location mentioned by the Buyer and deliver the repaired or replaced goods at the same location under Seller’s arrangement.
- (d) Claims may also be settled by reduction of cost of goods under claim from Performance Security submitted by the Seller or payment of claim amount by Seller through demand draft drawn on an Indian Bank in favor of the Director/Registrar of the Institute.
- (e) The quality claims will be raised solely by the Buyer and without any certification/countersignature by the Seller’s representative stationed in India.

**Note Carefully:**

1. The Bidder is required to read and examine all the terms and conditions, specifications and instructions given in the TENDER/BID document with full understanding of its implications.
2. Failure to furnish any information required for submission of a bid or bids not substantially responsive in every respect may result in outright rejection.
3. The Bidder is required to give an undertaking of understanding and acceptance of all the terms and conditions mentioned in the Bid document.
4. The sole responsibility to comply with all terms and conditions, specifications and instructions in all respect lies with the bidder and NIT Sikkim shall not be held responsible in any respect in this regard.

**Registrar**

(Annexure-I)

**The Detailed Technical Specification for Transportation Laboratory**

S. No.	Items Description	Qty
1.	<p><b>Los Angeles Abrasion Testing Machine with Counter</b> (with NABL Certificate)            Ref. Standards – IS:10070, IS:2386 (Part 4), BS:812, ASTM C-131, C535, D2, AASHTO T96</p> <p>The machine shall consist of a hollow steel cylinder, closed at both ends, having an inside diameter of 700 mm and an inside length of 500 mm.</p> <p>The cylinder shall be mounted on stub shafts attached to the ends of the cylinders but not entering it, and shall be mounted in such a manner that it may be rotated about its axis in a horizontal positioning opening in the cylinder shall be provided for the introduction of the test sample. The opening shall be closed dust-tight with a removable cover bolted in place. The cover shall be so designed as to maintain the cylindrical contour of the interior surface unless the shelf is so located that the charge will not fall on the cover, or come in contact with it during the test.</p> <p>A removable steel shelf, projecting radially 88 mm into the cylinder and extending its full length, shall be mounted along one element of the interior surface of the cylinder. The shelf shall be of such thickness and so mounted, by bolts or other approved means, as to be firm and rigid. The position of the shelf shall be such that the distance from the shelf to the opening, measured along the circumference of the cylinder in the direction of rotation, shall be not less than 1250 mm.</p> <p>Removable Cover – A removable cover plate 240x 6mm shall be provided to close the opening on the cylinder dust-tight and this shall be bolted in place. The removable cover shall be made of steel and shall be formed to maintain the cylindrical contour of the interior surface having gasket thickness of 12mm</p> <p>Shelf- The shelf shall be of mild steel. (Angle shelf :-200x100x12mm, Steel Shelf:- 88x25x500mm )</p> <p>Frame – The frame shall be of welded structural steel construction. A channel carrying the motor and gear box shall be fixed rigidly to the frame.</p> <p>Drive – The drive should be by means of a Belt running over a sprocket on the stub shaft and a sprocket on the shaft of a gear box coupled to a motor (1 hp, 3 phase, and 1440 rpm).</p> <p>A clutch shall be provided. A revolution counter shall be provided to indicate the number of revolutions. The rate of rotation of the cylinder shall be 30-33 rpm.</p> <p>Tray – A tray with lifting handles shall be provided.</p> <p>Reduction gear with electric motor</p> <p>Digital controller box with START and Emergency STOP switches fitted in a box</p> <p>Abrasive charge, The abrasive charge shall consist of 12 cast iron spheres <math>48 \pm 2</math> mm in diameter and each weighing between 390 and 455 g and a total of 12 numbers of spheres weighing <math>5000 \pm 25</math> g shall be supplied. The machine is rotated for 500 revolutions for grading A, B, C and D. For grading E, F and G, it shall be rotated for 1000 revolutions.</p> <p>Note: Below Items required for complete the test ( on extra charge basis)</p> <ol style="list-style-type: none"> <li>Sieve 1.70 mm and as per different grades of aggregates (A, B, C, D, E, F, G)</li> <li>Oven and accurate balance.</li> </ol>	01
2	<p><b>Digi Marshall Apparatus, 50 kN, Single Speed, New Model for 4" dia sample,</b> (with NABL Certificate)            Ref. Standards - ASTM D1559 BS: 598-197, EN-12697-34 The test is intended for the measurement of the resistance to plastic flow of cylindrical specimens of bituminous paving mixture loaded on the lateral surface. For use with hot mixture containing asphalt or tar and aggregate upto 25.4 mm maximum size. Suitable for operation on 220V, 50 Hz, single phase, AC supply. • Single Speed, Bench top load frame</p> <ul style="list-style-type: none"> <li>• Max. loading capacity, 50 KN</li> <li>• Geared Screw jack and Motor Drive,</li> <li>• Precise speed</li> <li>• Limit Switch Protection for both upward and downward travel</li> </ul>	01

<p>The equipment consist of the following replaceable parts : -          Marshall Load Frame Cap 50kN speed-50.8mm/min:- 1 No. The equipment comprises a bench top loading frame with a screw-driven adjustable crosshead on columns attached to sturdy base shall produce a uniform vertical movement of 50.8mm/min          Maximum Vertical Clearance = 470mm (Platen Down, Cross-head up)          Minimum Vertical Clearance = 250mm (Platen up, Cross-head down)          Horizontal Clearance = 265mm          Platen Diameter = 133mm          Platen Travel = 25mm          Platen Speed = 50.8mm/min          Rated Power = 375W          Breaking Head Stability shall consisting of upper and lower cylindrical segment having inside radius of curvature of 50.8mm accurately machines Mould 1 No.          Compaction Mould Steel, cylindrical (101.6mm Dia x 76.2mm) 3 Nos.          Base Plate 3 Nos.          Extension Collar 3 Nos.          Compaction Pedestal, 1 No. Manual Operation, comprising a Steel Plate (304.8 x 304.8 x25.4mm) capped on a wooden post of 203.2 x 203.2 x 457.2mm in dimension and having average dry weight of 0.67 to 0.77kg/cm<sup>3</sup>. A Mould Clamp is fitted to the top of the plate.          Compaction Hammer 2 Nos. for use with Compaction Pedestal and Mould, weight 4.5 kg with a free fall of 457 mm          Load Transfer Bar 1 No.          Sample Eject for 100mm dia 12.7 mm thick Sample 1 No.          Digital Indicator ---- 1 No.          Load Cell,50kN---- 1 No.          LVDT, 20mm ---- 1 No.          Adaptors for Load Cell ---- 2 Nos.          Tommy Pin 1 No.          Steel Ball 1 No.          Spanners 3 Nos.          Power cable 2 Nos.          Calibration certificates 2 Nos.          Operating Instructions with General 1 No.          Data Logger          3 slot Mainframe with multiplexer &amp; built-in 6½ digit DMM          Measures and converts 12 different input signals:          a. Temperature with thermocouples          b. RTDs and thermistors          c. DC/AC volts          d. 2 and 4 wire resistance          e. Frequency and period          f. DC/AC current and capacitance          LAN and USB for easy connectivity to PC must be available          USB flash drive support to copy/log data in standalone applications          Graphical Web interface for point and click monitor and control Virtual front panel control via Web interface          Built-in signal conditioning must be available          No of Channel : 20Voltage + 2 Current          Measurement Speed : ≥80 Ch/Sec          Max Volts : ≥300V          Max Current : ≥1A          Communication: LAN must be available          System Must be supplied with Test Automation software over LAN          Hand Gloves (heat resistant),5 Nos          Whatman Filter No. 40/41/42 Dia : 110 mm (box of 100)- 2 nos</p>	
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3	<p><b>Thin Film Oven /Loss on heating Oven</b>  Ref:-ASTM D 1754 or IS: 9382  This test method covers the determination of the effects of heat and air on a film of semisolid asphaltic materials. The effects of this treatment are determined from measurements of selected asphalt properties before and after the test.  Apparatus consisting of:  Oven: Shall be electrically heated and shall conform to Specification E 145, Type IB (Gravity-Convection), for operating temperatures up to 180°C (356°F).  The oven shall be rectangular, and each interior dimension (exclusive of space occupied by the heating element) shall be a minimum of 330 mm (13 in.) and a maximum of 535 mm (21 in.).  The oven shall have, in front, a tightly fitted hinged door, which shall provide a clear opening substantially the same as the interior height and width of the oven.  The door may contain a window with dimensions of at least 100 by 100 mm (4 by 4 in.) and with two sheets of glass separated by an air space, through which a vertical thermometer placed may be read without opening the door; or the oven may be provided with an inner glass door, through which the thermometer may be observed on opening the outer door momentarily.  The oven shall be adequately ventilated by convection currents of air and for this purpose shall be provided with openings for the entrance of air and for the exit of heated air and vapors. Openings may be of any size and arrangement provided the requirements of Specification E 145, Type IB, are met.  Rotating Shelf—The oven shall be provided with a single metal circular shelf having a minimum diameter of 250 mm (9.8 in.) and a maximum diameter of 450 mm (18 in.)  The shelf construction shall be such that it provides a flat surface for support of the containers without blocking all air circulation through the shelf when the containers are in place.  The shelf shall be suspended by a vertical shaft and centered with respect to the horizontal interior dimensions of the oven and shall be provided with a mechanical means of rotating it at the rate of <math>5.5 \pm 1.0</math> RPM.  The preferred vertical position for the shelf is 150 mm (6 in.) above the bottom of the oven (exclusive of space occupied by the heating element), and the shelf shall be located as close to this position as permitted by compliance with the thermometer placement.  The shelf shall be constructed or marked in such a way that the sample containers can be placed in the same position during each test.  There shall be a minimum of two and a maximum of six sample container positions. Each sample container position shall be symmetrical with respect to the shaft and to any holes in the shelf. The number of sample container positions shall be the maximum that will fit on the shelf without violating the above requirements and without excessive overhang.  Thermometer—An ASTM Loss on Heat Thermometer having a range from 155 to 170°C.  Container—A cylindrical pan, 140 mm in inside diameter and 9.5 mm deep with a flat bottom.  Fifty milliliters of the sample in this size container give a film thickness of approximately 3.2 mm  Pans shall be made of stainless steel and shall have a metal thickness of approximately 0.64 mm.  Hand Gloves (heat resistant), 2 Nos</p>	01
4	<p><b>Cannon Manning cum Cannon Fenske Viscometer bath with Vacuum Pump</b>  (with NABL Certificate)  Ref code: IS 1206-PART II &amp; PART III (For testing Absolute (Tube size 12 &amp; 13) and Kinematic viscosity (Tube 6 &amp; 7) of bitumen and cut-backs using cannon manning vacuum capillary viscometer.  Equipment consisting of:  Constant Temperature Bath – A suitable bath for immersion of at least 4 vacuum capillary viscometer tubes with a digital temperature controller. The accuracy of the temperature in the bath should be <math>\pm 0.1</math> Deg C throughout the bath.</p>	01



	<p>Bath Specification:- Cylindrical clear glass vessel 305mm in Diameter and 305mm high.</p> <ul style="list-style-type: none"> <li>• A stainless steel baffle located in the center of the bath provides a plain reflective background to aid in viewing instruments.</li> <li>• The Top cover contains 4 holes 51mm Dia for insertion of viscometer holders, allowing up to 4 nos viscosity measurements to make simultaneously.</li> <li>• Coves are supplied for capping unused holes</li> <li>• Two additional holes 10mm Dia are provided for thermometers.</li> <li>• Glass vessel is guarded by 8mm thickness transparent perspex cover.</li> <li>• All wetted parts of the constant temp baths are made of SS, Glass</li> <li>• One stirrer provided within temp bath</li> <li>• Inbuilt temp controller and digital Stop watch must be there.</li> <li>• Sprit level and leveling screw provided for proper leveling of instrument. Vertical alignment also provided.</li> </ul> <p>Silicone Bath Oil suitable up to 150Deg C</p> <p>Vacuum System – Capable of maintaining a vacuum within +/- 0.05 cm of the desired level up to and including 30 cm of mercury. The system shall consist of vacuum pump, moisture trap, vacuum regulator, manometer with electronic controller, bleed valve, all interconnecting tubing/piping, and any other accessories as needed to complete the vacuum system.</p> <p>Thermometer for Bath – Thermometer of IP-5C of a range from -2 to 300°C as per specification/Thermometer of IP-64C of a range from -20 to 102°C (0.2° resolution)</p> <p>Timing Device – A stop watch or stop clock capable of reading up to ½ second.(Inbuilt Digital System)</p> <p>Note: - For all viscometer sizes the volume of measuring bulb C is approximately three times that of bulb B. The viscosity ranges correspond to a filling time of 60 and 400 s for both measuring bulbs should measure</p> <p>The equipment comprises of the following:</p> <ol style="list-style-type: none"> <li>1. Kinematic Viscometer Bath with a provision for 4 tests 1 No.</li> <li>2. Vacuum pump System 1 No.</li> <li>3. Thermometer IP- 5C (Range -2 to 300°C) 1 No.</li> <li>4. Thermometer IP- 64C (Range -20 to 102°C) 1 No.</li> <li>5. Silicone Oil 20 liter.</li> <li>6. Digital Stop Watch, Sieves 300 Micron 1 No.</li> <li>7. Capillary Viscometer holders 4 Nos.</li> <li>8. Weight Ball 1 No.</li> <li>9. Temperature Sensor 1 No.</li> <li>10. Bakelite Cover 4 Nos.</li> <li>11. Stopping Ring for thermometer 2 Nos.</li> <li>12. Fuse 6A (Dia 6 X 30 mm) 4 Nos.</li> <li>13. Silicone Rubber pipe 1 meter (For connecting Vacuum Pump &amp; Tube)</li> <li>14. Hot Plate, Rectangular, with Energy Regulator, 300x450x180mm, 2.0kw</li> <li>15. Laboratory Electric Oven, with Digital Indicator Cum Controller with Safety Alarm, range 50° to 250°C +/-1°C with Air Circulating Fan, S.S. Inside Size 450 x450 x 450mm</li> <li>16. Operating Instructions with General Assembly Drawing 1 No.</li> <li>17. Tube 350 (Direct Flow) Tube 400 (Reserve Flow)</li> </ol>	
5	<p><b>Asphalt Content Tester</b> (with NABL Certificate)</p> <p>Ref Standard:- ASTM D6307 &amp;EN 12697 39</p> <p>This machine is used to determine the asphalt content of hot mix asphalt (HMA), paving mixtures and pavement samples by removing the asphalt in an ignition furnace by means of sample heating not by means of solvents</p> <p>Working temp:538 +/-2 Deg C</p> <p>Combustion Temperature: 800Deg C</p> <p>Balanced Capacity: 10Kg</p> <p>Weight of sample: 2500Gm</p> <p>Recommended weight of sample: 1500G</p> <p>Time for test result: 30 to 45mins</p>	01

	<p>End point sensitivity: 0.01% for 3 consecutive minutes  Data Output: Through USB  Chamber size: 300mm x340mm x400mm  Outer Size: 590mm x755mmx 1300mm  Machine having IRC accreditation vide Letter No:- IRC-24(7)/2018(ACC-256)  Dated:- 12/12/2019</p>	
6	<p><b>Universal Penetrometer with Penetration Cone &amp; Bitumen Penetration Kit</b>  (with NABL Certificate)  Universal Penetrometer: The penetration test determines the hardness of these materials by measuring the depth in tenth of a millimeter to which a standard needle will penetrate vertically under specified conditions of standard load, time and temperature.  The unit is compact with in-built timer to control duration of penetration preset in factory to 5 seconds. The instrument is provided levelling screws.</p> <p>Penetration Cone: Ref. Standards IS:1448 (Part 60), ASTM D 937, IP 179, BS:4698, ASTM D217, IP 50, ISO 2137  Made of brass with a hardened steel tip.  The stem of the cone is interchangeable with all types of Penetrometers manufactured to close tolerances, providing a unified cone and ensuring that there is no shoulder between the tip and the body.</p> <p>Bitumen Penetration Kit :Ref. EN 1426, 13179-2  The equipment consists of the following replaceable parts:  Penetration Needle  Transfer Dish made of copper.  Aluminum Sample Containers, Set of two</p>	03
7	<p><b>Riffle Sample Divider, 14 Slots</b>, is fabricated according to IS: 1607 and BS: 812.  The largest size of the particle in the material to be sampled should not be more than 4.75 mm.</p> <p>The equipment comprises of the following:  Riffle Sample Divider consisting of a metal box on legs with series of 14 nos. chutes with 13mm width. 1 No.  Pans 2 No.  Copy of Operating Instructions with General Assembly Drawing. 1 No.</p>	01
8	<p><b>Riffle Sample Divider, 16 Slots</b>, is fabricated according to IS:1607 and BS:812  The largest size of the particle in the material to be sampled should not be more than 4.75 mm  The hopper of the riffle is of size 250mmx440mm  The equipment comprises of the following:  Riffle Sample Divider with 25mm. slot width. - 1 No.  Sample collection pans. - 3 Nos.  Operating Manual General Assembly Drawing - 1 No.</p>	01
9	<p><b>Density Basket &amp; Buoyancy Balance</b>,  (with NABL Certificate)  Density Basket wire basket of not more than 6.3 mm mesh or a perforated container of convenient size, preferably chromium plated and polished, with wire hangers not thicker than one millimeter for suspending it from the balance.</p> <p>Buoyancy Balance consisting of balance or scale of capacity not less than 3 kg, readable and accurate to 0.5 g and of such a type and shape as to permit the basket containing the sample to be suspended from the beam and weighed in water.  Buoyancy Balance—15 kg x 0.5g (with NABL calibration certificate) Suitable for operation on 220 V, 50 Hz, Single phase, AC supply.  A sample of not less than 2000 g of the aggregate shall be tested.’ The Buoyancy Balance consists of a rigid support Frame, incorporating a Water Tank, mounted on a platform. A mechanical lifting device (jolted 25 times during test) is used to raise the</p>	02

	<p>Water Tank thru the Frame height immersing the specimen suspended below the balance .The Balance supplied may also be used as a standard weighing system in the laboratory.</p> <p>Note: (The three size ranges used are aggregates larger than 10 mm, 40 mm and smaller than 10 mm. The specific gravity of aggregates normally used in road construction ranges from about 2.5 to 3.0 with an average of about 2.68) Water absorption shall not be more than 2% per unit by weight.( In case in Water absorption is higher than 2% than soundness test is required)</p>	
10	<p><b>Flash Point</b> Flash Point (Closed) Pensky-Martens Apparatus FOR BITUMEN OTHER THAN CUTBACK BITUMEN (with NABL Certificate) Flash Point – The flash point of a material is the lowest temperature at which the application of test flame causes the vapors from the material momentarily catch fire in the form of a flash under specified conditions of test. Consisting of: Cup – Made of brass, The inside of the cup may be turned to a slightly larger diameter above the filling mark and the outside may be tapered above the flange, but the wall thickness at the upper edge shall be not less than one millimeter. Inside diameter below filling mark: Min 49.5mm to max 52.1mm Difference between inside and outside diameters below filling mark:- Min 3.0mm to max 3.4mm Inside height: Min 54.6mm to max 57.2mm Thickness of bottom: Min 1.8mm to Max 3.0mm Distance from rim to filling mark: Min 21.5mm to max 22.2mm Distance, lower surface flange to bottom of cup: Min 45.2mm to 46.0mm The flange should be approximately 12mm in width and approximately 3 mm in thickness. It shall be equipped with devices for locating the position of the lid on the cup and the cup itself in the stove. A handle, attached permanently to the flange of the cup, is a desirable accessory. Stirring device: - The lid shall be equipped with a stirring device consisting of a vertical steel shaft, neither less than 2.5 mm nor more than 3 mm in diameter, mounted in the center of the cup, and carrying two two-bladed brass pro- pellers. Rate of rotation will be 60 revolutions per minute. The blades of both propellers shall be approximately 8 mm wide and shall be set at an angle of approximately 45 Deg The smaller (upper) propeller shall have an overall diameter of approximately 20 mm. The larger (lower) propeller shall have an overall diameter between 32 and 44 mm. The thick- ness of the propeller blades shall be neither less than 1.2 mm nor more than 2.0 mm. Cover proper – The cover proper shall be of brass and shall have a rim projecting downward almost to the flange of the cup and fitting the outside of the cup closely. The thickness of the cover measured just inside the rim, shall be not less than 0.8 mm and not more than 2 mm. There shall be four openings in the cover. Shutter – The lid shall be equipped with a brass shutter, approximately 2.5 mm in thickness, operating on the plane of the upper surface of the lid Flame Exposure Device – The flame-exposure device shall have a tip with an opening 0.7 to 0.8 mm in diameter. Stove – Heat shall be supplied to the cup by means of a properly aligned stove which is equivalent to an air bath. Note:- ( PENSKY-MARTENS –CLOSED ), FOR DETERMINATION OF FLASH POINT FOR CUTBACK BITUMEN:- the stirrer shall be mechanically operated to stir in a downward direction at a speed of 70 to 80 rev/min with Low range thermometer(- 7 Deg C to 110 Deg C) Flash Point (Open) and Fire Point, Pensky-Martens Apparatus Fire Point - The fire point is the lowest temperature at which the application of test flame causes the material to ignite and burn at least for 5 s under specified conditions of test.</p>	02

	<p>Consisting of :-  Cup - Made of brass, The inside of the cup may be turned to a slightly larger diameter above the filling mark and the outside may be tapered above the flange, but the wall thickness at the upper edge shall be not less than one millimetre.  Inside diameter below filling mark:- Min 49.5mm to max 52.1mm  Difference between inside and outside diameters below filling mark:- Min 3.0mm to max 3.4mm  Inside height:- Min 54.6mm to max 57.2mm  Thickness of bottom:- Min 1.8mm to Max 3.0mm  Distance from rim to filling mark:- Min 21.5mm to max 22.2mm  Distance, lower surface flange to bottom of cup:- Min 45.2mm to 46.0mm  The flange should be approximately 12mm in width and approximately 3 mm in thickness.  It shall be equipped with devices for locating the position of the lid on the cup and the cup itself in the stove.  A handle, attached permanently to the flange of the cup, is a desirable accessory.  Stirring device: - The lid shall be equipped with a stirring device consisting of a vertical steel shaft, neither less than 2.5 mm nor more than 3 mm in diameter, mounted in the centre of the cup, and carrying two two-bladed brass pro- pellers. Rate of rotation will be 60 revolutions per minute.  The blades of both propellers shall be approximately 8 mm wide and shall be set at an angle of approximately 45 Deg  The smaller (upper) propeller shall have an overall diameter of approximately 20 mm.  The larger (lower) propeller shall have an overall diameter between 32 and 44 mm.  The thick- ness of the propeller blades shall be neither less than 1.2 mm nor more than 2.0 mm.  Cover proper - The cover of the cup with a clip which encircles the upper rim of the cup and carries the thermometer and test-flame.  The tube carrying the thermometer shall have its center on a radius at approximately 90 Deg to the radius passing through the point of attachment of the test-flame, and shall be of such a height that when the thermometer is in position, its bulb shall be in the vertical axis of the cup and 12 mm below the filling line. The test-flame shall be fixed at the vertical axis of the cup and in level with the upper edge of the cup.  There shall be four openings in the cover.  Shutter - The lid shall be equipped with a brass shutter, approximately 2.5 mm in thickness, operating on the plane of the upper surface of the lid  Flame Exposure Device - The flame-exposure device shall have a tip with an opening 0.7 to 0.8 mm in diameter.  Stove - Heat shall be supplied to the cup by means of a properly aligned stove which is equivalent to an air bath.  Thermometer IP 15C Range 5°C to +110°C  Thermometer IP 16C Range 90°C to +370°C</p>	
11	<p><b>Saybolt Viscometer, new model with two cups-digital, Ref.</b>  (with NABL Certificate) Standards - ASTM D88, D 244, AASHTO T 72 For the empirical measurement of Saybolt Viscosity of petroleum products at specified temperatures between 70 F and 210 F. This is also used for determining the SayboltFurol viscosity of bituminous materials at temperatures of 250, 275, 300, 350, 400 and 450°F.  It comprises one each of Cylindrical Oil Cup, Universal Tip, Furol Tip, Bath fitted with immersion heater mounted on a stand, Dimmerstat for temperature control, Stirrer with shield. Apparatus is supplied complete with insulated handle and thermometer support, receiving flask, withdrawal tube, filter funnel, thermometer support for cup and circular spirit level. Suitable for operation on 220 V, 50 Hz, Single Phase.  ASTM Thermometer Type 17F, Range 66° F to 80° F  ASTM Thermometer Type 18F, Range 94° F to 108° F  ASTM Thermometer Type 19F, Range 120° F to 134° F  ASTM Thermometer Type 20F, Range 134° F to 148° F  ASTM Thermometer Type 21F, Range 174° F to 188° F  ASTM Thermometer Type 22F, Range 204° F to 218° F</p>	01

	<p>ASTM Thermometer Type 77F, Range 245° F to 265° F  ASTM Thermometer Type 78F, Range 295° F to 315° F  ASTM Thermometer Type 79F, Range 345° F to 365° F  ASTM Thermometer Type 80F, Range 395° F to 415° F  ASTM Thermometer Type 81F, Range 445° F to 465° F</p>	
12	<p><b>Standard Tar Viscometer, 10mm cup and ball valve</b>  (with NABL Certificate)  Ref. Standards - IS: 1206, IP 72, STPTC.RT 2, RT 3, BS: 2000, (Part 72)  For determining the viscosity of road tar.  Tar Viscometer- consists essentially of a cup having a specified orifice and valve; a water bath mounted on three legs having a suitable sleeve for the cup, a stirrer, a shield and a receiver.  Suitable for operation on 220V, 50 Hz, single phase, AC supply.  Cup: - known as the 10mm cup, is constructed of hard brass tube, fitted with an external brass collar at the upper (open) end of the cylinder to support the cup in the sleeve of the water bath. The bottom of the cup consists of a circular phosphor-bronze plate screwed into the cylinder -and made conical to facilitate drainage of the tar after use. It is provided centrally with a perfectly cylindrical, phosphor-bronze (90/10 cast) extension The extension is drilled and polished internally to give a 10mm circular orifice. The upper rim of the orifice shall be perfectly circular in order to provide a seating for the valve.  The dimensions of orifice and jet shall be as follows:  Diameter of the orifice <math>10 \pm 0.025</math> mm  Length of the jet <math>5 \pm 0.025</math> mm.  Valve:- It serves to close the orifice of the 10mm cup and is a phosphor-bronze sphere attached to a metal rod. The rod is provided with a levelling peg and at the upper end a hemisphere by which the valve is held in the valve support.  Water bath - made of copper sheet, is cylindrical in shape, about 160 mm in diameter and 105 mm in depth. It may be heated electrically, care being taken that local heating is avoided.  The water bath is mounted on three equidistant legs which are riveted to the cylindrical wall of the bath and are of sufficient length to permit a 100ml cylinder to be placed below the orifice of the cup.  Sleeve - to receive the cup and to hold it in position with an easy sliding fit. It is a stout brass tube, 105 mm in height and 42 mm internal diameter, which is bronzed or soldered into a central hole cut in the bottom of the bath.  Thermometer IP 8C, Range 0°C to 45°C  Thermometer IP 9C, Range 40°C to 85°C  Thermometer IP 10C, Range 76°C to 122°C</p>	01
13	<p><b>Standard Tar Viscometer, 4mm cup and ball valve</b>  (with NABL Certificate)  Ref. Standards - IS:1206, IP 72, STPTC.RT 2, RT 3, BS:2000, (Part 72)  For determining the viscosity of cut back bitumen  Tar Viscometer- consists essentially of a cup having a specified orifice and valve; a water bath mounted on three legs having a suitable sleeve for the cup, a stirrer, a shield and a receiver  Suitable for operation on 220V, 50 Hz, single phase, AC supply.  Cup: - known as the 4mm cup, is constructed of hard brass tube, fitted with an external brass collar at the upper (open) end of the cylinder to support the cup in the sleeve of the water bath. The bottom of the cup consists of a circular phosphor-bronze plate screwed into the cylinder -and made conical to facilitate drainage of the tar after use. It is provided centrally with a perfectly cylindrical, phosphor-bronze (90/10 cast) extension The extension is drilled and polished internally to give a 4mm circular orifice. The upper rim of the orifice shall be perfectly circular in order to provide a seating for the valve.  The dimensions of orifice and jet shall be as follows:  Diameter of the orifice <math>4 \pm 0.025</math> mm  Length of the jet <math>5 \pm 0.025</math> mm.  Valve: - It serves to close the orifice of the 4mm cup and is a phosphor-bronze sphere</p>	01

	<p>attached to a metal rod. The rod is provided with a levelling peg and at the upper end a hemisphere by which the valve is held in the valve support.</p> <p>Water bath - made of copper sheet, is cylindrical in shape, about 160 mm in diameter and 105 mm in depth. It may be heated electrically, care being taken that local heating is avoided.</p> <p>The water bath is mounted on three equidistant legs which are riveted to the cylindrical wall of the bath and are of sufficient length to permit a 100ml cylinder to be placed below the orifice of the cup.</p> <p>Sleeve - to receive the cup and to hold it in position with an easy sliding fit. It is a stout brass tube, 105 mm in height and 42 mm internal diameter, which is bronzed or soldered into a central hole cut in the bottom of the bath.</p> <p>Thermometer IP 8C, Range 0°C to 45°C Thermometer IP 9C, Range 40°C to 85°C Thermometer IP 10C, Range 76°C to 122°C</p>	
14	<p><b>Marsh Cone Viscometer SS with Stand</b></p> <p>The Marsh cone Viscometer is conical in shape – 152 mm in diameter at the top and 305 mm long with a capacity of 1,500 cm<sup>3</sup>. A 12- mesh screen covers half of the top and is designed to remove any foreign matter and drilled cuttings from the fluid. The fluid runs through a fixed orifice at the end of the funnel, which is 50mm long by 4.7 mm diameter in size.</p> <p>Plastic Measuring Cup, 1000mL or Glass Measuring Cup, 1000mL Thermometer 0-50o C Stopwatch</p>	01
15	<p><b>Ring and Ball Apparatus</b></p> <p>Ref. Standards - IS:1205, ASTM D 36, E 28, IP 198, IP 58, STPTC PT 3, AASHTO T53, BS:2000, EN 1427 For determining the temperature at which a sample of bituminous material loaded by a 9.5 mm dia steel ball, drops a specified distance when heated under specified conditions. Ring and Ball Apparatus is compact user friendly and has better aesthetics. It has magnetic stirrer with heating facility and digital display of temperature, the heating can be adjusted through knob. Suitable for operation on 220 V, 50 Hz, single phase, AC supply.</p> <p>Each unit is supplied with a bath of heat resistant glass vessel not less than 85mm in diameter and 120mm in depth and the following :-</p> <p>Ring &amp; Ball Apparatus with Digital Indicator, Heater &amp; Temperature Sensor with Heating Regulator Tapered Rings 2 Nos. Depth : 6.4 ±0.1mm Inside diameter at bottom : 15.9 ±0.1mm Inside diameter at top: 17.5 ± 0.1mm Outside diameter : 20.6± 0.1mm Ball Centering Guide 2 Nos. Steel Balls of 9.5 mm dia, weighing 3.5 + 0.05 grams: - 2 Nos. Ring holder 1 No. Electric Heater (Hot Plate) 1 No. Temperature sensor (PT-100) Magnetic spin bar 1 No Glass beaker 1 No. Copy of Operating Instructions with General Assembly Drawing. 1 No. Thermometer IP 60C Thermometer IP 61C</p>	03
16	<p><b>Centrifuge Extractor</b>, Capacity 1500g Electrically Operated with induct limit switch fitted in bowl housing connected with motor and top plate for operator safety. The equipment comprises of the following :</p> <ol style="list-style-type: none"> <li>1. Centrifuge Extractor, Electrically Operated 1 No.</li> <li>2. Tommy Pin 1 No.</li> <li>3. Filter Paper Discs 25 Nos.</li> <li>4. Operating Instructions with General Assembly Drawing. 1 No.</li> <li>5. Mains power cord 1 No.</li> <li>6. Spare fuse 1 No. (fitted inside the fuse holder)</li> </ol>	01

	7. Copy of Operation Instruction with General Assembly Drawing 1 No. Filter Paper Discs, Set of 25 numbers	
17	<p><b>Ductility Testing Machine with Digital Temp Indicator</b> (with NABL Certificate) Ref. Standards IS:1208, ASTM D113, AASHTO T 51 This standard covers the method of determination of ductility of distillation residue of cutback bitumen, blown type bitumen and other bituminous products. The equipment comprises of the following :</p> <p>Ductility Testing Assembly consisting of one SS frame, one non-ferrous water bath, one motor and gear box with speed selector for Two rates of travel 5cm/min( Temp 27 + 0.5° C) &amp; 1cm/min(Testing temp at 4±0.5 ° C). are incorporated, two brackets, one lead screw, one clutch handle, one immersion element, one Digital head with Temperature Indicator and one water pump with switches. - 1Set. Ductility Moulds with base plates fitted on the brackets. - 3Nos. Copy of Operating Instructions with General Assembly Drawing. - 1No. Mould -AIM 56501 Ductility Mould, with Base Plate ...3Nos (Made of brass with the shape,it will form a briquette specimen having the following dimensions: Total length 75.0 ± 0.5 mm Distance between clips 30.0 ± 0.3 mm Width at mouth of clip 20.0 ± 0.2 mm Width at minimum cross-section 10.0 ± 0.1 mm (halfway between clips) Thickness throughout 10.0 ± 0.1 mm Suitable for operation on 220 V, 50 Hz, Single Phase, AC supply Note:- when room temperature of water is higher than 27°C the heater need not be put to use, control the temperature at 27°C by adding cold water whenever temperature tends to rise above 27°C. By all arrangement keep the temperature in the water-bath uniform 27°C ± 0.5°C.</p>	01
18	<p><b>Benkelman Beam with Digital Dial Gauge in Wooden Carrying Case (as per IRC:81)</b> (with NABL Certificate) Lightweight aluminum construction.</p> <ul style="list-style-type: none"> <li>• Ease of Transportation.</li> <li>• Unique Telescopic Design, simplifying field set up.</li> <li>• 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 measuring 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 of a Reference Beam, Body, two part Probe Beam and Rear Zero adjust. With Dial Gauge</li> </ul>	01
19	<p><b>Pavement Dynamic Cone Penetrometer</b> The equipment comprises of the following:</p> <ol style="list-style-type: none"> <li>1. Base 1 No.</li> <li>2. 1 meter scale mounted on a square pipe 1 No.</li> <li>3. Cone 1 No.</li> <li>4. Bottom rod, 16mm Dia 1 No.</li> <li>5. Top rod 1 No.</li> <li>6. Anvil with cursor 1 No.</li> <li>7. Handle 1 No.</li> <li>8. Weight 1 No.</li> <li>9. Extension rod 1 No.</li> <li>10. Spanner 14 X 15 2 No.</li> <li>11. Operating Instructions with General Assembly Drawing 1No.</li> </ol> <p>The Dynamic Cone Penetration Test provides a measure of a material's in-situ resistance to penetration. The test is performed by driving a metal cone into the ground by repeated striking it with a 17.6 lb (8 Kg) weight dropped from a distance of 2.26 feet (575 mm). The penetration of the cone is measured after each blow and is recorded to provide a continuous measure of shearing resistance up to 5 feet below the</p>	02

	ground surface. Test results can be correlated to California Bearing Ratios, in-situ density, resilient modulus, and bearing capacity.	
20	<p><b>Asphalt Mixer, 5 Lt Capacity</b>  Mixer Bowl capacity:-5 Ltrs,  Mixing Capacity:-3-4 Kgs,  Temp Range:-Room temp to 140Deg +5Deg  Speed of Blade revolution:-0-80 Rpm,  Speed of Blade Rotation:-0-180Rpm,  Heater capacity:-1KW,  Testing Environment:-10-40Deg C &amp; 80 %RH,  The mixer is a mechanical mixer of the epicyclic type, which imparts both a planetary and a revolutionary motion to the mixer paddle. It has a two speeds controlled by the speed change lever.  At the low speed, the mixing paddle revolves at <math>140 \pm 5</math> rev/min, with a planetary motion of <math>62 \pm 5</math> rev/min.  At the high speed the mixing paddle revolves at <math>285 \pm 10</math> rev/min, with a planetary motion of <math>125 \pm 10</math> rev/min  Power Supply 220V,Single phase, AC supply</p>	01
21	<p><b>Skid Resistance Tester</b>  (with NABL Certificate)  Ref:- BS 812-144  Used to determine the surface friction of the curved aggregates, polished surfaces, concrete pavements and natural rocks.</p> <ul style="list-style-type: none"> <li>➤ This apparatus measures the skid resistance between a rubber slider (mounted on the end of pendulum arm) and the test surface.</li> <li>➤ This provides highway engineers with a routine method of checking the resistance of wet and dry surfaces to slipping and skidding, both in lab and site.</li> </ul> <p>The equipment comprises of the following :</p> <ol style="list-style-type: none"> <li>1. Skid resistance tester 1 No.</li> <li>2. Rubber Sheet 2 Nos.</li> <li>3. 126 Scale ruler 1 No.</li> <li>4. Rubber Brush 1 No.</li> <li>5. Water Bottle 1 No.</li> <li>6. Spanners ( 14 /15mm &amp; 17/19 mm ) 1 No. each</li> <li>7. Allen Key 1 No.</li> <li>8. Copy of Operating Instructions with 1 No. General Assembly Drawing.</li> </ol>	01
22	<p><b>Film Stripping Device</b>  Film stripping device is used to measure the resistance of bituminous mixtures to stripping of asphalt from Aggregate particles. It is generally used to evaluate mineral aggregates &amp; to judge the adhesion of the bituminous materials. The device consists of a disk on which 4 bottles are mounted. The disc rotates at a speed of approx. 100 rpm. The sample, usually the aggregate fraction which passes a 9.525 mm sieve but is retained on a No. 8 sieve, is placed in the bottles &amp; agitated for 15 minutes. The percentage of aggregate stripped can be visually estimated. The device is provided with a preset counter. Suitable for operation on 220 V, 50Hz, Single Phase, AC supply.</p>	02
23	<p><b>Asphalt Mixer Theoretical Density Meter</b>  Ref: - D2041 -03 This test method covers the determination of the theoretical maximum specific gravity and density of uncompact bituminous paving mixtures at 25°C.  Equipment consisting of following:-</p> <ol style="list-style-type: none"> <li>1. Theoretical Density Meter with agitating platform &amp; Perspex flasks - 1 No.</li> <li>2. Vacuum Pump. - 1 Nos.</li> <li>3. Copy of Operating Instructions with General Assembly Drawing. - 1 No.</li> </ol> <p>Note:- Below Items required for complete the test ( on extra charge basis)</p> <ol style="list-style-type: none"> <li>1. Water Bath maintaining <math>25 \pm 1</math> Deg</li> <li>2. Balance , capacity 15Kg</li> <li>3. Stop watch</li> </ol>	01



<b>4. Digital Thermometer</b>		
24	<p><b>Mastic Asphalt Tester</b> Ref –BS 5284 ,IS 1195 The equipment comprises of the following :</p> <ol style="list-style-type: none"> <li>1. Mastic machine with weight set 1 No. A flat ended indentation pin in the form of a steel rod of 6.35 mm diameter will penetrate the mastic under a load of 31.7 kg, applied for one minute, the temperature being maintained at 35+0.5°C or 45+0.5 °C as specified. The load is equivalent to 100kg / cm<sup>2</sup></li> <li>2. Digital indicator for Temperature control 1 No.</li> <li>3. Water Bath with water pump 1 No. The temperature working range is ambient to 85°C. A water pump is provided for circulating the water inside the water bath to maintain even temperature throughout.</li> <li>4. Dial Gauge 0-25 mm X 0.01 mm 1 No.</li> <li>5. Mastic Mould 1 No. 100 mm in diameter or 100 mm square to a thickness of 25 mm</li> <li>6. Allen Key (5mm) 1 No.</li> <li>7. Operating Instructions with General assembly Drawing. 1 No.</li> </ol>	01
25	<p><b>Water Bath</b> Double walled, inside made of stain less steel 304 grade and outside mild sheet painted with attractive stove enamel. Temperature is controlled by a hydraulic thermostat from 5°C above ambient to 100°C with a sensitivity of ± 0.5°C fitted with ISI mark Tublar Element. Bath consists of 2 pilot lamps &amp; on/off switch, to work on 220/230 Volts A.C. Fitted with Thermostat / Thermostat with Stirrer / with PID controller Dual Display with Stirrer. Size 600x300x175mm (for 8 racks) 31 Litres</p>	01
26	<p><b>Laboratory Electric Oven, with Digital Indicator Cum Controller with Safety Alarm</b>, range 50° to 250°C +/-1°C with Air Circulating Fan, S.S. Inside Size 600 x 900 x 450mm(Capacity: 243 Ltrs) Temperature with Digital Indicator Cum Controller from 50°C to 250°C with a sensitivity of ± 1°C in Bare Oven. Beaded heating elements are placed in ribs at the bottom and sides. Built in L-shape thermometer. Double walled, inside made of Aluminum or Stainless steel &amp; outside mild steel sheet powder coated painted with attractive stove enamel with adjustable wire mesh nichol plated trays, on/off Rocker switch with Indicator &amp; Thermostat Indicator, to work on 220/230 Volts A.C. No. of Trays: 3 Hand Gloves (heat resistant),5 Nos</p>	01

**Note:**

It shall be the responsibility to supply complete set of Equipments/items/parts/accessories necessary for installation and working of the all the Equipments. And if anything is missing from the specification, the bidder must quote the same and may bring to the notice of the Department.

(Annexure-II)

**Part-I: Format for Submission of Technical Bid (Bidder Profile)**

(To be enclosed with Technical Bid)

S. No.	Particulars	Fill-in Details	Ref No/ remarks, if any
01	Name and address of the Firm/Agency		
02	Whether the firm is Proprietary/Partnership Firm/Private Ltd./Public Ltd./ Others.		
03	Name of Proprietor/Partner of the firm/Agency		
04	Name & contact detail of Authorized representative: (Designation, Address, Mobile No., E-mail ID)		
05	Month and Year of Establishment of Firm		
06	Number of years of experience in this field		
07	Registration Number of the Firm		
08	Valid GSTIN Number		
09	PAN of the firm or Proprietor		
10	Showroom/Outlet/service center Address		
11	Turnover of the firm	2019-20: ..... 2018-19: .....	
12	OEM/Authorized Dealership/Supplier certificate from OEM		
13	Detail of Demand Draft submitted for EMD of Rs. ....	DD No. .... Date: .....	
14	Relevant documents as in the <b>Tender Document</b>		

*\*All fields are mandatory to fill with the copy of duly signed and stamped proof. These above points together constitute eligibility criteria.*

(Annexure-III)

**COMPLIANCE STATEMENT**

(Technical Criterion)

**The following is the Model Quoted against the mentioned Specification:**

S. No.	Item	Make and Model No.	Technical compliance (Write Yes or No)	Detailed technical specification (Write Attached or Not attached)	OEM or Authorized dealership (Write Attached or Not attached)
1	As mentioned in Detailed Technical Specification (Annexure-I)				

S. No	Following Equipment as per the specifications given in this Bid	Compliance (Yes/No)	Remark (If any)
1	Los Angeles Abrasion Testing Machine with Counter		
2	Digi Marshall Apparatus		
3	Thin Film Oven /Loss on heating Oven		
4	Cannon Manning cum Cannon Fenske Viscometer bath with Vacuum Pump		
5	Asphalt Content Tester		
6	Universal Penetrometer with Penetration Cone & Bitumen Penetration Kit		
7	Riffle Sample Divider (14 Slots)		
8	Riffle Sample Divider (16 Slots)		
9	Density Basket & Buoyancy Balance		
10	Flash Point		
11	Saybolt Viscometer, new model with two cups-digital		
12	Standard Tar Viscometer, 10mm cup and ball valve		
13	Standard Tar Viscometer, 4mm cup and ball valve		
14	Marsh Cone Viscometer SS with Stand		
15	Ring and Ball Apparatus		
16	Centrifuge Extractor		
17	Ductility Testing Machine with Digital Temp Indicator		
18	Benkelman Beam with Digital Dial Gauge		
19	Pavement Dynamic Cone Penetrometer		
20	Asphalt Mixer, 5 Lt Capacity		
21	Skid Resistance Tester		
22	Film Stripping Device		
23	Asphalt Mixer Theoretical Density Meter		
24	Mastic Asphalt Tester		
25	Water Bath		
26	Laboratory Electric Oven, with Digital Indicator Cum Controller with Safety Alarm		

(Annexure-IV)

**Undertaking**

(On the letter head of the bidder)

**To,**

**The Registrar  
National Institute of Technology Sikkim  
Ravangla, South Sikkim-737139**

Sub.: Undertaking for *Tender No:* ..... *Date:* .....

Dear Sir,

This is to undertake that I/We, owner(s)/authorized signatory of M/s ....., of ...<name of city>.... have read all the terms and conditions, specifications etc. of this Tender document and I/We fully understood all of them and I/We are fully aware of their implications. We undertake that if I/We were given the Purchase Order (PO), will abide by all the terms and conditions of the Tender document and provide all the goods/items to the satisfaction of the Institute authorities.

I further undertake that after reading and understanding all and their implications, all the pages of this tender document are signed and stamped by the authorized person of the firm.

The undersigned further certify and undertake that the bidding firm/manufacturer or the consortium (any partner of consortium) has not been blacklisted from participating in the tendering/bidding process by any Central or any State Government Institute/Organization (including autonomous Institute/Organization) in Last Three Years.

The documents and information furnished by the firm/undersigned (on behalf of the firm) are correct in all respect and if anything found incorrect, I shall be liable for the action as per the terms and conditions given in this tender document.

Signed by

(Name)

Authorized Signatory of M/s .....

Official Stamp

Date:

Place:

(Annexure-V)

**PART-II: Financial Bid**

(To be sealed in a separate envelope duly signed)

S. No.	Name of items	Unit Price (Rs.)	GST (@ %)	Qty	Total Unit Price (Rs.)	Total (Rs.) inclusive all taxes
1	Los Angeles Abrasion Testing Machine with Counter			01		
2	Digi Marshall Apparatus			01		
3	Thin Film Oven /Loss on heating Oven			01		
4	Cannon Manning cum Cannon Fenske Viscometer bath with Vacuum Pump			01		
5	Asphalt Content Tester			01		
6	Universal Penetrometer with Penetration Cone & Bitumen Penetration Kit			03		
7	Riffle Sample Divider (14 Slots)			01		
8	Riffle Sample Divider (16 Slots)			01		
9	Density Basket & Buoyancy Balance			02		
10	Flash Point			02		
11	Saybolt Viscometer, new model with two cups-digital			01		
12	Standard Tar Viscometer, 10mm cup and ball valve			01		
13	Standard Tar Viscometer, 4mm cup and ball valve			01		
14	Marsh Cone Viscometer SS with Stand			01		
15	Ring and Ball Apparatus			03		
16	Centrifuge Extractor			01		
17	Ductility Testing Machine with Digital Temp Indicator			01		
18	Benkelman Beam with Digital Dial Gauge			01		
19	Pavement Dynamic Cone Penetrometer			02		
20	Asphalt Mixer, 5 Lt Capacity			01		
21	Skid Resistance Tester			01		
22	Film Stripping Device			02		
23	Asphalt Mixer Theoretical Density Meter			01		
24	Mastic Asphalt Tester			01		

25	Water Bath			01		
26	Laboratory Electric Oven, with Digital Indicator Cum Controller with Safety Alarm			01		
<b>Total Price of Package</b>						

**Total Amount (In figure):** .....

**(In words):** .....

*# Total unit quoted price should be inclusive all charges (taxes, transportation, etc.). No extra charges will be paid. Rate quoted must be F.O.R. NIT Sikkim.*

##NIT Sikkim being a Public Funded Research Institution vide Notification No. 45/2017-Central Tax (Rate) and No 47/2017-Integrated Tax (Rate) is eligible for concessional rate of GST on purchase of research items. Further concession on customs duty is also available on customs duty vide notification No. 51/96-Cus. DSIR certificate shall be provided by the Institute to claim such concessional rate. Bidders are required to take into account the said concession in the Financial Bid. The concessional rate of GST is 5%.

### **Bank Account Details for Direct Payment**

(To be submitted by the Bidder)

S. No.	Particulars	Details
01	Firm (Beneficiary) Name	
02	Please enclose a cancelled cheque	
03	Complete Bank Account No. of the Firm [beneficiary]	
04	Bank Name & Address	
05	IFS Code No.	
06	Mobile No.& Email ID for information	

We undertake that all information provided above is correct and NIT Sikkim will not be responsible in case of any error on the part of firm.

**(Signature & Seal of the Company/Firm/Agency)**