

VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY, ODISHA



P.O: Engineering College Burla (Siddhi Vihar), Dist: Sambalpur
Odisha– 768018, India

Website : www.vssut.ac.in, E-mail: registrar@vssut.ac.in, Ph:(0663)2430573,Fax-2430592

No. VSSUT/ CIVIL / 420

Date: 18 /03/2016

TENDER CALL NOTICE

Sealed Tenders are invited from the intending reputed Original Equipment Manufacturers/Direct Importers/Registered Authorized Dealers for supply of Equipments for **different laboratories of Civil Engineering Department of VSSUT, Burla**. Detailed information and the tender document are available in the University website www.vssut.ac.in.

Sd/-

REGISTRAR

Memo No. VSSUT/CIVIL/421(5)

Date:18 /03/2016

Copy to:

- 1) M/s Display lines, 219, Saheed Nagar, Bhubaneswar-751007 with a request to publish the above advertisement in one issue of the Odisha daily edition (ALL ODISHA EDITION) of THE SAMAJ and all India edition of The Indian Express using minimum space at I & PR approved/lowest rates. The bills may be sent to the Comptroller of Finance, VSSUT, Burla-768018 in TRIPLICATE along with copies of the paper in which the publication is made, for necessary payment.
- 2) The University/Department Notice Board for publicity.
- 3) Dean F&P, with a request to hoist the tender call notice in the University web site www.vssut.ac.in for wide publicity.
- 4) S.O. Accounts, for information and necessary action. The expenses shall be chargeable under "Tools & Equipments" Head of the University.
- 5) Steno to Registrar for record. This is based on the approval of the Hon'ble Vice Chancellor at Note page N-1 of the File No VSSUT/CIVIL/76 of the Civil Engg. Dept.

Sd/-

REGISTRAR

SECTION I: INVITATION FOR BIDS (IFB)

Sealed Bids (properly stitched separately) in two separate covers (**Technical Bid and Price Bid**) are invited by the “**The Registrar, Veer Surendra Sai University of Technology, Odisha**” from the manufacturers/authorized distributors/ dealers for supply of Instrument, equipment, machineries etc. of reputed make (National/ International) for the Department of Civil Engineering, VSSUT Burla, Odisha.

The Bidders may download the **Tender Documents** directly from the website available at **<http://www.vssut.ac.in>** and the Tender cost fee of Rs.2000/- (Non-refundable) by way of separate Demand Draft drawn in favour of “**The Registrar, Veer Surendra Sai University of Technology, Burla**” payable at **SBI, Burla** should be enclosed along with the Bid. The Tender cost fee and the EMD amount should be submitted separately in separate demand drafts. In case of any bid clarification, responsibility lies with the bidders to collect the same from the website and the purchaser shall have no responsibility for any delay/ omission on part of the bidder.

TIME SCHEDULE:

- a) Price of bidding document: Rs.2000/- (Non-refundable)
- b) Date of commencement of downloading bidding document 20.03.2016 at 11.00 AM
- c) Last date and time for Receipt of bids 20.04.2016 up to 5.00PM
- d) Time and date of opening of Tender & technical bid 21.04.2016 at 11.30 AM
- e) PLACE OF OPENING OF TENDER AND ADDRESS FOR COMMUNICATION AND RECEIPT OF BID DOCUMENTS:

THE REGISTRAR

VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY, ODISHA
At- Burla, Po-Burla Engineering College, Dist-Sambalpur-768018,
Tel. No-0663-2430211 Fax No-0663-2430204

REGISTRAR
VSSUT Burla

SECTION-II: GENERAL TERMS AND CONDITIONS

GENERAL TERMS & CONDITIONS OF CONTRACT FOR SUPPLY, INSTALLATION AND DEMONSTRATION OF THE INSTRUMENTS, EQUIPMENT, MACHINERIES REQUIRED FOR DEPARTMENT OF CIVIL ENGINEERING, VSSUT, BURLA, ODISHA.

1. Document Establishing Bidder's Eligibility & Qualification

The Bidders shall furnish as part of the Bid the following Documents establishing Bidder's eligibility and qualification to the Purchaser's satisfaction.

- 1.1 Manufacturer / Authorized Distributor / Dealer having valid license / certificates for the quoted item and the direct Importers holding valid Import License Manufacturer / Authorized Distributor / Dealer of the product are eligible to participate in the Bid.
- 1.2 Bidders should have **ISI or equivalent** certification for quoted instruments and equipment. However, the Purchaser shall have the right to consider the items where ISI or equivalent certification is not applicable.
- 1.3 The Bidder whether manufacturer/ distributor/ dealer must have experience of supply and installation of the quoted items in reputed Government Institutions / Public Undertakings / reputed Private Institutions within India during last preceding 3(Three) years reckoned from the date of bid opening and the details must be submitted along with documentary proof.
- 1.4 The Bidders shall have to produce document in support of their service associates **nearest to Bhubaneswar/ Sambalpur**, Odisha.
- 1.5 Bidder shall have to provide operational Training for **Machineries** to one Official of each consignee at Suppliers Plant or Consignee site **at least for 7 days whichever is suitable to Purchaser**.
- 1.6 The Bidder shall quote items of one reputed Brand/model with all accessories in complete to perform functionality of Equipment/Machinery.
- 1.7 Manufacturer has to submit copy of Industry Registration of quoted products and Tax Registration Certificate issued from Competent authority. In case of Authorized Distributor / Dealer/Suppliers have to submit Manufacture authorization along with copy of above documents of Manufacture Industry.

2. Document Establishing Goods Eligibility

The instruments and equipment offered against the schedule of requirement of instruments, equipment and Machineries should be in accordance with the stipulated specifications and of one reputed brand/model (**N.B: Variation in specification is allowed upto±5% in case of Machineries/Equipments**)

- 2.1 The documentary evidence establishing the brand and the model may be in the form of literature, pamphlets, manuals, drawing, circuit diagram etc.
- 2.2 Detailed description of instruments and equipment with essential technical and performance characteristics may also be furnished.
- 2.3 The Bidders should clearly mention in their bid regarding the compatibility of the various equipment or the individual units.
- 2.4 The quantity shown in the bid can be increased or decreased to any extent depending upon the actual requirement.
- 2.5 The instruments and equipment should have testing certificate for its satisfactory functioning.

3. Technical Bid (COVER - A)

The following document should be submitted in cover-A.

- 3.1 Earnest Money Deposit
- 3.2 Technical details of the equipment and machineries as per **Annexure-V**
- 3.3 Copy of the manufacturing license/ import license/ Authorized Distributor/ Dealer certificates
- 3.4 Copy of the authorization from the Manufacturing Company in case of Authorized Distributor /Dealer.in **Annexure-III** along with Manufacturer Industry Registration and Tax Registration Certificate.
- 3.5 VAT/ST clearance certificate up to **date** where applicable.
- 3.6 Performance/ Market standing certificate establishing that the Bidders have executed supply of similar items as mentioned in Schedule of Requirement of instruments and equipment to different Govt. Organizations/ Government PSUs / reputed Private Institutions.(proof of documents)
- 3.7 Copy of the IT PAN Card.
- 3.8 Detail name, address, telephone no. fax, e-mail of the firm and of the Director/ Managing Director/ Proprietor of the firm (As per **Annexure IV**)
- 3.9 Address, Telephone No., e-mail, Fax of the Branch Office/ Contact Person/ Liaisoning Office in Odisha. (As per **Annexure IV**)
- 3.10 Power of Attorney/ Authorization to a person for liaisoning and monitoring the business on behalf of the manufacturer / bidder but not entitled to raise the bills.
- 3.11 Document if any to establish the recognition of the manufacturing unit in respect of ISO or equivalent.
- 3.12 **The original bid document signed & sealed by authorized person in each page as a token of acceptance of all terms and conditions of the tender with original receipt.**

- 3.13 Documentary evidence establishing that the instruments & equipment and ancillary services to be supplied by the Bidders shall confirm to the Bidding Document
- 3.14 Any deviation in the specification of the item including standard accessories / optional accessories in complete for functionality of Machine should be marked in **bold letters.**(**N.B: Variation in specification is allowed upto±5% in case of Machineries/Equipments**)
- 3.15 Details of foundation drawing for instruments and equipment, if any, should be provided.
- 3.16 The details of the service station / service associates nearest to Bhubaneswar/Sambalpur shall have to be submitted to qualify in the technical bid.
- 3.17 Willingness to provide operational Training for Machineries to one Official of each consignee at Suppliers Plant or Consignee site **at least for 7 days whichever is suitable to Purchaser**

4. Price Bid (COVER – B)

- 4.1 The hard copy of price bid giving the rates for various instruments & equipment and other items should be submitted along with sealed soft copy of **price bid in Excel format through CD/Pen drive** both in separate sealed cover here in after called **Cover B (Price Bid). Price Bid (Cover - B)** of the bidders who qualify in **Technical Bid (Cover – A)** will only be opened and will be communicated through **E-mail/Fax.**
- 4.2 The price of the each item shall be quoted as per the prescribed Price Schedule Format at **Annexure-I** along with price break up of custom duty, Excise Duty, CST, Packing, Forwarding and Handling charges, Insurance charges, ET, Freight up to destination including unloading, VAT, commissioning including testing and training with total price per item at **FOR** destination. The bidders are required to submit the individual price of each instrument(s) and equipment(s) as indicated in the schedule of requirements.
- 4.3 Each quoted item and all accessories should cover the warranty / guarantee for **2 (two)** year from the date of commissioning (**Annexure-II**).
- 4.4 The **Cover B** of the technically qualifying bidders shall be only opened at the Office of the **“The Registrar, Veer Surendra Sai University of Technology, Burla”** on the date and time to be communicated to them after technical evaluation of **Cover A by E-mail/Fax..**
- 4.5 The cost of standard accessories shall be included in basic price and optional accessories shall have to be quoted separately.
- 4.6 The bidders are required to submit the list of the spare parts required for the machine as well as the list of the dealers/ Distributors of the spare parts nearest to Bhubaneswar, Odisha for its availability.

5 BID CONDITIONS

5.1 The bidders should verify the sites of existing laboratories of Department of Civil Engineering, VSSUT, Burla and the proposed lay out Plan indicating the location of each unit for necessary Technical Evaluation. The scope of Supply as mentioned in the schedule of requirements if not sufficient for full function of the Equipment/Machinery should be intimated in writing with the technical bid.

5.2 The quoted rate shall not vary with the quantum of order placed or destination point.

5.3 A copy of the original bid conditions and the schedules should be signed by the bidder at the bottom of each page with the office seal duly affixed and returned along with the bid. Bid schedule should be duly filled in with an **index** and **page number** for the documents, enclosures & EMD etc. **Paging** must be done for all the documents submitted.

5.4 Bids should be type written or Computerized and every correction/ over writing in the bid should invariably be attested with signature of the bidder with date before submission of the bids to the authorities concerned. No revision of price upward or downward will be allowed once the bid is opened. However the purchaser shall have the right for considering the exchange rate of foreign currencies on verification of documents.

5.5 Language of Bid

The Bid prepared by the bidders and all correspondence and document relating to the bid exchanged by the Bidders and the *Purchaser*, shall be written in the English language. Supporting document and printed literature furnished by the Bidders may be written in another language provided they are accompanied by an accurate translation of the relevant passages in the English language in which case, for purposes of interpretation of the Bid, the English translation shall govern.

5.6 Bid Price

- The contract shall be for the full quantity as described above. Corrections, if any, shall be made by crossing out, initialing, dating and re-writing.
- All duties, taxes, and other levies payable on the raw materials and components, job contract shall be included in the total price.
- VAT in connection with the sale shall be shown separately.
- The rates quoted by the bidders shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
- The price shall be quoted in Indian Rupees only.

5.7 VAT/ST clearance

Copies of valid VAT clearance Certificates shall be furnished by the Bidders and the originals of the above certificates shall be produced to the purchaser before placement of notification of award if asked for by the Purchaser.

5.8 EMD

All bidders are required to submit EMD **not less than 2% of the quoted amount** in shape of **Demand draft** drawn in favour of **“The Registrar, Veer Surendra Sai University of Technology, Burla” payable at SBI, Burla** only. The EMD shall be in Indian Rupees.

NOTE: Non-submission of EMD or submission of less EMD than the desired one shall result in rejection of Bid. The EMD deposited against other Bids cannot be adjusted or considered for this Bid. No interest is payable on EMD.

5.9 SUBMISSION OF BIDS

Sealing and Marking of Bids

Bid should be submitted in two Bid system containing two parts as detailed below.

Sealed Cover-A: Technical Bid.

Sealed Cover-B: Price Bid (hardcopy & sealed soft copy in CD/pen drive)

Both the sealed envelopes should then be put in one outer cover and each cover should have the following indication:

- i) Reference No of Bid _____
- ii) Bid regarding _____
- iii) Due date & time for submission of the Bid _____
- iv) Due date & time for opening of the Bid _____
- v) Name of the Firm _____

NOTE:

A. Bids submitted without following two Bid system procedures as mentioned above will be summarily rejected.

B. Please Note that **prices should not be indicated in the Technical Bid**. The Prequalification document including EMD as required in the Bid document should invariably be accompanied with the Technical Bid (**Cover A**).

The outer envelope shall indicate the name and address of the bidders to enable the bid to be returned unopened in case it is declared **“late”**. If the cover containing the outer envelope is not sealed and marked as required, **Purchaser** will assume no responsibility for the bid's misplacement or premature opening.

The above procedure shall be adopted both for the Technical bid and price bid separately. Telex, cable, email or facsimile bids will be rejected.

5.10 Deadline for Submission of Bids

Bids must be received by the **Purchaser** at the address specified not later than the time and date specified in the Invitation of Bids. In the event of the specified date for the submission of bids being declared a holiday for the **Purchaser**, the bids will be received up to the appointed time on the next working day.

The **Purchaser** may, at its discretion, extend this deadline for submission of bids by amending the bid document, in which case all previous rights and obligations of the purchasers and bidders will remain same till the extended date.

5.11 Modification and Withdrawal of Bids

No Modification and Withdrawal of Bids is allowed between the interval of time of submission and the last date and time of the bids.

No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the bidders on the bid form.

5.12 BID OPENING

5.13 The **Purchaser** will open all bids, in the presence of bidder's representatives who choose to attend at **11.30 AM on dated 21.04.2016** at the Office of the "**The Registrar, Veer Surendra Sai University of Technology, Burla**".

5.14 The bidder's representatives who are present shall sign a register evidencing their attendance. In the event of the specified date of bid opening being declared a holiday for the **Purchaser**, the bids shall be opened at the appointed time and location on the next working day.

5.15 The bidder's names, and the presence or absence of the requisite EMD and such other details as the **Purchaser**, at its discretion, may consider appropriate will be announced at the opening. No bid shall be rejected at bid opening, except for late bids, which shall be returned unopened to the bidders.

5.16 Acceptance of the Bid

- Bidders submitting bids would be considered who have considered and accepted all terms and conditions. No enquiries, verbal or written, shall be entertained in respect of acceptance or rejection of the bid.

- Genuine equipment and instrument etc. should be supplied. Bidders should indicate the source of supply i.e. name and address of the manufacturers from whom the items are to be sourced.
 - Supply of equipment means – Installation and Commissioning (except civil works), Demonstration as well as Training at site. **No separate charges will be paid on this account.**

5.17 Rejection of the Bid

The Bid document shall be out-rightly rejected under following stipulation and no correspondence will be entertained whatsoever.

- If the Bidders has not furnished the required **Tender paper cost** and **EMD** or EMD exemption certificate from competent authority.
- If the Bidders has not submitted the Price as per the prescribed format **Annexure-I**
- **Manufacturing Authorization Annexure-III and in case of Authorized Distributor / Dealer/Suppliers have to submit Manufacture authorization along with copy of above documents of Manufacture Industry.**
- If the bid is not supplemented with breakup of standard accessories / Optional accessories & cost of AMC separately for three years after completion of warranty period **(In case of major machinery only).**
- Photo copy of the up-to-date valid manufacturing license/ import license (if it is imported) /dealership certificate/Distributor certificate of the product along with Tax registration Certificate of Manufacturer issued from competent authority.
- If the bidders, whether manufacturer or authorized distributor/ dealer have not supplied the required quantity for qualification as per the eligibility criteria and not submitted the performance statement at **Annexure-IV with supporting documents.**
- If the quoted product of the bidders not confirms to technical specification with complete accessories for functional Equipment/Machinery and standard of workmanship required by the Purchaser.
- If the bidder has not furnished technical details of the equipments and machinery with **one make & model** as per **Annexure-V.**
- **If bidder will quote items of more than one make/model.**
- If the bidder has not furnished detailed mandatory drawings, **catalogue/** Foundation drawings & schedule of supply of items, if required.
- If the bidders have not agreed to give **bid validity.**

- If Bidder is not willing to provide operational Training for Machineries to one Official of each consignee at Suppliers Plant or Consignee site **at least for 7 days in case of major machineries whichever is suitable to Purchaser.**

5.18 Purchaser's Right to Accept any Bid and to Reject any Bid

The Purchaser reserves the right to accept or reject any bid and to annul the bidding process and reject all the bids without assigning any reason thereof at any time prior to award of Contract, without thereby incurring any liability to the affected Bidders or Bidders on the grounds of such action of the purchaser. In case no bidder qualifies as per qualifying criteria and standards, purchaser may at his discretion relax qualification criteria for award of contract.

5.19 Evaluation and Comparison of Bids

The comparison shall be of FOR destination price basis including the price of all costs wherever applicable as well as duties and taxes (**but excluding VAT**) paid or payable on Machineries, instruments & equipment incorporated or to be incorporated in the items including the warrantee/guarantee period from the date of installation.

- The Purchaser's evaluation of a bid will take into account, in addition to the bid price and the price of incidental services.
- The purpose of bid evaluation is to determine substantially responsive bid with the lowest evaluated cost, but not necessarily the lowest submitted price, which should be recommended for award.
- Evaluation of bids should be made strictly in terms of the provisions in the bid document to ensure compliance with the commercial and technical aspects.
- The past performance of the suppliers will be taken into account while evaluating the bids.
- Cost of the inland transportation, insurance and other costs within the Purchaser's Country incidental to delivery of the goods to their final destination;
- Delivery schedule offered in the bid;
- Deviations in payment schedule from that specified in the General Terms & Conditions of Contract;
- The availability in the Purchaser's country of spare parts and after-sales services for the goods offered in the bid;
- The projected operating and maintenance costs during the life of the equipment/ goods.
- The performance and productivity of the equipment/ goods offered;
- The quality and adaptability of the equipment/ goods offered.

- Any other point as deemed proper to be incorporated by the evaluation committee.
- **Alternative options of offer shall not be allowed.**
- Each Bidder shall submit only one quotation with one make & model.
- The quotation would be evaluated separately for each item
- Sales Tax in connection with sale of goods shall not be taken into account in evaluation.
- Negotiation shall be made with the lowest evaluated bidder.
- Lowest evaluated price shall be taken in to consideration, but not the lowest quoted price.
- Willingness to provide operational Training to one Official of each consignee at consignee site for at least **7 days whichever is suitable to Purchaser.**

6.0 Supply Conditions

6.1 Delivery of Goods

The delivery of goods shall be made by the supplier to the Consignee in accordance to the order placed as shall be detailed in the Schedule of requirements & technical specifications.

6.2 Instruments, Equipment & Machineries Demonstration cum Inspection

Purchaser reserves the right to ask for demonstration cum inspection of the instruments & equipment where ever applicable.

6.3 Inspection/ Test/Training

The supplier shall get each equipment inspected in manufacturer's works and submit a test certificate (New & Unused) and also guarantee/warranty certificate that the equipment confirms to laid down specifications.

The supplier shall invite the purchaser for pre-dispatch inspection. The Purchaser or his representative shall have the right to inspect/ examine/ test the goods in conformity with the contract awarded/supply order during the production or before dispatch from the manufacturer's premises. Such inspection and clearance will not prejudice the right of the consignee to inspect and test the equipment on receipt at destination.

The inspection/examination/ test may be conducted in the premises of the Supplier or at the goods final destination or at the premises of the consignee, as will be decided by the Purchaser.

The purchaser's right to inspect/ examine/test & where necessary to reject the instruments & equipment after the arrival of the goods at the final destination, shall in no way be limited or waived by the reason of the goods having been inspected and tested by the manufacturer previously. In case of rejection of the goods at the final destination after inspection and test as stipulated above and in case any inspected/ tested goods fail to confirm to the

specification/ working condition, the purchaser may reject them and the supplier shall replace/ repair the same free of cost.

6.4 Warrantee Period (comprehensive)

The Bidders must quote for a minimum period of **2 (Two) years** of comprehensive **warranty** from the date of completion of the satisfactory commissioning as per **(Annexure-II)**. This also includes all accessories related to instruments & equipment quoted for.

6.5 Up time Warrantee

The Bidders should provide uptime guarantee of 95%.

6.6 Downtime Penalty Clause

During the warranty period, desired uptime of 95% of 365 days (24 hours) if downtime exceeds 5%, penalty in the form of extended warranty, double the number of days or more will be applied for which the equipment goes out of service.

In no case the machineries should remain in non-working condition for more than 30 days beyond which a penalty of 0.2% of machine cost will be charged per day.

6.7 Payment Terms

No advance payment will be made by the Purchaser to the supplier for performance of the contract. 100% of the contract price shall be paid within 30 (thirty) days after satisfactory supply, installation, demonstration, Commissioning & training and stock entry of bills of the goods within due date of delivery.

6.8 Transportation

The Supplier shall be required to meet all transport and storage expenses until commissioning of the instrument(s) / equipment covered in the contract.

6.9 Taxes and Duties

The Supplier shall be entirely responsible for payment of all Taxes, Duties etc. incurred until delivery of the contract goods to the Consignee subject to recovery afterwards in the bill as claimed in the Bid offer.

VAT as applicable is payable, to the suppliers of the State of Odisha if claimed in the Bid offer.

VAT/ CST will be paid to the Suppliers of the outside State other than Odisha, if claimed in the Bid offer. Any revision of VAT/ CST shall automatically be taken into account.

Entry Tax, if paid by the Supplier, at the local (destination head) Corporation/ Municipality/ NAC is allowed once only on production of money receipt for such payment, if claimed in the Bid offer. Any other statutory levy imposed by the Govt. of India/ Govt. of Odisha from time to

time will be considered extra on demand with adequate proof thereof The service tax and the work contract tax shall be levied (Wherever applicable). Income Tax as applicable shall be deducted at source.

6.10 Incidental Services

The Supplier shall be required to provide any or all of the following services : (The cost should be included in the quoted Price)

- Furnishing of detailed literature/pamphlets/ circuit diagram/ operation & maintenance manual / drawings (as applicable) for each appropriate unit of supplied goods.
- Furnishing of tools required for assembly and / or maintenance of the supplied goods.
- Performance or supervision of on-site assembly and the supplied goods.
- Performance or supervision or maintenance and/ or repair of the supplied goods, for a period of time agreed by the parties, provided that this service shall not relieve the supplier of any warranty/ guarantee obligations under the contract.
- **Training of the Purchaser's personnel at the Supplier's plant and / or on site, in assembly, start up, operation, maintenance and/ or repair of the supplied goods is Mandatory** .A maintenance contract for the goods supplied, if required by the user beyond the warranty period shall be on mutually agreed upon terms between the user and supplier. The cost of such maintenance contract shall not be included in the Bid cost.

6.11 Period of Validity of Bids

- The bid rates should be kept open/ valid for a period of **180** days from the date the Bids are opened.
- A bid valid for a shorter period i.e less than **180** days shall be rejected, as nonresponsive.
- In absence of any indication of the date of validity in the bid, it will be presumed that the offer will remain valid for the minimum period i.e. **180** days as prescribed above.
- In exceptional circumstances the purchaser may solicit the bidders consent for extension of the period of validity. If agreed upon, the bid security so deposited shall also be suitably extended.

6.12 Commissioning Period

Maximum commissioning period is **30 days** from the date of supply OR **120 days from the date of issue of Purchase Order** failing which the purchaser will have the right to impose penalty for the delay period @ **0.5% per week of the contract value of item/items**

excluding taxes from the bill amount subject to maximum of 10%. However Registrar has right to extend the delivery period/commissioning period in special cases.

6.13 Penalty against Non Supply

In case of non supply of Stores within the due date i.e. within the date of delivery the EMD deposited by the bidder shall be forfeited.

6.14 Rejected items

No payment shall be made for rejected supplied items. Rejected items must be removed by the bidders within two weeks of the date of rejection at their own cost and replace immediately. In case these are not removed these will be auctioned by the purchaser (at the risk and responsibility of the suppliers) without any further notice.

6.15 Annual Maintenance Contract

The Cost of Annual maintenance contract for next 3 years after warranty period shall be submitted as per the **Annexure at I(b)** . The after sales service during and after the warranty / guarantee period should be available from companies own engineers.

6.16 Jurisdiction of the Court

The Purchaser and the Supplier shall agree that the competent Court at Sambalpur shall have the jurisdiction to try and decide anything between the parties and they may approach the Competent Court at Sambalpur if required at any time.

Sd/-

**REGISTRAR
VSSUT, Burla**

SECTION – III: FORMS AND ANNEXURES

ANNEXURE-I (a)

PRICE SCHEDULE (ITEM WISE)

Item Serial No	Item Description	Country of origin with make & model	Quantity & Unit	Price for each unit							Total Price (a+b+c+d+e+f)
				Exware house/ Ex-showroom/ Off-the-shelf (a)	Excise duty/Costume duty, if any (b)	Packing & Forwarding (c)	Inland transportation, insurance and other local costs incidental to delivery (d)	CST/Entry tax, if any (e)	Unit price (a+b+c+d+e)	VAT (f)	

ANNEXURE-I (b)

PRICE SCHEDULE (ITEM WISE) - B

PRICE SCHEDULE FOR ANNUAL MAINTANCE CONTRACT AFTER COMPLETION OF WARRANTY PERIOD.

Sl.No	Brief description of Goods Total annual	Quantity in nos.				Annual Maintenance Contract cost 3 years i.e. 3x (4a+4b+4c)
			4			
1	2	3	1st yr.	2nd yr.	3rd yr.	
			(a)	(b)	(c)	

** After Completion of warranty period

Note:-

1. In case of discrepancy between unit price and total prices, THE UNIT PRICE shall prevail.
2. The cost of Annual Maintenance Contract (AMC) which includes preventive maintenance including testing & calibration as per technical/ service/ operational manual, labour and spares, after satisfactory completion of warranty period may be quoted for next 3 years on yearly basis for complete equipment and turnkey (if any).
3. The cost of AMC may be quoted along with taxes applicable on the date of bid opening. The taxes to be paid extra, to be specifically stated. In absence of any such stipulation the price will be taken inclusive of such taxes and no claim for the same will be entertained later.
4. Cost of AMC will not be added for Ranking/Evaluation purpose. However, the cost of AMC for lowest evaluated bidder is subject to negotiation.
5. The payment of AMC will be made as per payment terms of the bid document.
6. The uptime warranty and down time penalty shall be as per the bid document.
7. All software update should be provided free of cost during AMC period.
8. The stipulations in Technical Specification will supersede above provisions.
9. The supplier shall keep sufficient stock of spares require during Annual comprehensive Maintenance Contract period. In case the spares are required to be imported, it would be the responsibility of the supplier to import and get them custom cleared and pay all necessary duties.

Place:

Date:

Signature of Bidder
Business Address
Seal of the Bidder

ANNEXURE - II

WARRANTY MAINTENANCE CONTRACT AGREEMENT.

THIS AGREEMENT made the.....day of, 20___ between the “**The Registrar, Veer Surendra Sai University of Technology, Burla**” (hereinafter "the Purchaser") of the one part and M/s..... (here in after called "the Supplier") of the other part:

WHEREAS the Purchaser invited bids for certain Goods & ancillary services viz, supply and commissioning of the instruments & equipment at Burla including Comprehensive Warranty Maintenance Services and has accepted a bid by the Supplier for the instruments & equipment specified below at the Consignee site including Comprehensive Warranty maintenance Services for a period of 2 (Two) year from the date of installation & commissioning of the instruments & equipment as per award of Contract No..... dated

Name of the Equipment & machineries Qty

(To be filled in as per details of goods in the award of Contract)

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. Maintenance Services shall consist of Preventive and Corrective maintenance of equipment specified above & will include repair and replacement of parts free of cost.
2. Preventive maintenance, monthly once, which includes:
 - 2.1 Check-up to ensure that device connection is proper, cabling is at proper condition etc.
 - 2.2 Cleaning of the above instruments & equipments and checking the System Performance.
3. The Supplier is to furnish the tentative schedule of the preventive maintenance of Warranty Maintenance Contract (WMC) to be carried out.
- 4 The parts replaced must be new parts or equivalent in performance to new parts.
5. The Supplier will also provide the same maintenance service in case of the movement of equipment from the place of original installation to a different place or location, if the equipment is shifted by the Purchaser to another place or location at the cost and risk of the purchaser.
6. Any complaint informed through telephone must be acknowledged with a Complaint No. by the Supplier which will be noted by Consignee. All further contact with the

Supplier on such complaint will be initiated through that Complaint No. Once rectification done, that No. will be

cancelled by both parties. A register is to be maintained by the Supplier where complaints are to be noted along with Complaint No.

7. The maintenance shall normally be done at the earliest.

8. The Service Engineer of the Supplier will be allowed to handle the respective plant & machineries only in presence of the officer in charge at the Consignee site.

9. The Supplier should ensure that maintenance job is not hampered/delayed due to paucity of spares/inadequate manpower etc.

10. The Supplier should submit the services call report, to the Consignee for each and every service call without fail.

11. The Supplier evaluation data format for the WMC of Consignee systems may be filled up for necessary action.

12. All formats after filled up should be signed at the end of each page by the Supplier.

13. After completion of the work/repair/maintenance, the Purchaser shall issue a certificate of completion to the supplier to that effect.

Signature

Signature

For the Purchaser

For the Supplier

Name:

Name:

Designation:

Designation:

Address:

Address:

Telephone No:

Telephone No:

ANNEXURE-III

MANUFACTURES' AUTHORISATION FORM

No. _____ / Date _____ /

To

The Registrar,
VSSUT Odisha
Burla, Sambalpur.

Dear Sir, Bid No. _____

We _____ who are established and reputable manufacturers of _____ having factories at _____ (Address of Factory) do hereby authorize M/s. _____ (Name and address of Agent) to submit a bid and sign the contract with you against the above bid.

* No company or firm or individual other than M/s. _____ are authorized to bid and conclude the contract in regard to this business against this specific invitation for bid.

We hereby extend our full guaranty and warranty as per general conditions of contract for the goods and services offered by the above firm against this bid.

Yours faithfully,
(Signature for and on behalf of Manufacturers)

Note: This letter of authority should be on the letterhead of the manufacturer and should be signed by a person, competent and having the power of attorney to bind the manufacturer. It should be included original by the Bidders in its bid.

- This para should be deleted for simple items where manufacturers sell the product through different stockiest.

ANNEXURE-IV
DETAILS OF THE BIDDERS

Bid Reference No.

Name and address of the Bidder:

01 Name of the bidder

- a) Full postal address
- b) Full address of the premises
- c) Telegraphic address
- d) Telephone number
- e) Fax number
- f) E mail:
- g) PAN No
- h) TIN No

02 Total annual turn-over (value in Rupees)

03 Quality control arrangement details

04 Test certificate held

- a) Type test
- b) BIS/ISO certification
- c) Any other

05 Details of staff

- a) Technical
- b) Skilled
- c) Unskilled

06 Branch Office/ Contact Person/ Liaisoning Office in Odisha.

- a) Address
- b) Telephone No.
- c) e-mail,
- d) Fax

Signature and seal of the Bidder

ANNEXURE-V

Technical details of the Machineries & Equipments to be supplied by the bidder

Bid SI No. of the item	Tender specification	Bidders Specification with make and model no (Enclose manufactures catalogue / brochure for each item)	Deviation if any With university specification

Signature and seal of the Bidder

SECTION-IV: SCHEDULE OF REQUIREMENTS AND TECHNICAL SPECIFICATIONS

SI no	Name & Specification of articles/materials/machineries/services	quantity
Fluid Flow Laboratory		
1	<p>Hydraulic Bench Material: Fiber Reinforced Plastic (FRP) Sump Tank Capacity: 200 Ltrs Measuring Tank Capacity:40 Liters Pump: Centrifugal Pump, 0.5 hp Dimensions in mm: 1300 (L) x 800 (W) x 1000 (H) Level Indicator Optional Accessories: Variable Area Flow Meter Electronic Flow Meter Other accessories: Pipe friction apparatus Bernoulli's theorem apparatus Venturimeter apparatus</p>	01 SET
2	<p>Hydrology Apparatus Net dimensions and weights: 2400 x 1080 x 2050 mm and 450 kg Packed dimensions and weights: 5.77 m³ and 600 kg (approx – packed for export) Main parts: • Catchment area: Stainless steel tank 2 m x 1 m Normal depth of permeable medium 180 mm • Spray nozzles: Eight, in two banks of four, with adjustable spray direction • Reservoir tank: Capacity approx 220 litres • Recommended medium: Washed sand graded 0.5 mm to 1.5 mm</p>	01 SET
3	<p>FREE AND FORCED VORTEX FLOW APPARATUS DC Motor with Tyristor Drive X-Y Co-ordinate Probe TECHNICAL DETAILS: Box dimensions:- 800 x 400 x 1500 mm Revolving Tank Dia : 250 mm No. Of Orifice: 4 Sump Tank Capacity :- 100 litres MOC SS Measuring tank Capacity:- 40 Litres MOC SS fitted with Piezometer Tube & scale Pump :- FHP capacity make Tullu / Crompton Greaves 0.5 HP Piping GI / PVC Stop Watch :- Electronic/ Digital Stop Watch with 1/10 second Accuracy Material of Tanks and wetted parts :- Stainless Steel</p>	01 SET

4	<p>CALIBRATION OF BEND METER</p> <p>Bend meter Material: Stainless steel compatible to 1" Dia. Pipe Water Circulation : FHP Pump, Crompton/Tullu make Flow Measurement : Using Measuring Tank, Capacity 40 Ltrs. Sump Tank Capacity: 100 Ltrs Stop Watch: Electronic Control Panel On/Off Switch, Mains Indicator, etc Pressure head measurement :Mercury manometers (differential) Material of Tanks and wetted parts : Stainless Steel</p>	01 SET
5	<p>ROTAMETER TEST RIG</p> <p>Rotameter - Compatible range Water Circulation- FHP Pump, Crompton/Tullu make Flow Measurement- Using Measuring Tank, Capacity 40 Ltrs. Sump Tank Capacity - 100 Ltrs Stop Watch - Electronic Control Panel On/Off Switch, Mains Indicator, etc Material of Tanks and wetted parts - Stainless Steel</p>	01 SET
SURVEYING LABORATORY		
1	<p>High accuracy 1" SOKKIATOPCON TOTAL STATION TOPCON ES101 Telescope Magnification / Resolving power 30x / 2.5" Others Length:171mm, Objective aperture: 45mm (48mm for EDM), Image: Erect, Field of view:1°30'(26m/1,000m), Minimum focus: 1.3m, Reticle illumination: 5 brightness levels</p> <p>Angle measurement: Display Resolution 0.5" / 1" Accuracy (ISO 17123-3:2001) 1" Dual-axis compensator / Collimation compensation Dual-axis liquid tilt sensor, working range: ±6' / Collimation compensation available</p> <p><i>Distance measurement:</i> Laser output Reflector-less mode: Class 3R / Prism / sheet mode: Class 1</p> <p>Measuring range (under average conditions) Reflector-less 0.3 to 500m Reflective sheet 1.3 to 500m Mini prisms 2500m One AP prism 1.3 to 5000m Three AP prisms to 6000m Display resolution 0.001m / 0.01ft Accuracy (ISO 17123-4:2001)(D=measuring distance in mm) Reflector-less (3 + 2ppm x D) mm Reflective sheet (3 + 2ppm x D) mm AP/CP prism (2 + 2ppm x D) mm Measuring time Fine: 0.9s, Rapid: 0.7s, Tracking: 0.3s Interface and Data management</p>	02 SETS

	<p>Display / Keyboard Graphic LCD, 192 x 80 dots, backlight, contrast adjustment / Alphanumeric keyboard / 25 keys with backlight</p> <p>Control panel location On both faces</p> <p>Trigger key On right instrument support</p> <p>Data storage</p> <p>Internal memory Approx. 10,000 points</p> <p>Plug-in memory device USB flash memory (max. 8GB)</p> <p>Interface Serial RS232C, USB2.0 (Type A, for USB flash memory)</p> <p>Bluetooth modem(optional) Bluetooth Class 1, Ver.2.1+EDR, Operating range: up to 300m</p> <p>General</p> <p>Laser-pointer Coaxial red laser using EDM beam</p> <p>Guide light Green LED (524nm) and Red LED (626nm), Operating range: 1.3 to 150m</p> <p>Levels</p> <p>Graphic 6' (inner circle)</p> <p>Circular level 10' / 2mm</p> <p>Optical plummet Magnification: 3x, Minimum focus: 0.3m from tribrach bottom</p> <p>Laser plummet (option) 5 brightness level are ready for optimum visibility</p> <p>Dust and water protection IP66 (IEC 60529:2001)</p> <p>Operating temperature -20 to +50°C</p> <p>Size with handle W191 x D181 x H348mm</p> <p>Weight with handle and battery Approx. 5.6kg (12.3 lb.)</p> <p>Power supply</p> <p>Battery BDC70 detachable battery</p> <p>Operating time (20°C) Approx. 36 hours</p>	
2	<p>STS-750R6 TOTAL STATION WITH SENSITIVE AND PRECISE COMPENSATOR</p> <p>Production Introduction:</p> <p>Super large LCD display</p> <p>Reflector less range up to 600m</p> <p>Sensitive and precise compensator</p> <p>Upgraded laser path system</p> <p>Abundant surveying programs</p> <p>Main Parameter</p> <p>STS-752L STS-755L STS-752R6 STS-755R6</p> <p>DISTANCE MEASUREMENT</p> <p>single prism 5.0km 5.0km</p> <p>Reflectorless - 600m</p> <p>Accuracy with reflector: 2mm+2ppm; without reflector: 5mm+3ppm</p> <p>Reading max: 99999999.999 min: 1mm</p> <p>measuring time fine: 1s; tracking: 0.5s</p> <p>atmospheric refraction & earth curvature correction: manual input, auto correction</p> <p>prism constant: manual input, auto correction</p> <p>ANGLE MEASUREMENT</p>	05 SETS

	<p>measuring method: absolute encoding diameter of raster disk: 79mm minimum reading 1"/5" selectable Accuracy: 2" 5" 2" 5" detection method: horizontal: dual vertical: dual TELESCOPE Image erect tube length 154mm effective aperture Telescope: 45mm; EDM: 50mm Magnification 30X field of view 1°30' resolving power 3" min. focusing distance 1m AUTO VERTICAL COMPENSATOR System 1-axis liquid-electric 2-axis liquid-electric working range ±3' Accuracy 1" LEVEL plate vial 30"/2mm circular vial 8"/2mm OPTICAL PLUMMET Image erect Magnification 3X focusing range 0.5m ~ ∞ field of view 5° OTHER display type 2 sides, alphanumeric keyboard laser plummet optional water& dust proof IP54 ON-BOARD BATTERY Type rechargeable Ni-H battery Voltage 6V operating time 8 hours</p>	
Environmental Engineering Laboratory		
1	<p>Micro controller based digital pH Meter with Electrode & Temp. Probe, Automatic pH Standardization which measures pH, mV-Absolute, mV-Relative and temperature</p> <p>No. of Calibration Point: 3-Point., Automatic & manual temp. Compensation, PH Range: 0 to 14 pH, Resolution: 0.01 pH,Temp. Compensation: 0 to 100 degree centigrade. Display: 3 digits for temp. & 4 digits for pH, Mode annunciation by LED.</p>	02 no
2	<p>BENCHTOP PH/ORP/TEMPERATURE/ION METER Technical Specifications: A multiparameter meter which is able to pH, mV, Temp in addition to Should have below minimum features: • Multipoint push button calibration with Cal Due prompts when next calibration is required</p>	02 no

	<ul style="list-style-type: none"> • Dual line display of pH/ORP/Temp/Ion • Selectable NIST/USA buffer standards • Self diagnostic message code • Data logger or memory for minimum 100 dataset • A PC via RS 232 port • pH range: 0.0 to 14.0 • pH accuracy ± 0.001 • mV range ± 1800mV • Ion range 0.001 to 15000 ppm • Temp Range 0°C to 100°C • Power required 230V AC with respective adapter <p>Desirable: The multimeter should be supplied with ion selective electrode of Cl⁻, Br⁻, nitrate, phosphate and its respective manual and filling/reference solution. Supplier should quote the multimeter with above mention ion selective electrode with detail specification and reference solution.</p>	
3	<p>Micro Controller based fully automatic Turbidity Meter</p> <p>Range: 0 - 1000NTU automatically in 4 ranges Accuracy: $\pm 2\%$ of F.S Reproducibility: Within $\pm 3\%$ of F.S Detector: Si. Photo Cell/LED Display: LCD Display</p>	02 no
4	<p>Micro Controller based Conductivity Meter</p> <p>Conductivity Range: 0.1μ MHO or μS to 100 m MHO or mS. Measuring Accuracy: $\pm 1\%$ of F.S or ± 1 count. Display: LCD Display. Conductivity Cell (2 nos) 0.1 & 1.0 CC. Cell Constant: Acceptable from 0.1 to 5.0. Temperature Compensation: 0-100°C- Automatic / Manual. Power Supply: 230V AC $\pm 10\%$ 50 Hz</p>	02 no
5	<p>Micro Controller based Flame Photometer</p> <p>Range in ppm: *Na:Up to 100 ppm, K: Up to 100 ppm, Ca:Up to 300 ppm; Li:Up to 100 ppm Sensitivity: Na: 2 ppm, K: 1 ppm, Ca: 30 ppm. Li: 2 ppm Air Compressor: Oil free air supply Fuel Gas: LPG</p>	01 no
6	<p>Distillation Set</p> <p>Distillation Unit, Single Stage, All Glass with Quartz Heater Main Body: Mild Steel Powder coated, Type: Single with Auto Cut-off, Power: 3.0 kW, Cooling Water Requirement (Approx.): 60 Ltrs/Hr, Output: >3 Ltrs/Hr, Conductivity μS/cm: <5, Glass: Borosilicate, Heater Load: 1 KW Each, Heater material: Ceramic with Spiral element, Heater Tube: Quartz / Silica Glass, Single Distillation Unit Output: 1.5Litre/Hr, 3.5Litre/Hr</p>	02 no
7	<p>Muffle Furnace</p> <p>Max. Temp. 1800 dig C. Outer body is of thick M.S. sheet painted in heat & rust proof powder coting paint. • Kaqnthal A-1 heating elements are used, Insulation hot face bricks in combination with ceramic blanket. • Temp. is controlled by Pyrometer indicator with Sunvic Energy</p>	01 no

	Regulator with CR/AL Thermocouple. • Work on 220 volt A.C. • Size of the working chamber: 6"X8"X20" • 7.5 kW. approx. • Digital indicator cum controller.	
8	BOD Incubator shaker Fully Automatic with Digital Temp. Controller. (b) Inner chamber made of SS and outer MS duly White Painted. (c) Temp. range 5°C to 60°C Accuracy + 0.5°C. (d) Cooling by- CFC Free Hermatic compressor. (e) Air circulation Fan for uniform Temp. (f) Double door with Inner Plexiglass Door. (g) Mounted on 4 Nos, Heavy duty Castor Wheels. (h) Inner chamber illumination by CFL Lamp. (i) Capacity 10 Cft.	01 no
9	ANALYTICAL BALANCE : Technical Specifications: An analytical balance with user friendly operation, clear symbols ,operate to balance quickly and easily and freely programmable smart keys. Should have below minimum features: • Quick and error free data transfer : RS 232 /USB port for direct connection to PC • Clearly visible indicator • Maximum capacity: 300gm • Readability : 0.0001gm • Repeatability: 0.0001 gm • Stabilization time	01 no
10	Floculator Alum Jar Test Apparatus designed for floculator formation test for Water Treatment plant with variable speed from 25 to 180 RPM with 6 nos. of DC driven variable speed motors to run 6 nos stirrers in individual speeds. Auto Variac to control 6 nos of stirrers. 6 Nos. digital RPM meter to showing speed of 6 nos individual stirrers. Special light arrangement at bottom. Cap:- 6 stirrer of 1 Ltr.	01 no
11	Micro Pipette 10mL with 50 nos. nibs Good quality Micropipette for research work having specification: - ranges from 1 to 10 mL. -Calibration as per the standard of EN ISO 8655. -Does not require recalibration after every autoclaving as require by other so called Autoclavable Pipettes. - Click Stop digital system ensures no unwanted volume alterations during pipetting. -Two Step plunger operations allow reverse pipetting technique useful for pipetting certain liquids	02 no
12	Micro Pipette 1mL with 50 nos of nibs Good quality Micropipette for research work having specification: - ranges from 0.1 to 1.0 mL. - Calibration as per the standard of EN ISO 8655. -Does not require recalibration after every autoclaving as require by other so called Autoclavable Pipettes. -Click Stop digital system ensures no unwanted volume alterations during pipetting. -Two Step plunger operations allow reverse pipetting technique useful for pipetting certain liquids.	02 no
13	Refrigerator Double Door , Capacity 300 L	01 no
14	Biological Microscope: Biological Microscope with Colony counter & photographic 1 microscope attachments as per IS specifications	01 no

15	<p>Peristaltic pump</p> <p>No. of channels 1 1 Flow Rate 0.1 ml/ hr to 1000 ml/hr Display LED for flow rate and time Accuracy +/- 2% (Reproducibility) Alarm audio alarm Power 230 V AC single phase Silicon Rubber Tube 5 m, Size 1 to 4 mm ID x 6 mm OD</p>	02 no
16	<p>PARTICLE SIZE ANALYZER</p> <p>Technical Specifications: The system should be fully automated computer controlled Particle Size Analyzer • Capable of analyzing variable diameter sediment samples using LASER light scattering • Able to measure particles having size at least from 0.05 up to 2000 µm • Accuracy and reproducibility: at least within 1% • Fast measuring time • Able to measure samples in different forms, i.e. suspension, emulsion or dry powder • Compatible to MS Windows-based data acquisition and control system • At least two different suitable light sources • Capable of measuring at a minimum of 80 size classes • Pore volume estimator Desirable: • Able to measure particles having size at least from 0.05 up to 3000 µm</p>	01 no
17	<p>CENTRIFUGE</p> <p>Technical Specifications: The instrument should be fully automated Centrifuge Should have below minimum features: • Rotatory speed of at least up to 20000 RPM • Centrifuge tube size of at least 1 to 100 ml, adapters should be supplied for the same • Having minimum capacity to use at least 4 tubes per cycle • Having Safety lid for covering during centrifugation • Having microprocessor controlled operation with braking system Desirable: • Centrifuge tube size of at least 25 to 100 ml, adapters should be supplied for 25 ml, 50 ml, 100 m</p>	01 no
18	<p>CHEMICAL OXYGEN DEMAND (COD) ANALYSER</p> <p>Technical Specifications: The system should be fully automated computer controlled COD Analyzer Should have below minimum features: • Fast COD determination (in the range of 1 minute) • Robust and high reproducibility in data • Detection limit: from 1 mg/L to >100000 mg/L • Compatible for input power of 100-230 V AC/ 50 Hz • Compatible to MS Windows-based system for data acquisition and instrument controls Desirable: • Reagent free process • Accessories for homogeneous sample generation</p>	01 no
19	<p>MAGNETIC STIRRER CUM HOT PLATE</p> <p>Technical Specifications: A fully digital magnetic stirrer cum hot plate Should have below minimum features: • Ceramic top-plate of 26x26cm</p>	02 nos

	cm size • Heating temperature range-50°C to 250°C • Stirring speed 1000-100 rpm • Maximum capacity : 5L • Power requirement 230V AC and respective kit • Dimension adjustable with the above configuration	
Transportation Engineering Laboratory		
1	Temperature controlled digital water bath 14 litre capacity, 5°C -100°C	2
2	Electrically operated temperature controlled Hot Air Oven 50°C-300°C, Chamber size: 24"×24"×36" No. Of shelves :5	1
3	Hot plate with magnetic stirrer 1000w 230volt, 1ph, 50-60hz, weight-4kg	2
4	CBR mould+ base plate+ collar+ surcharge+ perforated plate for holding surcharge 15cm dia, 17.5cm height+ collar(5cm)+perforated base plate	12
5	Radar speed gun Measuring speed 10-200 mph, LC-1 mph, Range 15000 ft	2
6	Marshall mould+ base plate+ collar 10cm dia, 7.5cm height	15
7	Merlin cycle AIM-570	1
8	CBR compaction hammer (i) 5cm dia, weight 2.6kg, drop 31cm (ii) 5cm dia, weight 4.89kg, drop 45cm	2 2
9	Two semi professional Video Camera	2
Geo Technical Engineering Laboratory		
1	<p>Three Gang Bench Type Consolidometer (Front Loading):</p> <p>The unit consists of an aluminum cast body, and a lever with the loading ratio of 1:10. Loading yoke has self aligned bearing for proper transfer of load on the specimen. Beam is fitted with counter balance weight while the body has a screw jack, for jerk less loading on the specimen through the beam. Horizontal clearances have been so maintained that the unit accommodates cells with specimen up to 100mm diameter.</p> <p>The unit has 3 loading machines .The unit comprises: Loading Unit 20 kg/cm² capacity - 3 No.</p> <p>Consolidation cell 60mm x 20mm height - 3 No.</p>	01

	<p>Dial gauge 5 x 0.002mm - 3 No.</p> <p>Set of Weights - (Stress - up to 10 kg/cm²) - 3 Sets</p> <p>Core Fixture: Spring Loaded Plunger</p>	
2	<p>Liquid Limit Cone Penetrometer, Automatic</p> <p>The unit meets the requirements of IS:11196, IS:2720 (Part V).</p> <p>Liquid Limit Cone Penetro-meter: The time of penetration of the cone is automatically controlled using a timing head and an Automatic Electronic Timer. The timer supplies 220 V smoothed D.C. output to the timing head precisely for 5 seconds to allow the cone to freely penetrate the soil in the trough. At the end of 5 seconds, the timer automatically de-energizes the releasing electromagnet and then relocks the cone. The reading is taken from the scale. This eliminates individual errors and gives consistence results. Suitable for operation on 220V, 50 Hz, single phase supply.</p>	02
3	<p>Liquid Limit by Plummet Balance</p> <p>As per IS: 2720 (Part IV).</p>	03
4	<p>Electronics Balance with battery backup</p> <p>Maximum capacity---500gm</p> <p>Sensitivity ----0.01 gm</p>	01
5	<p>Automatic Soil Compaction Machine</p> <p>As per I.S. : 2720 (Part VII & VIII)</p> <p>Dia. of rammer - 50 mm</p> <p>Weight of rammer 2.5 kg & 4.5 kg</p> <p>Height of fall of rammer 300mm & 400 mm</p> <p>Wired for 220 volts, single phase, 50Hz supply</p>	01
6	<p>Universal Permeameter</p> <p>As per IS:2720 (Part-XVII),IS 11209</p> <p>Suitable for both constant head as well as falling head permeability tests. The apparatus consists of: -</p> <p>A wooden stand fitted with nine glass stand pipes of diameter ranging</p>	01

	<p>from 6 to 70 mm. A 75 mm dia. Tube is fitted with an overflow pipe.</p> <p>Permeability mould made of Brass capacity 1000 ml, with detachable collar 50 mm high, one base plate, metallic perforated swell plate and a solid false bottom plate.</p>	
7	<p>Digital Unconfined Compression Testing Apparatus</p> <p>As per IS: 2720 Part X</p> <p>The loading unit is motorized and the gear system provides three different rates of strain 1.25 mm, 1.5 mm and 2.5 mm/min and dial gauge holder.</p> <p>Cone seating - 02 Nos</p> <p>Set of upper and lower Platens: 150 Dia.</p> <p>Electronic System: Microprocessor based digital display unit and signal conditioning unit consists of 4x20 character, LCD Display and RS 232 port to connect Computer.</p> <p>Sensor: Load cell---capacity 10 kN, LVDT: ± 20 mm</p>	01
8	<p>Standard IS Sieves</p> <p>200 mm dia. Spun Brass Frames</p> <p>Size 4.75 mm, 2.36 mm, 1.18 mm, 600 micron, 300 micron, 150 micron, 75 micron, with lid and pan</p>	03
9	<p>Enamel Tray size 15 in x 15 in</p>	10
Concrete Laboratory		
1	<p>Beam mould 100mmX100mmX500mm size, made of steel and are supplied complete with a base plate.</p>	12
2	<p>Cylindrical mould : Cast, iron, split length wise 150mm X 300mm high with ISI-10086 certification mark, supplied complete with a base plate.</p>	12
3	<p>Electronic Weighing Balance; Capacity 10 Kg, Accuracy ± 0.5 gm</p>	1
4	<p>Vibrating Table conforming to IS: 2514-1963, The table should be 100 cm x 100 cm in size and has stops along all its sides to prevent the moulds from sliding away during vibrations.</p>	1
5	<p>Density Basket conforming to IS: 2386 (Part III) – 1963</p>	6

6	<p>Vee-Bee Consistometer IS: 10510-1983 The apparatus should consist of the following:</p> <p>i) A slump cone 100 mm inside dia at top, 200 mm inside dia at base and 300 mm high.</p> <p>ii) One container for the slump cone with two clamps and lifting handles.</p> <p>iii) A vibrating table mounted on rubber shock absorbers and having a swivel arm attached on one side. The swivel arm carries a funnel in one side and a graduated rod with a Perspex disc on the other side. The rod should be graduated in centimeters to measure the slump and volume in the cylinder after vibration</p>	1
7	<p>Flow table (Hand Operated) IS: 5512-1983 Used for making flow tests for consistency of mortars in tests of hydraulic cements and pozzolanic materials.</p> <p>It should consist of the following:-</p> <p>i) A machined table top 250 mm dia of Gun metal fitted with a vertical shaft. Total weight 4.00 ± 0.05 kg.</p> <p>ii) A cast iron frame with a machined base and a smooth vertical hole at the top for the table shaft. It has a horizontal shaft carrying a cam at one end and a hand wheel at the other. The cam allows 12 mm free drop of the table.</p> <p>iii) A conical mould 100 mm inside dia at bottom, 70 mm inside dia at top and 50 mm high.</p>	1
8	<p>Humidity Chamber for Concrete/Mortar: with digital controller cum indicator and safety alarm system, Temperature range: 10°C to 70 °C ($\pm 1^\circ\text{C}$), Humidity range: Amb. to 95% RH ($\pm 2\%$ RH), Internal dimensions: 50 x 50 x 70 cm, CFC free refrigerant.</p>	1
9	<p>Digital Compression testing machine (2000KN capacity): As per IS1828 (Class 1), Capacity 2000KN, Suitable for testing concrete cubes, cylinders, bricks. Least Count 10 KN, Electrically operated, Plate diameter 220mm or above,</p>	1
10	<p>Cement Tensile Testing Machine conforming to IS specifications: electrically operated 10 KN capacity, Machine should perform tensile and flexure strength test using a single and double lever mechanism, should be supplied with briquette mould and base plate.</p>	1
11	<p>Flexure Testing Machine for concrete beams: Conforms to I S 516, For testing beams of 100 x 100 x 500mm and 150 x 150 x 700mm, range 0 -</p>	1

	100 kN with ± 0.5 kN, Electrically operated.	
12	Heat of Hydration Apparatus, The equipment should contain, Insulated Colorimeter, Insulated Container, Reference & Digital Thermometers and Mixer with Stirrer	1
13	Concrete Permeability Apparatus, 3 Cell model for 150mm cube	1
14	Needle Vibrator	1
15	Ultrasonic Pulse velocity concrete Tester (Pundit Lab+)	1
Structural Engineering Laboratory		
1	<p>64 channel data logger</p> <p>Description</p> <p>Featuring Strain Smart software, System 5000 is a complete data system for stress analysis and structural materials testing. The most significant feature of System 5000 is its unique operating software which addresses virtually every variable that must be considered in stress analysis testing - from initial data entry, to data acquisition and conditioning, to on-line and off-line correction, reduction and presentation of results. System 5000 will accept inputs from strain gages, thermocouples, LVDT's, load cells, and other transducers. Simple to operate, System 5000 provides maximum stress analysis testing capability with minimum investment.</p> <p>Features</p> <ul style="list-style-type: none"> • From 5 to 1200 input channels • Inputs accepted from: <ul style="list-style-type: none"> ○ strain gages ○ strain-gage-based transducers ○ thermocouples ○ sensors with high-level voltage outputs ○ LVDT's • Built-in bridge completion for 120-, 350-, and 1000-ohm strain gages • Scanning and recording intervals as short as 0.02 second for up to 1200 inputs • Stable, accurate, low-noise signal conditioning • Available with PCIe hardware interface 	1 Set
2	Structural Strong Floor and Reaction Frames Loading Devices and Servo-Controller	1 Set

3	Weights (0.5, 1.0 and 1.5 kg @ 5 each)	15
4	Hydraulic jacks Enerpac Make RCH-121, 12 Ton Single acting Hollow Cylinder, stroke 42mm.	5 set
5	Micro-cover meter	1 set
6	Half-cell potentiometer for corrosion measurement	1 set
7	Rapid Chloride permeability Test (RCPT) of different specifications for different set up cells	1 Set
8	Rebar Locator PROFOMETER 5+ Model S Basic Unit	1 Set