

Tender Fee: Rs.2,000/- (GST Inclusive)

(Non-Refundable)

विश्वेश्वरय्या राष्ट्रीय प्रौद्योगिकी संस्थान, नागपुर-440010 (भारत)

VISVESVARAYA NATIONAL INSTITUTE OF TECHNOLOGY, NAGPUR-440 010 (INDIA)



TENDER DOCUMENT FOR

100kN Servohydraulic Dynamic Testing Machine

TENDER NO.: VNIT/STR/AUSC/2018-19/04 dt.25/12/2018

DATE OF ISSUE OF TENDER : 25th DECEMBER 2018

LAST DATE OF SUBMISSION OF TENDER : 25th JANUARY 2019 UP TO 3.00 P.M.

DATE OF OPENING OF TENDER : 25th JANUARY 2019 UP TO 3.00 P.M.

Signature of Bidder
(Authorized Signatory)

Stamp:

Date:



VISVESVARAYA NATIONAL INSTITUTE OF TECHNOLOGY, NAGPUR- 440 010 (INDIA)

TENDER NOTICE Advt.No: VNIT/STR/AUSC/2018-19/04 dt.25/12/2018

Tenders in Sealed Envelope are invited for

100kN Servohydraulic Dynamic Testing Machine

for Metallurgical & Materials Engg. Department

For complete details visit our website: www.vnit.ac.in. The bidders can download the tender form/ documents from **25/12/2018 to 25/01/2019** from Institute's website and send self addressed Envelope, invariably along-with bank draft of Rs.2,000/- (GST inclusive) (Rs. Two Thousand with inclusive GST Only, **Non Refundable**) drawn in favour of The Director, VNIT, Nagpur, towards the cost of **TENDER ITEM FORM** to stores section, along with the cost of each tender form.

V.N.I.T will not be responsible for postal delay/ non-receipt of tender form/ D.D, sent through the post. Tender forms duly filled in all respect in only original prescribed format, supplied by the VNIT, duly super-scribed, should reach office of the Stores Officer, VNIT, Nagpur -440010, on or before **25/01/2019 upto 3.00 p.m**. The tenders are likely to be opened at **3.30 p.m** on the same day. The Director, VNIT reserves the right to accept or reject any or all tender offer.

For Enquiry contact Stores office, VNIT, Tele No : 0712-2801243, 2801369



विश्वेश्वरय्या राष्ट्रीय प्रौद्योगिकी संस्थान, नागपुर 440 010 (भारत)

निविदा सूचना क : VNIT/STR/AUSC/2018-19/04 dt.25/12/2018

निम्नलिखित मदो की खरीदी हेतु मुहरबंद आमंत्रित है ।

100kN Servohydraulic Dynamic Testing Machine

for Metallurgical & Materials Engg. Department

संपुर्ण जानकारी के लिए इच्छुक विक्रेता संस्थान कि वेबसाइट www.vnit.ac.in पर जा सकते है । इच्छुक विक्रेता निविदा प्रपत्र दि. **25.12.2018 से 25.01.2019** तक संस्थान कि वेबसाइट से डाउनलोड करके स्वयं के पते युक्त लिफाफा भेजकर विज्ञापन क्र. उल्लेख कर के निविदा **मद** प्रपत्र के मुल्य हेतु रु. 2000/- (GST inclusive) (Non Refundable) बैंक ड्राफ्ट निदेशक, वी.एन.आय.टी., नागपुर, के साथ **निविदा** प्रपत्र भंडार अनुभाग में भेज सकते है ।

डाक द्वारा विलंब होने पर / निविदा दस्तावेज न मिलने पर/ D.D न मिलने पर, वी.एन. आय. टी. (वि. रा .प्रो.सं) जवाबदेह नहीं होगा । संस्थान द्वारा प्रदत्त केवल वास्तविक निर्धारित प्रपत्र को पूर्ण रुप से भर कर दि. **25.01.2019 के अपरान्ह ३.०० बजे** तक या इससे पूर्व भंडार अनुभाग (वि. रा .प्रो.सं) नागपुर मे जमा करे। निविदा उसी दिन अपरान्ह ३.३० बजे खोली जाएगी । किसी भी या सभी निविदाओ को अस्वीकृत करने का अधिकार निदेशक का होगा।

For Enquiry contact Stores office, VNIT, Tele No : 0712-2801243, 2801369

Signature of Bidder
(Authorized Signatory)

Stamp:

Date:

INVITATION of QUOTATION/TENDER for
100kN Servohydraulic Dynamic Testing Machine

Dear Vendor,

Sub: Tender Enquiry for Procurement of **100kN Servohydraulic Dynamic Testing Machine**

for Metallurgical & Materials Engineering Department.

VNIT herewith invites tender / bid in sealed envelope for procurement of equipment **100kN Servohydraulic Dynamic Testing Machine** under research project at the Metallurgical & Materials Engineering Department. Interested bidders are requested to submit the most competitive bid / quotation, details below:-

Description of the Goods / Equipment	Specifications	Unit / Quantity	Delivery Period & Place of Delivery	Price	Earnest Money Deposit (EMD) Amount in Rs	Installation
Please refer enclosed "QFA/Bill of Material" for complete details	As per QFA/Bill of Material	As per QFA/Bill of Material	16 Weeks from the Date of award of PO / Contract MM Engg. Department, VNIT, Nagpur	F.O.R. VNIT, Nagpur	Rs.3,60,000=00 (Three Lakh Sixty thousand only) in form of DD / Pay Order drawn on any of Nationalized Bank drawn in favor of the Director, VNIT, Nagpur [To be enclosed with the quotation in separate envelope]	Good(s)/Equipment(s) to be / installed / commissioned at place of Delivery by the bidder at Free of Cost

Signature of Bidder
(Authorized Signatory)

Stamp:

Date:

Schedule & Instructions for Tender/Bid Submission

Tender Ref. No **VNIT/STR/AUSC/2018-19/04/**

dt 25/12/2018

Item: Procurement of **100kN Servohydraulic Dynamic Testing Machine**
for Metallurgical & Materials Engg. Department.

Date of Issue	:	25/12/2018
Last Date of Submission	:	25/01/2019 up to 3.00 pm
Tender Fee	:	Rs 2,000/- (GST Inclusive) through DD drawn in favor of Director, VNIT, Nagpur
Amount of EMD	:	Rs3,60,000/- payable through DD drawn in favor of Director, VNIT, Nagpur
Tender Opening Date & Time	:	25.01.2019 at 3.30 pm

Submission of Bid

“**TWO BID**” viz. **Technical /Qualifying Bid** and **Price/Commercial Bid** Systems will be followed for this tender.

The Technical bid and the Financial bid should be sealed **in separate covers both duly super-scribed** and both these sealed covers are to be put **in a bigger cover** which should also be sealed and **duly super-scribed** with for **100kN Servohydraulic Dynamic Testing Machine**

For Technical /Qualifying Bid - Envelope to be super-scribed with “**TECHNICAL /QUALIFYING BID for 100kN Servohydraulic Dynamic Testing Machine**” and should be submitted with prescribed Tender Fee & EMD and the associated supporting documents. Bill of material (without any price), indicating the compliance of technical specification should also be included with the qualifying bid. The Tender Fee & EMD DD to be put in separate envelope.

For Price/Commercial Bid - Envelope to be super-scribed with “**PRICE/COMMERCIAL BID for “100kN Servohydraulic Dynamic Testing Machine”**” The Price should be indicated in the prescribed format in the Price/Commercial Bid only. Any other format will lead to disqualification.

Both above sealed covers are to be put **in a bigger envelope** which should also be sealed and **duly super-scribed** with - Tender Enquiry for **100kN Servohydraulic Dynamic Testing Machine**”for MME Department.

The sealed envelope super-scribed with - Tender Enquiry “**100kN Servohydraulic Dynamic Testing Machine**” for Metallurgical & Materials Engg. Department, and to be sent to Joint Registrar (Stores), VNIT, South Ambazari Road, Nagpur 440 010. Sealed envelope can also be submitted in person in the “**Tender / Quotation Box**” kept in The Stores Section. VNIT, Nagpur. The last date of submission is **25th January 2019 by 3.00 P.M.**

Tender received after the last date / time of submission (as mentioned in tender notice) will not be considered and will lead to rejection.

Each envelope / cover should also indicate clearly the name and address of the bidder.

Signature of Bidder
(Authorized Signatory)

Stamp:

Date:

General Instructions, Terms & Conditions for the Bidder / Vendor

1. Price Bid

- a) The price should be quoted **F.O.R. VNIT, Nagpur** on delivery basis.
- b) The price/rates quoted by the bidder shall be FIRM & FIXED and shall not be variable/subject to adjustment on any account.
- c) The price bid shall be valid for a period of 180 days from the date of opening.
- d) The duties, taxes and other levies payable by the vendor shall be shown separately in bidding document. The basic price per unit should be separately mentioned in price bid in the given format.
- e) Duties & taxes viz. Custom, GST, Freight / Transportation, Packing & Forwarding, Insurance, Price Ex-Works etc. shall be indicated separately in the given format only.
- f) **The bidder is requested for special educational discount to the Institute.**
- g) The contract shall be for the full quantity as described in QFA/Bill of Material. Correction if any shall be made out by crossing out, initialling, dating and re-writing.
- h) In case of price quoted in foreign currency, its conversion rate to INR on the date of opening the quotation/tender shall be considered.

2. Technical Bid

- a) The good/s offered must meet / comply with the Technical Specifications detailed in "**Technical/Qualifying Bid**" given in tender. In case of deviation if any, the firm's bid is liable to be treated as non-responsive.
- b) VNIT has the sole discretion to accept or reject tenders / bids based on deviations, if any, from the technical specification.
- c) The price bids of the bidders who **do not conform** to the Technical Specifications & Eligibility Criteria given in Technical/Qualifying Bid will not be opened. The EMD of such bidder/s will be returned in due course.

3. Bid Evaluation

The Purchaser will evaluate and compare the bids determined to be substantially responsive i.e. which;

- a) Are properly signed, and
- b) Confirm to the general terms and conditions, special conditions, and technical specifications.

4. Each Bidder shall submit only one bid. VNIT Ref. No. and item name must be mentioned on envelope / cover containing the quotation.
5. Bidder shall submit Firm's registration certificate, GST registration certificate, PAN, Delivery Period, Warranty/Guarantee, others etc with the bid.
6. Bidder shall furnish the information in the prescribed format of Technical and Price Bid only (as applicable). Any other format will lead to disqualification. Each and every document submitted with Technical and Price Bid should be duly signed & stamped. **Incomplete or Conditional Bid(s) will not be accepted.**
7. **Earnest Money Deposit (EMD):** Bidder shall submit EMD in form of Demand Draft / Fixed Deposit Receipt / Bank Guarantee in favor of "**Director, VNIT Nagpur**" payable at Nagpur. The EMD to be submitted strictly in a separate envelope superscribed with Vendor / Firm's name & address & also on back side of DD with stamp. **Bid received without EMD will be summarily rejected.**
8. MSE Firms [engaged in Manufacture / Production of goods or providing of any service or services, under MSMED Act, 27/2006 Chapter-1 2(e)] are exempted from payment of EMD, subject to furnishing of relevant valid certificate (indicating terminal validity date of their registration) for the item tendered.
9. **Specification and Make:** Bid should be given for the exact specification and make as shown in the tender enquiry against Sr. No. of the item / good. The bid which is not as per our tender enquiry will be treated as non responsive.

Signature of Bidder
(Authorized Signatory)

Stamp:

Date:

10. **Client List:** Bidder shall furnish information of Client list along with the order copy of similar good/s / equipment supplied to any IIT/NITs/ any Govt. Organization in India including details of price & all other charges / duties with the bid. List of other clients shall also be submitted.
11. **ISI Certification:** Where ISI certification marked goods / items are available in market, procurement should generally be limited to goods with those or equivalent marking only.
12. **Authorization Certificate:** Sole selling agent/Authorized distributors/Dealers/ Suppliers are eligible to bid on behalf of Original Equipment Manufacturers (OEM) provided they submit requisite authorization and self certification from the (OEM). The bidder should enclose the latest authorization certificate from OEM.
13. **Taxes:** GST or any other taxes as per Govt. norms shall be applicable from time to time. The % of Tax must be indicated separately in the bid.
14. **Goods / Items for Research Purpose: Concessional GST @ 5% will be applicable for purchase of goods viz Scientific & Technical instruments and other required for the Research purposes only.** This is in accordance of Govt. of India, Ministry of Finance Notification 45/2017-Central Tax (Rate) dated 14th November, 2017 and 47/2017-(Integrated Tax (Rate) dated 14th November, 2017, and DSIR No. TU/V/RG-CDE (190)/2016 Dated: 20.02.2018. The description of goods is given in Govt. of India notification dated 14th November, 2017 mentioned above. A certificate in this respect will be issued to the vendor by the Institute.
15. **Taxes (For Import Item)** - Govt of India Ministry of Science & Technology, DSIR, New Delhi vide letter No TU/V/RG-CDE(190)/2016 dated 20/02/2018 has issued Certificate of Registration to VNIT, Nagpur for purposes of availing customs duty exemption in terms of Govt. Notification 51/96-Customs dated 23rd July, 1996 and this registration is valid up to 31.08.2021. VNIT is eligible to avail partially exemption for Customs Duty. Necessary documentation / exemption certificate for the same will be provided by the Institute wherever applicable. The supplier who has quoted the price in Rupees, but importing the items from the foreign country has to sign the High Sea Sale Agreement. Against High Sea Sales Agreement GST is not applicable; Custom Duty is applicable under Notification No 51/96. The charges towards HSS agreement, if any, will have to be borne by the firm.
16. **Valid Period of Quotation/offer:** The bidder should clearly mention the valid period of quotation/offer in the bid. The quotation/offer shall be normally valid for a period of **180 days** from the date of opening the tender.
17. **Rate Contract:** If the Good/s under enquiry is mentioned under the Govt of India, DGS&D rate contract, Vendor shall supply the good/s at DGS&D contract rate as VNIT Nagpur is Government of India's Institute of National Importance under the Ministry of HRD.
18. **Installation:** Goods / Equipments shall be delivered / installed at concerned laboratory / department of VNIT by the Bidder at free of cost.
19. **Service centre:** Vendor shall provide the details of Service Centre in Nagpur or other region nearby with name of contact person, their contact nos. & address.
20. **Payment (Indigenous Item):** Institute will release the full & final (100%) payment after delivery of items and its successful installation/ demonstration at concerned department / laboratories of VNIT Nagpur. The vendor will be required to submit the bills in triplicate along with delivery memo. Payment will be made through Crossed Cheque / ECS / NEFT / RTGS. For electronic payment mode, Firm / Company bank details on letter head will be required.
21. **Payment (Import Item):** In case of import good/s, the payment term shall be 100% through irrevocable Letter of Credit/Telegraphic Transfer, the 90% will be released against dispatch of original documents and items/goods received at the Nagpur Airport and the balance 10% will be released after delivery and successful installation of the goods at VNIT, Nagpur. Letter of Credit amendment charges will be borne by the beneficiary.
22. Vendor shall furnish price & other information in the prescribed Price Bid format. Each document submitted with quotation should be duly attested & stamped by the vendor, failing which submitted quotation will be treated as **Non-Responsive**. Incorrect, Incomplete or Conditional Quotation(s) will not be accepted and will be treated as **Non-Responsive**.

Signature of Bidder
(Authorized Signatory)

Stamp:

Date:

23. If any document of tender /quotation enquiry, certificate etc. submitted by the vendor is observed to be incorrect / false / forged / having ambiguity, intentionally or un-intentionally at any stage, the tender/quotation submitted by the vendor is liable to be treated **Disqualified/Non-Responsive**. Further the Institute reserves the right to initiate any action as deemed fit in such case against the vendor including the action of blacklisting of firm.
24. Incomplete or conditional quotation/bid shall be summarily rejected.
25. **Educational Discount:** VNIT, Nagpur is a Govt. of India's Institute of National Importance engaged in education & research of National & International repute, the Vendors shall give / offer the special educational discount on quoted rates.
26. The vendor shall take full responsibility in case of any damage, loss or injury to any person / building or to any part thereof, and shall repair / and make good the loss, at his own cost.
27. **Annual Turnover:** Balance sheet, profit & loss account for the proceeding 3 financial year must be enclosed as an evidence of the financial requirement.
28. **Guarantee or Warrantee & Delivery of Goods**
- a) **Guarantee/Warranty:** Normal comprehensive **Warranty/ Guarantee of 3 years** shall be applicable to the supplied goods. In case any part or whole of the equipment is found to be defective during the guarantee period, then the same will have to be replaced/repaired free of cost at our premises. The Vendor should guarantee that the goods/items and its accessories supplied are complete in every respect and confirm to the technical specification mentioned in the Bill of Material
- b) **Performance Guarantee:** A performance guarantee of 10% of the total invoice value for goods/items costing 10 Lacs & above, and valid for three year covering the entire warranty period will be required from the vendor executing the purchase order. In case of violation of any of the conditions of guarantee / warranty (for Three years), the aforesaid performance guarantee shall be invoked by VNIT.
- c) **Delivery of Goods:**
- i) Vendor shall deliver/supply the goods within **16 Weeks** period.
- ii) Goods shall be supplied / delivered by the bidder at the installation site in concerned laboratory/department of VNIT Nagpur at free of cost on working days. Vendor shall strictly be adhered to above, failing which **Liquidated Damages Clause will be applicable**.
- iii) Goods should be securely, safely and adequately packed and dispatched at the risk of supplier. Purchase order Ref. No. & date must be mentioned/should be kept in all packing's.
- iv) Bidder shall deliver the goods in concerned laboratory/department perfectly before 4.00 pm on working day/s. Delivery of goods will not be accepted on Saturday, Sunday and Institute Holiday.
29. **Liquidated Damages Clause:**
- a) The Director, V.N.I.T. Nagpur reserves the right to recover from the vendor, liquidated damages a sum equivalent to $\frac{1}{2}$ percent of the price of the undelivered stores at the stipulated rate for each week or part thereof, during which the delivery of such stores may be delayed subject to, a maximum limit in the case of an order exceeding Rs. One Lakh in value, upto **10** percent and in the case of an order not exceeding Rs. One Lakh in value upto **5** percent of the stipulated price, of the stores so undelivered.
- b) To purchase elsewhere, on vendor's accounts, at his risk, the stores etc. undelivered, or other of a similar description, where others exactly employing with the particulars, are in the opinion of the Director, Visvesvaraya National Institute of Technology, Nagpur are not readily procurable, without cancelling the contract, in respect of consignment not yet due for delivery.
- c) If the Supplier fails to deliver the material/goods within the stipulated delivery period, then Amount of EMD given by the Vendor shall be forfeited. In case of Supplier [registered with MSME/NSIC/SSI etc.] not required to submit the EMD, the Institute reserves the right to initiate action including reporting to principal Govt authorities.

Signature of Bidder
(Authorized Signatory)

Stamp:

Date:

- d) To cancel the contract.

In the event of action being taken under (b) or (c) above, the vendor shall be liable to make good for any loss, which the Institute may sustain, by reason of higher price of items/goods, so purchased or the otherwise, howsoever:

The decision of the Director, Visvesvaraya National Institute of Technology, Nagpur shall be final as regards to the acceptability of stores supplied by the seller and the Director, Visvesvaraya National Institute of Technology, Nagpur, shall not be required to give any reason in writing or otherwise at any time for the rejection of stores.

30. Award of Purchase Order / Work Contract

- a) Notwithstanding the above, the Purchaser reserves the right to accept or reject any bid and to cancel the bidding process and reject all bids at any time prior to the award of contract.
- b) The Purchaser will issue the **Purchase Order / Work Contract** to the vendor / bidder whose bid has been determined to be substantially responsive and who has offered the lowest evaluated bid price. The terms of the accepted offer shall be mentioned in the purchase order.
- c) On receiving of order by vendor, the vendor shall deliver / supply / install the good/s at free of cost up to installation site of concerned department of VNIT, Nagpur, failing which cost of delivery / installation will be deducted from the Vendors bill payment.
- d) After receiving of the Purchase Order / award of contract, it will be Vendor's obligation / responsibility to supply or delivery of the good/s as per specifications within specified time schedule/delivery period.
- e) Expression of vendor's inability for the supply or delivery of good/s as per specifications will lead to cancellation of PO and EMD (as submitted) will be forfeited. Further Institute may also disqualify / debar the Vendor from participating in any of its future enquiries for a period as recommended by institute authorities.

31. Post Delivery / Installation Warranty & Support:

- a) The Vendor should have their office or authorized representative / dealer in India. They should mention in detail their support infrastructure by which minimum downtime will be ensured.
- b) The Vendor shall submit details of Service Centres / Factory and information on service support facilities that would be provided after warranty period [Form].
- c) The Vendor will have to give undertaking that in case of any breakdown / damages during warranty period the goods / equipment will be restored back to its original status within **4 weeks** (This may include replacing some spares also).

- 32.** Any corrigendum / amendment regarding this tender enquiry will be issued on institute website only. [www.vnit.ac.in/stores]

- 33.** Director, VNIT, Nagpur reserves the right to increase/decrease the quantity of goods at any stage.

- 34.** Director, VNIT, Nagpur reserves the right to accept or reject or cancel any or all enquires or bids/PO at any stage without assigning any reason thereof.

- 35. For any disputes, the place of jurisdiction shall be Nagpur, Maharashtra (India) only.**

- 36. It will be presumed that the vendor has read carefully all the above mentioned instructions, terms & conditions and abide by same.**

- 37. All Communication are to be addressed to –**

Director
Visvesvaraya National Institute of Technology,
South Ambazari Road,
Nagpur 440 010
Maharashtra (India)

- 38.** We look forward to receiving your bids and thank you for your interest in this project.

Dean (P & D)
Sd/-

VNIT, Nagpur

Signature of Bidder
(Authorized Signatory)

Stamp:

Date:

**TECHNICAL/
QUALIFYING BID**

Signature of Bidder
(Authorized Signatory)

Stamp:

Date:

Technical Specifications and Eligibility Criteria

[A] **Technical Specifications**

QUOTATION FORMAT ANNEXURE (QFA)

REF NO.: **VNIT/STR/AUSC/2018-19/04**

dt.25/12/2018

100kN Servohydraulic Dynamic Testing Machine

Specifications for

100 kN Servohydraulic Dynamic Testing Machine

A) Description of the ITEM:

Supply, installation, and commissioning of 100 kN Servohydraulic Dynamic Testing system with accessories. The machine should be capable of performing static as well as dynamic testing (with R = -1) of different materials such as high strength materials like; steels, superalloys etc. at ambient as well as high temperatures with the standard or sub-size specimen geometries.

B) Detailed SPECIFICATIONS:

Supply, installation, and commissioning of 100 kN Servohydraulic Dynamic Testing system with accessories in accordance with suitable ASTM testing standards; strain controlled Low Cycle Fatigue (ASTM E606-04), stress-controlled High Cycle Fatigue (ASTM 466-07) with the following features.

Sr. No	Part	Item Description
1.		Load Frame
	(a)	Two column floor-mounted load frame construction
	(b)	Axial Stiffness: 450 MN/m or above at 1 m distance from base to movable crosshead
	(c)	Frame alignment should be 0.1 mm or less when distance between fixed and movable crosshead is one meter
	(d)	The load frame shall feature a maximum test space (from load cell) of at least 1200 mm or more to allow the testing of different sizes of specimens as detailed in item#7
	(e)	Distance between columns: 500 mm or higher
	(f)	The load frame must feature a frame-mounted, latchable, emergency stop in full compliance with present international regulations
	(g)	Load frame alignment fixtures with Standard instrumented specimen and alignment software should be provided
	(h)	Overall height: Less than 3.04 m (10 ft)
2.		Actuator
	(a)	Type: Servo-Hydraulic
	(b)	Actuator should be integrated to the bottom side of the load frame
	(c)	The actuator capacity: ±100 kN or higher, rated for static and dynamic tensile, and compressive loads
	(d)	Dynamic force rating must be more than 90% of static force for generating optimistic dynamic performance
	(e)	Position measurement accuracy ± 1 % of displayed reading full travel under normal operating conditions
	(f)	Actuator dynamic stroke should be 150 mm (± 75 mm) or higher with a stroke resolution of -0.1 mm or better with an accuracy of ± 1%
	(g)	Dynamic loading frequency: upto 50 Hz or higher
	(h)	Actuator velocity: 0.01 to 1500 mm/min
3.		Hydraulic Servo valve and service Manifold
	(a)	Dual servovalve configuration, 3-5 lpm and 55-60 lpm servo-valve with manual port shutoff valve for LCF and general dynamic material testing.
	(b)	Servovalve should ensure bumpless transfer between control modes during specimen setup
	(c)	Maximum Operating pressure: 200 bar or higher
	(d)	Operating temperature: Ambient temperature ranging from 20 to 50 Deg c
	(e)	Off Low/High pressure controls to be available
	(f)	Close coupled accumulator: 1 litre
4.		Load cell
	(a)	Capacity: ± 100 kN capacity fully reversed stress and Fatigue rated.
	(b)	Load Accuracy: ± 0.5% of the load cell reading or better
	(c)	Non-linearity: 0.08% of full scale or better
	(d)	Hysteresis: 0.05% of full scale or better
	(e)	Repeatability: 0.03% of full scale or better
	(f)	Overload Capacity: 150% or more overload capacity before mechanical failure
	(g)	Signal conditioning of transducers to offer greater stability and low noise levels
	(h)	An additional load cell with an axial capacity of ±5 kN
	(i)	Provision for mounting the 5kN load cell without removing the 100kN load cell
	(j)	Load cell should be calibrated to the applicable standard for the full range and calibration certificate to the effect for 2 years to be provided
	(k)	Fatigue rating > 10 ⁸ cycles
5.		Controller
	(a)	Digital controller should include at least 4 channels including load, displacement, and strain. One channel for user specific input. Provision to add four more shall exist

Signature of Bidder
(Authorized Signatory)

Stamp:

Date:

	(b)	The system should be controlled by a fully digital, closed loop-dedicated system. The digital control system should be capable of controlling the actuator in strain, position, and load modes.
	(c)	Signal conditioner data sample rate: 100 kHz or faster
	(d)	Synchronous acquisition rate: 50 kHz or higher
	(e)	Function generation by 32 bit processor or higher
	(f)	Type of waveform: sine, haversine, square, triangle, haversquare, and ramp (single, dual) waveforms and custom wave shapes.
	(g)	Cycle counter: A cycle counter must be available. The cycle counter must display elapsed and total cycles
	(h)	Stroke accuracy: $\pm 1\%$ of LVDT reading, or better
	(i)	Strain accuracy: $\pm 0.5\%$ of reading or better.
	(j)	Automated dynamic control mode switching between any connected transducer. Any connected transducer or calculation can be selected for control (typically load, strain or displacement) including load limited displacement during specimen loading.
	(k)	Signal conditioners shall support automatic transducer recognition for force transducers and Extensometer
	(l)	Conditioner should have low-noise, low-drift, high-accuracy signal conditioning and shunt calibration verification.
	(m)	Provision for on-board strain gauge bridge completion
	(n)	The controller must prevent any test proceeding with an uncalibrated transducer to prevent incorrect data being gathered
	(o)	The controller must incorporate to detect loss of communication with the personal computer.
	(p)	Ability to save and restore PID tuning settings
	(q)	Adaptive controls compensation should be provided
	(r)	The controller must have a minimum of two limit detectors per connected transducer and all limit detectors must have a detection time of 1 ms or better
	(s)	It must be possible to run tests through application programs running on PC
	(t)	Handset for operation of system. Provides ability to adjust actuators, auto-offset signals, start/stop test, turn hydraulics on/off limits setting
	(u)	Control System Tuning: Must have Auto-Tuning (the system should run a simple waveform and be able to set PID values in a single step)
	(v)	Protecting the specimen from overloading while Loading: The control system must to ensure that the load is kept within a predefined range during test set up and specimen loading. The minimum load is to be 0.2% of the maximum load or lower.
	(w)	Grip Control: The hydraulic grip should be controlled with proven technology. The controller must prevent the operation of the grips either whilst a test is running or whilst the machine is not in position control.
6.		Hydraulic Power Pack
	(a)	Type: Variable volume pump
	(b)	Capacity: 35 lpm or higher
	(c)	Operating pressure: 200 bar or higher
	(d)	Supplier shall provide the relevant performance curves
	(e)	Power supply: 3 phase, 415 V AC, 50 Hz
	(f)	Direct coupled oil submerged pump and motor
	(g)	Noise level: 60 dB or less measured at 3 feet during operation at high pressure and dumping full flow over relief valve
	(h)	Corrosion resistant stainless steel oil to water heat exchanger
	(i)	Dimensions of the unit shall be mentioned. The power pack unit shall occupy reasonable space for efficient floor space utilization.
	(j)	Protection devices: Should include protection device for oil temperature, oil pressure, oil level, oil filter condition and motor temperature.
	(k)	Switches: Switches for start, low/high pressure, and stop shall be located on the front panel of the enclosure.
	(l)	Indicators: Indicators for power on, low oil level, over temperature, and dirty filter warnings shall be placed on the starter enclosure door for quick monitoring.
	(m)	Distribution Manifold: The offer should include Distribution Manifold and appropriate Hose Set to connect Hydraulic Power Unit
7.		Grips and Fixtures
	(a)	Necessary grips and fixtures to conduct Low cycle fatigue (LCF) as well as High cycle fatigue (HCF) testing at ambient temperatures as per the relevant ASTM standard to be provided. Necessary fixtures for LCF testing of threaded samples of M8, M10, M16, M20 shall be provided.
	(b)	Hydraulic wedge grip - Dynamic force capacity ± 100 kN or more
	(c)	Static load capacity: 120% or more of dynamic capacity
	(d)	Specimen centering: Adjustable stops on flat faces
	(e)	Usable width: 40 mm or more
	(f)	Adjustable gripping pressure to accommodate variety of specimen materials
	(g)	To accommodate round specimen for 6.0 mm (or lower) to 22 mm (or higher) diameter specimen.
	(h)	To accommodate flat specimen of 1 to 14 mm thickness
8.		Heating Furnace and High Temperature Accessories:
	(a)	Type: Two/Three zone split furnace
	(b)	Upper limit: 1200 Deg C or higher
	(c)	Lower limit: 300 Deg. C or lower
	(d)	Accuracy: ± 1 Deg. C control point stability
	(e)	Working area: 60 x 60 x 180 mm (length width x height) uniform temperature zone
	(f)	Nominal power rating: 3 kW
	(g)	Thermocouple: N/K/S type. Should include 8 or more spare thermocouples

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	(h)	Provision to accommodate high temperature extensometer/ COD gauge
	(i)	Provision to measure sample skin temperature during the test
	(j)	Additional kit to verify the thermal gradient within the zone.
9.		High Temperature (HT) Pull rods and Grips
	(a)	Necessary grips and fixtures to conduct static and Low cycle fatigue testing at high temperatures as per the relevant ASTM standard to be provided. Threaded specimens (M8, M10, M16, M20) will be used for LCF testing.
	(b)	Pull rods: One set reverse stress pull rods of 100 kN capacity preferably made of Mar-M246 or Inconel 713C or better material for use upto 1000 Deg. C
	(c)	Grippers and extension rod arrangements for usage in conjugate with the heating furnace to hold flat specimens of thickness ranging between 0.5 to 1.5 mm with the gripping width ranging between 5-20 should be quoted separately
	(d)	Control and Alignment: Capable of repeatable alignment to 5% in bending when measured with strain gauged alignment cell.
	(e)	Furnace compatibility: Suitable for use with furnace specified above
10.		Extensometer Extensometer suitable for static Tensile and Fatigue testing
	(a)	Extensometer with ceramic extension rods for fatigue with the gauge length of 25 and 12.5 mm (one each) capable of working upto 1200 Deg C or higher and a measuring strain range of $\pm 10\%$
	(b)	Gauge length accuracy: $\pm 0.5\%$ of gauge length or better
	(c)	Strain accuracy: $\pm 0.5\%$ of strain or better
	(d)	Linearity, contact force, resolution frequency needs to be specified
11.		Software and PC Hardware
	(a)	Software for performing standard static tests, low cycle fatigue (LCF), high cycle fatigue (HCF), block loading fatigue, constant amplitude fatigue, spectrum loading fatigue (using an input file defining end levels and rates) as per relevant ASTM standards
	(b)	LCF testing software should perform Automatic calculation of Modulus within user specified limits, It should automatically adjust gauge length when at test temperature
	(c)	LCF software (meeting ASTM E606-04 standard) should support of Sine, Triangular and Trapezoidal waveforms and should have Combined linear, logarithmic and peak interval data logging
	(d)	LCF software should have selectable specimen break criteria to accurately pinpoint specimen failure
	(e)	Software should have user configurable run-time screen capable of displaying results fields and three (3) or more graphs. There should be provision to change the graph properties while the test in progress.
	(f)	Provision to stop and re-start test at any point, with modulus checking as required should be available.
	(g)	Export of graphs and test data should be possible during the progress of test
	(h)	The software should be compatible with the latest versions of windows operating system (minimum windows 10). Upgradation of software free for 5 years, if required.
	(i)	ASCII and excel file output for data
	(j)	The system will be controlled from a PC, which will be included in the suppliers offer.
	(k)	The PC should be a branded model with latest high-end configuration and windows operating system and a LCD flat panel with screen-size not lesser than 22 inches
	(l)	The PC should interface to the controller using a dedicated high speed interface
	(m)	The system should be supplied with PC software to enable full operation of the controller, including ramp and wave form generation, and data acquisition to disk etc.
	(n)	The system should be supplied with application to allow: Ramp, hold, triangle, Data acquisition to disk in ASCII format
	(o)	Provides ability to create individual passwords for a page, or limit access to specific users
	(p)	Software shall allow a virtually unlimited number of test procedures to be set up and stored.
	(q)	When used with a specific temperature controller and Environmental chamber. The application software shall allow the operator to set up temperature end levels and soak times and perform specific test procedures upon arrival of stable temperature
	(r)	System should have analogue output for Load, Displacement and strains (± 10 VDC) with BNC Connectors.
	(s)	Latest and compatible laser printer to be quoted separately
12.		Optional (TO BE QUOTED SEPARATELY)
	(a)	Fracture Mechanics Grips (to accommodate specimen of thickness 25 mm or more, pin diameter 12 mm.)
	(b)	Bend fixtures (3 point bend and 4 point bend), roller diameter 10 mm, Lower span: maximum 300 mm or more, 20 mm or less, Upper span: maximum 150 or more, 45 mm or less- To be quoted separately
	(c)	High temperature (1000 °C) Fracture Mechanics Clevis Grips to accommodate specimen of 25 mm thickness or more
	(d)	Room temperature and High temperature (1000 °C) Compression Platens to accommodate solid cylindrical specimens of diameter ranging from 6 mm to 25 mm
	(e)	High temperature (1000 °C) grips to hold flat samples of thickness ranging between 2-10 mm and round samples of diameter ranging between 2-15 mm.
	(f)	High temperature (1000 °C) COD gauge with a gauge length of 5 mm and travel range of 5 mm or higher.
	(g)	Software for Fracture Mechanics tests as per relevant ASTM standards
	(h)	An acceptable Uninterruptible Power Supply (UPS) should be properly integrated in test systems. The UPS should be wired to provide power to the servo controller and any peripheral equipment that is instrumental in safe system operation and shut-down. Online UPS 1 Phase 230 V AC power supply, backup time 30 mins minimum, capacity 2 kVA or higher

C) Pre-Qualification Criteria

1. The bidder must be a reputed OEM with credible service history. Authorized dealer of the original manufacturer of the proposed machine in

Signature of Bidder
(Authorized Signatory)

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Date:

India may also bid. In case of authorized dealer, the technical quote should contain a valid original certificate provided by the original manufacturer in the name of VNIT.

2. The bidder should have supplied similar 100 kN Servo-hydraulic Dynamic Testing Machine to atleast 2 government institutes such as established IITs, NITs, national laboratories and government organizations in India in last 5 years. Provide list of such clients as well as other clients with their contact details (email, phone nos. etc.) for seeking performance feedback. Purchase orders from such organizations mentioning detailed specifications of machine supplied MUST be enclosed.
3. The machine will be used in educational institute for demonstration as well as research purpose. Hence, applicable discount for educational institution may be offered.

D) General Terms & Conditions

1. Warranty and AMC
 - (a) Extended warranty for (1+2) years from the date of installation and Commissioning. During warranty period all repair and replacements of equipment/accessories should be provided free of cost. Also, engineer visit should be free of cost.
 - (b) Ten sets of normal spares (lock nuts, O-rings/seals, filters in power pack and hydraulic units, fuses etc.) that undergo wear and tear shall be supplied free of cost.
 - (c) Offer from 3 years AMC after the warranty period clearly indicating scope of AMC. It should cover all the equipments and accessories supplied through this order.
2. Packaging: As per standard terms (Suitable for air/sea freight)
3. Inspection, installation, commissioning and training
 - (a) All the essential requirements ensuring ready to use set up at VNIT campus.
 - (b) Installation should be done by a well-trained engineer of the company and service and maintenance training should be provided to at least two persons for at least one week
 - (c) Commissioning as per the standard charts
 - (d) Standard training in VNIT for at least one week.
 - (e) One set of maintenance and operating manuals in English (one hard copy and one soft copy in .pdf format)
 - (f) Calibration certificates for all the transducers, sensors and thermocouples shall be sent alongwith the machine
4. Provision for pre-dispatch inspection
 - (a) User's personnels (2 nos.) will visit the supplier factory for the inspection of the integrated machine after its final assembly at supplier's cost.
 - (b) The supplier shall demonstrate all the functions of the system according to the specifications.
 - (c) User will conduct the short term tests on 3 similar samples for accuracy and repeatability of the results (number of cycles to failure, cyclic stress response, and temperature etc.) to assess the machine reliability for fatigue testing. Similar tests shall be performed during installation at VNIT site. Maximum of $\pm 10\%$ variation in the stress response and cyclic life shall be permissible
5. Separate prices should be shown for (a) basic equipment (b) essential accessories (c) optional accessories (d) normal spares particularly of the items which are likely to sustain damage or failure in use.
6. Support of hardware and spares for 10 years and more after the End of life of the model
7. The firm should be equipped with well-trained engineers to offer post warranty maintenance and service support. Number of service engineers employed in this region by manufacturer should be mentioned.
8. Details of service support in India that the firm can offer should be given.
9. Nearest service center shall be mentioned.
10. The power, water, electrical connections, and civil construction requirements to be provided by VNIT shall be clearly specified.

Signature of Bidder
(Authorized Signatory)

Stamp:

Date:

FORM 1**Check List for TECHNICAL / QUALIFYING BID**

Ref No. VNIT/STR/AUSC/2018-19/04/

dt.25/12/2018

Read the **Instructions** below:

Please fill in details of certification / compliance enclosed in respect of this tender enquiry in the following format (Yes / No) only. **Any other format will lead to disqualification.** Any reference to product brochure without filling **appropriate** entry as “**Yes/No**” in the column will lead to disqualification.

If there is any deviation from the required specification then, it should be clearly specified in the “**Remarks**” column and appropriate documentary proof, may be enclosed without fail. **Please arrange all enclosures in following order only**

Sr. No.	Requirement	Details of Certification Enclosed Mention - YES/NO	Page No.	Remarks
1.	EMD of 3,60,000=00			
2.	Latest Manufacturer's / OEM Authorization Letter			
3.	Service Centre Details with Address & Telephone Nos.			
4.	Order Copies of preceding 3 financial Years (2015-2016,2016-2017,2017-2018)duly certified, indicating details of Order Value executed (Enclose Proof)			
5.	Product Literature / Information Brochure			
6.	Preferably Vender / OEM should have ISO 9000 or similar Certification for Quality			
7.	Certificate of Incorporations			
8.	Registration Certificate			
9.	Company Profile			
10.	Customer List / Client List with contract details			
11.	Technical Manpower Employed with Qualifications & Experience & their tenure			
12.	PAN			
13.	GST Registration Certificate			
14.	Methodology of Warranty Support			
15.	Brief History of the Company/ Firm with credentials if any			
16.	Warranty/ Guarantee (3 years)			
17.	Copy of performance reports from customers			

Signature of Bidder
(Authorized Signatory)

Stamp:

Date:

FORM 2

MANUFACTURERS (OEM) AUTHORIZATION LETTER

REF No.

Date

To

Dear Sir,

We who are established and reputable manufacturers of (*Name and description of goods offered*) 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 for the goods manufactured by us against the above IFB No. VNIT/STR/. We hereby extend our full guarantee and warranty of 3 years for the goods and services offered for supply by the above firm against this IFB.

Yours truly,

(Name with Stamp/Seal of Competent Authority)

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 legally bind the manufacturer. It should be included by the Bidder in its bid.

Signature of Bidder
(Authorized Signatory)

Stamp:

Date:

FORM 3

SERVICE SUPPORT DETAILS

LOCATION OF NEAREST SERVICE CENTER:-

Phone No.	Fax / Telex No.	Status of Office working Days & Hours	Number of Engineers	Value of Min. Stock Available at all times	List of Models & Types of Equipment under Service during last 2 years	Name of the Organization where the equipment are currently under AMC/ Service

Signature of Bidder
(Authorized Signatory)

Stamp:

Date:

FORM 4

PERFORMANCE STATEMENT

(From 2015-18 onwards)

Name of the Firm _____

Order placed by (Complete Address of Purchaser)	Purchase Order No. & Date	Description and Quantity of ordered equipment	Value of order	Date of completion of delivery		Remarks indicating Reasons for late delivery, if any	Has the equipment been satisfactorily Functioning (Attach a certificate from the Purchaser /Consignee)
				As per Contract	Actual date of supply		
1	2	3	4	5	6	7	8

Signature of Bidder
(Authorized Signatory)

Stamp:

Date:

FORM 5
CAPABILITY STATEMENT (CS)

1. Name & Address of the Bidder:

2. Phone:

3. Classification

- (1) Manufacturer : Y/N
- (2) Authorized Agent: Y/N
- (3) Dealer : Y/N
- (4) Other (Please specify)

4. Plant:

Location:

Description, Type & size of building:

Is property on lease or free hold? If on lease, indicate date of expiry of lease in such case:

5. Type of equipment(s) manufactured and supplied during last 2 years.

Name of Equipment	Capacity/Size	Quantity Manufactured	Nos. of Purchase Orders on hand

6. Types of Equipment(s) supplied during last 2 years other than those covered under 5 above.

Name of Equipment	Capacity / Size & Model	Name of Manufacturer & Country of origin	Total Nos. of Equipment(s) Supplied in India	No. of orders on hand

7. Turnover for similar equipments sold in last two years:

8. Details of Testing facilities available :

- i) List of testing equipment available.
- ii) Give details of type tests, which can be carried out using testing equipment.
- iii) Details of the staff available for testing.

Personnel/Organization: Give Organization chart for following indicating clearly the No. of employees at various levels.

Quality assurance	
Production	
Marketing	
Service	
Spare parts	
Administrative	

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Date:

9. Nearest Service Centres to each of the destination of installations:

Location	
Phone No.	
Year of Establishment	

10. Details of Organization (Enclose details of Organization Chart & Span of Control)at Service Centre:

No. of skilled employees	
No. of Unskilled employees	
No. of Engineering employees	
No. of Administrative employees	
List of special repair/workshop Facilities available (Specify Details of Equipments And Test(s) those which are performed)	
The storage space available for spare parts (Sq.m)	
Value of minimum stock of spares available at all the service centre in Respective currency	
Value of the models/types by number of equipment serviced by the centre in the last twoyears	

11. Enclose details of services provided duly authenticated by certification from the user in each case
 12. Names of two buyers to whom similar equipment was supplied in the past and to whom reference may be made by the Purchaser regarding the bidder's technical and delivery ability.

Buyer 1; Address & Contact No

Buyer 2; Address & Contact No

Signature of Bidder
(Authorized Signatory)

Stamp:

Date:

**PRICE/
COMMERCIAL BID**

Signature of Bidder
(Authorized Signatory)

Stamp:

Date:

PRICE / COMMERCIAL BID

REF No.: VNIT/STR/AUSC/2018-19/04

dt.25/12/2018

Item **100kN Servohydraulic Dynamic Testing Machine** "for Metallurgical & Materials Engineering Department

Sr. No	Item with Specifications	Qty	Basic Rate P.U. (Rs.)	GST % & Amount P.U. (Rs.)	Total Amount P.U. (Rs.)
1	100kN Servohydraulic Dynamic Testing Machine (Specification as per enquiry)				
	Educational Discount				
	Total Cost F.O.R. V.N.I.T. Nagpur				

[Note - The bidder should offer / quote special educational discount for the Institute.]

[A] DUTIES & TAXES (if applicable):

1. Custom Duty if any : _____
2. GST @ _____% : _____
3. Freight/ Transportation : _____
4. Insurance @ _____% : _____
5. Packing & Forwarding : _____
6. Others, (if any) : _____
7. **Final Offer (Including Installation Charges & Taxes) FOR VNIT Nagpur** : _____

[B] Others Details (Enclosed)

1. EMD No. & Amount : No.: _____ Dt. ___/___/2018
2. Specification as per Requirements : Yes / No
3. Warranty/Guarantee : _____ Years
4. Delivery period : _____
5. Firms Registration Certificate : _____
6. Authorization Certificate : _____
7. Details of client lists : _____
8. GST Registration Certificate : _____
9. PAN / GST No. : _____
10. Others, (if any) : _____

Note: Price/Commercial Bid & other details should be furnished as per Institute's prescribed format if failed, the Price / Commercial Bid is treated as unresponsive and will be disqualified.

The Firm/Company agrees to supply the above items for **final offer price (Rs. _____/- [In Words Rs.....])** inclusive of duties & taxes at [A] above within the period specified in the Invitation for Quotations. We also confirm that the normal commercial warrantee /guarantee of **36 months** shall apply to the offered goods.

Signature of Bidder
(Authorized Signatory)

Stamp:

Date:

FORM 6

FORMAT OF QUOTATION / BILL OF MATERIAL

REF No.: VNIT/STR/AUSC/2018-19/04

dt.25/12/2018

Sr. No.	Description of Goods	Specifications	Qty.	Unit	Quoted Unit Rate in Rs. /	Total Amount	
						In Figures	In Words
	Please refer enclosed "QFA/Bill of Material" for complete details.	As per "QFA/Bill of Material"					
						GST % GST Amt.	

Gross Total Cost : Rs.

We agree to supply the above Goods/Equipment/Software in accordance with the technical specifications for a total contract price of (In figure) (In word Rs) within the period specified in the Invitation for Quotations. We also confirm that the normal commercial warrantee /guarantee of **36 months** shall apply to the offered goods.

Signature of Bidder
(Authorized Signatory)

Stamp:

Date:

FORM 7

PRICE SCHEDULE

REF No.: VNIT/STR/AUSC/2018-19/04

dt.25/12/2018

1	2	3	4	5					6	7	8
Schedule No	Item Description	Country of Origin	Quantity & Unit	Price for each unit					Unit Price	Total Price	GST (%) & Amount payable
				Ex-factory, Ex-ware House, Ex-Show Room, Off the shelf	Custom Duty, as per actual	Packing & Freight	Inland transportation insurance and other local Costs Incidental to delivery	Incidental services			(To be mentioned clearly as Extra)
				(a)	(b)	(c)	(d)	(e)	a+b+c+d+e	4 x 6	

Note: In case of discrepancy in unit price and total price, the unit price shall prevail.

Total Bid Price in figure _____

In word _____

Signature of Bidder _____

Name _____

Business Address _____

Place:

Date:

Signature of Bidder
(Authorized Signatory)

Stamp:

Date: