



राष्ट्रीय प्रौद्योगिकी संस्थान मेघालय
NATIONAL INSTITUTE OF TECHNOLOGY MEGHALAYA
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Ref: NITMGH/ES/NIQ/CIF-FFTM/2021-22/128

Date: 26.04.2021

E-NOTICE INVITING QUOTATION (e-NIQ) FOR SUPPLY & INSTALLATION OF SERVO HYDRAULIC FATIGUE & FRACTURE TESTING MACHINE AT THE CENTRAL INSTRUMENTATION FACILITY, NIT MEGHALAYA, SOHRA (CHERRAPUNJEE) CAMPUS

NIT Meghalaya invites online Tenders through **CPP Portal** <https://eprocure.gov.in/eprocure/app> from eligible Bidders for procurement of equipment.

Prescribed Tender document, detailed fees and specifications, bid instructions and Terms & Conditions can be downloaded from the CPP Portal (<https://eprocure.gov.in/eprocure/app>) or from the Institute website (<http://www.nitm.ac.in/>). However, the bidding process (submission and finalization) will be done in online mode at CPP Portal. The bidders may submit their bid only through uploading in the CPP Portal <https://eprocure.gov.in/eprocure/app>

BID INSTRUCTIONS:

01. The offer must be submitted in Two Bid - Two Envelope only through uploading in the CPP Portal, before the last date & time for bid submission. Bidders must submit their digitally signed bids. The covers will contain the following documents:
 - i. Cover 1 which consists of technical requirements and general terms & conditions
 - ii. Cover 2 which consists of the Price Bid (in BoQ Ms-Excel format).

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Ref: NITMGH/ES/NIQ/CIF-FFTM/2021-22/128

Date: 26.04.2021

LAST DATE OF SUBMISSION:- 1:00 PM on 01.06.2021. Technical bids will be opened on 02.06.2021 at 3:30 p.m.

After evaluation of technical bids, financial bids of the successful bidders (technically qualified) will be opened on a later date which will be duly notified.

02. **Submission of Compliance Certificate:** Duly filled and signed Compliance Certificates (as per formats at Annexure-I A & B) are must with the Technical bid.
03. **Bid not transferable:** The bid documents are not transferable and the seal and signature of the authorized official of the firms must appear on all the papers and envelopes submitted.
04. The quantity mentioned for each item in the Annexure-III may increase /decrease depending on requirements.
05. GST Registration Certificate should be enclosed along with the tender documents.
06. Relevant catalogue of the items (if any) must be enclosed.
07. **Interested vendors may interact with Dr. Bikash Kumar Sarkar, Asst. Professor, ME Department, NIT Meghalaya for any queries @ 9485177038 and email ID bikash.sarkar@nitm.ac.in**
08. For e-waybill the successful vendor has to apply online via <https://ewaybill.nic.in/ewb.html>.

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NIO TERMS & CONDITIONS:

01. **Rates:** Rates quoted in the Price Bid should be on DOOR DELIVERY NIT Meghalaya, Sohra (Cherrapunjee) Campus basis, as per details as per details below to be quoted in the BoQ:-

Group:	Item Sl. No.	Item name	
Sl. No.	Particulars		Rate
I	Basic Price (per unit)		
	Discount if any		
	Total		
	GST (pl. break up CGST/SGST/IGST)		
	Total (per unit)		
	Grand total for the item		
II	Transportation charge up to NIT Meghalaya, Sohra (Cherrapunjee) Campus basis (if applicable)		
III	Transit Insurance covering all risk up to 10 days after delivery (if applicable)		
	Grand total on door delivery at NIT Meghalaya, Sohra (Cherrapunjee) Campus basis		
IV	Annual Maintenance Contract rate (after expiry of warranty period) for 1 st year/2 nd year/3 rd year		

Note: Vague terms like “packing, forwarding, transportation etc. extra” without mentioning the specific amount will not be accepted. Such offers shall be treated as incomplete and rejected.

02. **Quotations have to be submitted in Indian Rupees only.** If goods are to be imported, the quotations shall include all charges for customs clearance, clearing agent fees, landing port handling charges, insurance etc. and onward transportation of the goods from the port/airport of landing for door delivery upto NIT Meghalaya, Sohra (Cherrapunjee) Campus, East Khasi Hills District, Meghalaya 793108.
- NIT Meghalaya has a valid registration with the Department of Scientific and Industrial Research (DSIR), Ministry of Science & Technology, Government of India for availing Customs/Central Excise Duty exemption. NIT Meghalaya will provide all necessary certificates, authorizations and documents required for clearing the consignment and for onward transportation upto NIT Meghalaya, Sohra (Cherrapunjee) Campus, East Khasi Hills District, Meghalaya 793108.
03. All documents submitted should be digitally signed by the bidder.
04. Bidder must unconditionally accept all terms and conditions stipulated in the tender document and all pages of the bid including all enclosures should be numbered and must be duly filled in and digitally signed by the bidder or his authorized representative.
05. The bidder must also upload a digitally signed copy of the **Tender Acceptance Letter** in the format given at Annexure-IV.
06. **Validity of Quotation: Quoted rates must be valid for 120 days from the date of quotation.**
07. **Warranty:** The quoted equipment and components must be warranted for a minimum of one Year from the date of successful installation and training.
08. **Literature must:** All the quotations must be supported by the printed technical data sheet/ literature and the specifications mentioned in the quotation must be reflected/ supported by such printed technical data sheet/ literature. The model no. and specifications quoted should invariably be highlighted in the data sheets/ literature for easy reference.
09. **Details of supply** of similar items to Institutes of National Importance (preferably those located in the Northeastern region) must be provided.
10. **Presentation:** Technically qualified bidders may be called upon to give full presentation of the quoted equipment at NIT Meghalaya campus before opening of Price bid as a support of their Technical Quotations and for any clarifications.
11. **Equipment breakdown:** Any Equipment breakdown must be attended to within 72 hours during the warranty period of the equipment free of cost.

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12. **Training:** If required, free training is to be provided to NIT Meghalaya personnel on the operation, installation, training, maintenance and trouble shooting of the supplied items.
13. **After Sales Service:** Vendor should clearly state the available nearest after sales service facilities in the Northeastern region, without which the offer will be rejected.
14. **Dealership Certificate:** The bidder/tenderer should be either a manufacturer or authorized agent of the foreign/Indian manufacturer. Dealers or Agents quoting on behalf of Manufacturer must enclose valid dealership certificate.
15. **EMD:- As per OM No. F9/4/2020-PPD issued by the Department of Expenditure, Ministry of Finance, Government of India dated 12.11.2020 vendors are exempted from submission of EMD/Bid Security. However, in lieu of Bid Security, the vendor must submit a “Bid Security Declaration” accepting that if they withdraw or modify their bids during period of validity etc., they will be suspended for the time specified in the tender documents.**
16. **Performance Bank Guarantee (PBG):** The successful bidder shall furnish an unconditional PBG (as per format at Annexure II) for 3% of the Purchase Order value from a Nationalized/Scheduled Bank of India, before release of the payment. Else 3% of the billed amount will be deducted as security deposit. Where the PBG is obtained by a foreign bank, it shall be endorsed by a Nationalized/Scheduled Indian bank and shall be governed by Indian Laws and be subject to the jurisdiction of courts at Shillong. The PBG shall guarantee that,
 - The Vendor guarantees satisfactory operation of the Equipment & components against poor workmanship, bad quality of materials used, faulty designs and poor performance.
 - The Vendor shall, at his own cost, rectify the defects/replace the items supplied, for defects identified during the period of guarantee/warranty.The PBG shall remain valid for period of sixty days beyond the date of completion of all contractual obligations of the supplier including warranty obligations.
17. **The vendor should have Income Tax account (PAN), GST Registration Certificate.**
18. **The item(s) will be used only for research purpose of the Institute and not for any commercial use. Hence, vendors may quote concessional rate of IGST @ 5%. Relevant documents shall be provided by the Institute.**
19. **Minimum 10 days of training should be provided by the bidder till the satisfaction of the user on free of cost.**
20. **The bidder should mention about the utilities required for the setup.**
21. **Upon receipt of the order, the successful bidder must submit the site readiness document with the drawings for enabling NIT to get the site ready for the Centre to function.**
22. **Delivery:**
 - a. Time Limit: *Maximum within 180 (One Hundred & Eighty) days from the date of issue of purchase order.*
 - b. Safe Delivery: All aspects of safe delivery shall be the exclusive responsibility of the vendor. At the destination site, the package will be opened only in the presence of NIT user/representative and vendor’s representative. The intact condition of the package and the seal/indicators for not being tampered with, shall form the basis for certifying the receipt in good condition.
 - c. Insurance: The supplier is to establish ‘All Risk Transit Insurance’ coverage till door delivery at NIT Meghalaya, Sohra Campus (Cherrapunjee).
 - d. Part Delivery: As far as possible no part delivery shall be entertained. However, in extreme cases, acceptance of part delivery shall be a prerogative of the Institute.
 - e. Penalty for delay in delivery: The date of delivery should be strictly adhered to otherwise the Director, NIT Meghalaya reserves the right not to accept delivery in part or full. The Director, NIT Meghalaya also reserves the right to impose penalty, as deemed fit, for delay in delivery of the equipment, including imposition of Liquidated Damages (LD). The decision of the Director shall be final and binding to all.

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23. **Genuine Pricing:** Vendor is to ensure that quoted price for the particular item is not more than the price quoted to any other customer in India, particularly to IITs/NITs and other Government Organization. Copy of the latest price list for the quoted item, applicable in India, must be enclosed with the offer.
24. **Conditional tenders not acceptable:** All the terms and conditions mentioned herein must be strictly adhered to by all the vendors. Conditional tenders shall not be accepted on any ground and shall be rejected straightway. Conditions mentioned in the tender bids submitted by vendors will not be binding on NIT Meghalaya.
25. **Late and delayed tender:** Late and delayed tender will not be considered.
26. **Payment: 80% payment within 30 (thirty) days from date of Successful delivery & Balance 20% after successful installation, training and acceptance.** The 80% payment shall be released on confirmation of the receipt of the complete set of equipment in good condition as per the Purchase Order and after its certification by the concerned officials of the Institute.
27. Payment will be made through PFMS. Bidders are required to furnish complete and correct bank details on their letterhead along with the technical bid. A scanned copy of a cancelled cheque may also be attached for verification of IFSC code.
28. **Enquiry during the course of evaluation not allowed:** After opening the Technical Bid, no enquiry from the bidder(s) shall be entertained during the course of evaluation of the tender till final decision is conveyed to the successful bidder(s). However, the Purchase Committee or its authorized representative may make enquiries/seek clarification from the bidders. In such a case, the bidder must extend full cooperation. The bidders may also be asked to arrange demonstration of the offered items, in a short period of notice.
29. At any time prior to the date of submission of bid, NIT Meghalaya may, for any reason, either of its own or in response to a clarification from a prospective bidder, modify the bidding documents by an amendment / corrigendum. **Any such amendment / corrigendum will be duly notified through the Institute's website only and CPP Portal.** Prospective bidders are advised to check the Institute's website every now and then for any amendment / corrigendum. In order to provide reasonable time to take the amendment into account in preparing the bid, NIT Meghalaya shall extend the date and time for submission of bids.
30. The acceptance of the quotation will rest solely with the Director, NIT Meghalaya, who in the interest of the Institute is not bound to accept the lowest quotation and reserves the right to himself to reject or partially accept any or all the quotations received without assigning any reasons.

31. Force Majeure:

If the performance of the obligation of either party is rendered commercially impossible by any of the events hereafter mentioned that party shall be under no obligation to perform the agreement under order after giving notice of 15 days from the date of such an event in writing to the other party, and the events referred to are as follows:

- (a) Any law, statute or ordinance, order action or regulations of the Government of India,
- (b) Any kind of natural disaster, and
- (c) Strikes, acts of the Public enemy, war, insurrections, riots, lockouts, sabotage.

32. Termination for default: Default is said to have occurred

- (a) If the equipment or any of its component is found having poor workmanship, faulty designs, poor performance and bad quality of materials used.
- (b) If the supplier fails to deliver any or all of the services within the time period(s) specified in the purchase order or any extension thereof granted by NIT Meghalaya.
- (c) If the supplier fails to perform any other obligation(s) under the contract.

Under the above circumstances NIT Meghalaya may terminate the contract / purchase order in whole or in part and forfeit the EMD/PBG as applicable. In addition to above, NIT Meghalaya may at its discretion also take the following actions: NIT Meghalaya may procure, upon such terms and in such

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manner, as it deems appropriate, goods similar to the undelivered items/products and the defaulting supplier shall be liable to compensate NIT Meghalaya for any extra expenditure involved towards goods and services obtained.

26. Applicable Law:

- (a) The contract shall be governed by the laws and procedures established by Govt. of India and subject to exclusive jurisdiction of Competent Court and Forum in Shillong / India only.
- (b) Any dispute arising out of this purchase shall be referred to the Director, NIT Meghalaya, and if either of the parties hereto is dissatisfied with the decision, the dispute shall be referred to the decision of an Arbitrator, who should be acceptable to both the parties, to be appointed by the Director of the Institute. The decision of such Arbitrator shall be final and binding on both the parties.

Sd/-
Registrar

Encl.: ANNEXURE-I, ANNEXURE-II, ANNEXURE-III, ANNEXURE-IV.

ANNEXURE –I

A. COMPLIANCE CERTIFICATE FOR NIO TERMS
(To be enclosed in the Technical bid)

Sl. No.	NIQ Terms and Conditions	Yes/No	
01	Rate quoted as per instruction		
02	AMC rate after warranty provided		
03	Validity of quoted rate for 120 days agreed		
04	“Bid Security Declaration” accepting that if they withdraw or modify their bids during period of validity etc., they will be suspended for the time specified in the tender documents.		
05	PBG term agreed		
06	Payment term agreed		
07	Delivery terms agreed		
08	Warranty period agreed		
09	Extended AMC (warranty) period year wise for three years with rates provided.	i. 1st year	
		ii. 2nd year	
		iii. 3rd year	
10	Literature: Printed provided		
11	Dealership /distributorship certificate (in case of dealers/agents) provided		
12	Details of supply to other Institutes of National Importance provided		
13	Equipment breakdown clause agreed		
14	After Sales Service: address of nearest after Sales Service Centre in the Northeastern region provided		
15	Manufacturer certificate provided		
16	Applicable law terms agreed		
17	All other terms and conditions mentioned in the NIQ (Technical & Financial) agreed		

Signature with Seal:.....

Vendor: M/s.....

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Annexure -I

B. COMPLIANCE CERTIFICATE FOR SPECIFICATIONS
(One for each item, must to be enclosed in the Technical bid)

Item Sl. No.		Item Name:	
Quoted Product:	Make:	Model No:	
Specifications as per Annexure-III		Quoted Item Specifications*	Complied/ Deviation
Parameter	Specification		

Signature with Seal:

Vendor: M/S

*** Vendor must quote the parameter specification of the quoted product in this column and not just copy the specification from the tender call document. Failure to do so will lead to rejection of the tender.**

ANNEXURE -II

PERFORMANCE BANK GUARANTEE

To:
The Director,
National Institute of Technology Meghalaya
Bijni Complex, Laitumkrah, Shillong-793 003
Meghalaya

WHEREAS(Name of Supplier)
hereinafter called "the Supplier" has undertaken, in pursuance of Contract No..... dated,..... 20....to
supply..... (Description of Goods and Services) hereinafter called
"the order".

AND WHEREAS it has been stipulated by you in the said order that the Supplier shall furnish you with a
Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with the
Supplier's performance obligations in accordance with the order.

AND WHEREAS we have agreed to give the Supplier a Guarantee:
THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier,
up to a total of (Amount of the Guarantee in Words and
Figures) and we undertake to pay you, upon your first written demand declaring the Supplier to be in default
under the order and without cavil or argument, any sum or sums within the limit of
(Amount of Guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your
demand or the sum specified therein.

This guarantee is valid until theday of.....20.....

Signature and Seal of Guarantors

.....
.....
.....

Date.....20....

Address:.....

.....
.....

All correspondence with reference to this guarantee shall be made at the following address:

The Director,
National Institute of Technology Meghalaya
Bijni Complex, Laitumkrah, Shillong-793 003
Meghalaya

ANNEXURE-III
(DETAILED TECHNICAL SPECIFICATIONS)
Technical Specifications and Compliance

SI No	Description or parameters of desired specification	Unit	Value	Compliance by vendors
1	Type of machine: Floor standing Servo-hydraulic Universal testing machine should be capable of versatile, high-performance application for static and dynamic material and component testing for metals, composite, plastics etc.			
A.	Same machine should be capable of following features with supplied accessories or with additional accessories to the primary machine as below:			
B.	»» High cycle fatigue			
C.	»» Low cycle fatigue			
D.	»» High temp low cycle fatigue			
E.	»» Fatigue crack growth			
F.	»» Fracture toughness			
G.	»» Crack propagation			
H.	»» K _{Ic} , J _{Ic}			
I.	»» Component strength and durability			
J.	»» Environmental testing			
K.	»» Thermal mechanical fatigue			
L.	»» Tension			
M.	»» Compression			
N.	»» Bending			
O.	»» Stress relaxation			
2	Load frame: Load frames that should feature extremely stiff and lightweight crossheads with high natural frequencies, and precision-machined columns for consistently tight alignment.			
A.	Crosshead should be adjusted and locked hydraulically alongwith additionally mechanically locked in non-operating period.			
B.	Minimum Capacity in dynamic condition:	kN	100	
C.	Minimum Stiffness:	kN/mm	450	
D.	Minimum vertical daylight or testing space:	mm	1250	
E.	Minimum horizontal daylight or testing space:	mm	500	
F.	Minimum Coloumn diameter	mm	70	
G.	Minimum pressure to withstand of hydraulic grip control	Mpa	21	
3	Actuator: Double-acting fatigue rated servohydraulic actuator should be integrally mounted to base for easy maintenance and trouble-free operation			
A.	The Piston rod surface should have Plasma high density thermal spray coating of material Diamalloy 3007 or equivalent providing hardness of at least 80HRC on the Piston Rod			
B.	Actuator should be robust, durable and in event of requirement it should be upgraded with same capacity in future at site without displacing machine			

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C.	The Rod surface should be super-finished such that the actuator's maximum unloaded glide Friction in the horizontal plane is less than 2% of the rated force capacity traversing between 10% to 90% of its stroke range.			
D	Desired Capacity fatigue rated:	kN	100	
E	Desired stroke fatigue rated:	mm	150	
4	Load cell: It should be axial, dynamic fatigue-rated load cells as per monolithic design to reduce errors caused by extraneous side loads or loading changes caused by geometry shifts in the specimen			
A.	Minimum Capacity fatigue rated:	kN	100	
B.	Minimum Accuracy as per ISO 7500-1 and EN 10002-2 (should be demonstrated on-site calibration)	Class	0.5	
C.	Minimum Range of accuracy	range	1-100%	
5	Servo Valves: Servo Hydraulic manifolds to consist of minimum 2nos two-stage, four-way servo valves specifically designed for low to medium flow rates of hydraulic oil required for multiple application of high velocity tension, compression, repetitive loading, low cycle, high cycle fatigue test and those can be operated independently or simultaneously.			
A.	Servo valve should be axially ported on the Integrated Actuator Beam minimizes pressure loss for more efficient delivery of hydraulic power			
B.	First servo valve minimum flow rate	LPM	60	
C.	Second servo valve maximum flow rate	LPM	5	
D	(Proportional or Servo-proportional valves are not acceptable)			
6	Hydraulic Power Unit: It should have following features and specifications to support Servo valves			
A.	It should have intuitive interface, display for easy operation and maintenance.			
B.	It should be energy efficient: Variable-displacement piston pumps should ensure maximum hydraulic efficiency, even during times of reduced flow demand.			
C.	Integrated cooling options: Supplier should offer an optional water-cooling system which should maintain the proper hydraulic fluid operating temperature. Those pumps should also offer optional water-shutoff valves to minimize water consumption			
D	Remote monitoring capability and Remote Human-Machine Interface (RHMI) : It should have an easy access of HPU control, information about HPU condition and health status from remote. Application should be available for operation from any mobile device.			
E	Must have a submersible pump and motor assembly to ensure minimal noise and maximum cooling			

F	Safety: Automatic interlocks should be provided to protect against inadvertent damage due to high temperatures or high/low fluid levels. For added protection, there should be user-selectable shutdown limit and alarms for both temperature and fluid levels.			
G	Minimum required flow rate of Hydraulic oil	LPM	100	
H	Maximum permissible noise level	dB(A)	65	
I	Minimum Pressure	MPA	20	
J	Hydraulic Oil First fill should be provided by supplier			
K	Hydraulic pipes, lugs, hoses all should be supplied in adequate quantity and with compliance with industry standards: SAE J517–, SAE J343–Test and procedures for SAE 100R, and ISO 11171–Contamination control			
7	Grips & Accessories:			
A.	Water cooled Hydraulic wedge grips should feature side-loading capability for easy specimen insertion and handling for both static and dynamic test of different flat and round samples			
i)	Minimum Dynamic capacity	kN	100	
ii)	Minimum Static capacity	kN	120	
iii)	Water cooled jaw set for flat sample range thickness required	mm	0-7, 7-14	
iv)	Water cooled jaw set for round sample range diameter required	mm	6-10, 10-13	
v)	Grips should withstand working temp range	°C	upto 170	
B.	Fracture Mechanics Grips should be supplied for fracture toughness and fatigue crack growth rate tests. These grips should be constructed of high-strength, aircraft-quality 4340 steel and should be machined to the exacting tolerances required by ASTM			
i)	Minimum Dynamic Capacity	kN	30	
ii)	Minimum Specimen Width: 25.4 mm	mm	25	
iii)	Minimum PIN Diameter: 12.6 mm	mm	12	
C.	Compression platen should be supplied for static and dynamic compression test			
i)	Minimum Dynamic Rating	MPa	250	
ii)	Minimum Static Rating	Mpa	650	
iii)	Minimum Diameter	mm	150	
iv)	Minimum Configuration: Two Fixed Platens			
v)	Maximum Temperature Range	°C	170	
D	Displacement Gage should be supplied for performing tests to determine KIC, JIC, crack growth rates. Those should be able to use with a variety of specimens including compact tension, WOL, round compact tension, C-shaped, bend, and other common specimens or panels	No	1	
i)	Minimum Gauge Length:	mm	12	
ii)	Minimum Travel	mm	4	
iii)	Maximum Temperature Range	°C	150	
E	Axial Extensometer for static and dynamic test should be supplied for strain measurement			

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i)	Should meet or exceed requirements for calibration according to ASTM E83 Class B1 and ISO 9513 Class 0.5 standards for dynamic and static both tests			
ii)	It should be supplied with quick attachment fixtures for flat and round specimens, and standard elastic attachment kit			
iii)	Minimum Gauge Length:	mm	25	
iv)	Minimum Travel	mm	5	
v)	Maximum Temperature Range for dynamic	°C	120	
vi)	Maximum Temperature Range for static (Optional)	°C	1000	
8	Controller and software: Machine should be controlled by reliable, versatile and easy-to-use digital servo-controller operated by computer			
A.	It should provide real-time closed-loop control, with transducer conditioning and function generation to drive various types of servo-actuators, and supports a wide array of configurations			
B.	It should generate waveforms as Haversine, square, triangle, ramp, true sine, random, and sine-sweep etc			
C.	It should be easily re-configurable and provide the ability to re-assign hardware allocation without much change in the chassis. Also, the processors should be field-upgradeable, should be simple to add capacity when necessary.			
D	Controller should support adaptive control compensation techniques as below: »» NULL PACING: It should ensure desired levels are reached on initial cycle without over-programming. »» PEAK VALLEY CONTROL (PVC) adapts as specimen compliance changes to ensure peaks and valleys are maintained for any constant amplitude periodic waveform. »» PEAK VALLEY PHASE (PVP) CONTROL adapts for phase as well amplitude for multi-channel cyclic tests. PVC can correct for phase even with distorted waveforms. »» ARBITRARY END LEVEL CONTROL (ALC) can adapt for linear or non-linear specimens with periodic or random waveforms. »» ADAPTIVE INVERSE CONTROL (AIC) can be applied to any waveform, including random profiles or RPC time history files in linear systems			
E	Controller should easily define calculations from input signals. Mathematical functions should include: +, -, x, /, cos, exp, ln, log, power, sin, tan, and time. It should be possible to use one defined calculation in another calculation.			
F	A handset should be provided for easy, convenient and compact means to install and replace specimens, and to setup and initiate tests at the load frame or test rig. Handset should have digital display for intuitive control provides the ability to adjust machine, auto-offset signals, start and stop tests, and turn hydraulics on or off.	No	1	
G	Controller software should allow test developers to create and edit automated programmed test procedures, significantly increasing test flexibility and productivity.			
H	Minimum data acquisition speed per channel	kHz	6	

I	Minimum data sampling rate	kHz	100	
J	Minimum Controller resolution	bit	32	
K	Desired Frequency range	Hz	0.001 - 600	
L	Minimum number of digital universal conditioners to accommodate a wide range of transducers, including AC and DC devices	No	2	
M	Branded Desktop Computer; WIN10, 64 bit, 8GB RAM, 2x500GB hard drive, Keyboard, Mouse, Monitor - 23" LCD (Includes MS office) or better	No	1	
N	UPS -A suitable UPS of minimum 1.5KVA should be provided for smooth functioning of Controller	No	1	
9	Dedicated and comprehensive software module for Fatigue, Fracture test as below should be supplied			
A.	Low cycle fatigue test upto 12Hz, compliant with ASTM E606 and D3479 strain-controlled LCF test standards, Includes templates for LCF, transition to HCF and custom waveform tests	No	1	
B.	High cycle fatigue test upto 70Hz, compliant with ASTM E466 and D3479 stress controlled HCF test standards, Includes templates for LCF, transition to HCF and custom waveform tests			
C.	Fatigue crack growth test measurement compliant with ASTM E647, should run fatigue crack growth tests using a clip gage and compliance method as crack length measurement should features online load-displacement, crack length vs. cycles, and da/dN plotting, test shutdown and test parameter changes during the test execution, should support FFC(T), M(T) and SE(B) specimens	No	1	
D.	KIc fatigue crack growth tests software should consist of crack size check, pre-crack and the UIc test. The main test will be executed in load, crack opening displacement, or actuator displacement control. This fracture toughness software should perform fatigue pre-cracking and uses the compliance method as primary crack length measurement, predefined test template to test to ASTM E399 standard and should support FFC(T) and SE(B) specimens	No	1	
E.	JIc-CTOD fatigue software Module should calculate J-R curves, CTOD R curves, critical J and critical CTOD values, with a predefined test template for ASTM E1820. The module should support fatigue pre-cracking and should use the compliance method as the primary crack length measurement, and features online load-displacement plotting, test shutdown and restart, and the capability to change test parameters during execution. It should feature online load-displacement plotting, test shutdown/restart, test parameter changes during the test execution and should support FFC(T), LLC(T) and SE(B) specimens	No	1	

F.	CTOD software module should provide test methods for the determination of critical crack-tip opening displacement (CTOD) values, at one or more of several crack extension events. Those CTOD values should be used as a measure of fracture toughness. The module should include a predefined test template for ISO 12135 and should support FFC(T), LLC(T) and SE(B) specimens	No	1	
G.	<p>System monitoring software is a real-time remote monitoring solution for the entire lab. It should allow authorized users to manage time-critical tests and is available anytime, anywhere through any web enabled device-laptops, tablets and smart phones. With this increased visibility, lab workers can be more efficient and test equipment can be more productive. It should include:</p> <ul style="list-style-type: none"> · System views: User-configurable multi-tab displays providing details associated with a single test, · Lab views: User-configurable multi-tab displays provide summary information for all tests running in a lab, · Activity Feed: Easily see everything that has recently changed in test lab, including periodic updates on running tests, · Integrated with application software to remotely monitor test run information: enables creation of custom feed messages and alerts within test, · Alerts: The ability to send a text message's-mail or Twitter Tweet or push notification when the test status changes, · Native Smartphone apps for Android, Apple · Color coded displays which enables to see at a glance test details like Run/Stop/Hold state, HPU and HSM states, etc., · It accommodates unlimited number of users, · Plug and play software with no IT infrastructure and setup costs, · Includes multiple levels of security: 256-bit SSL encryption, HTTPS, proxy server compatibility and customer configurable security levels, · Monitor lab operations across around the globe, · Better visibility to improve lab scheduling and throughput, 	No	1	
11	Installation, Commissioning, Warranty and Maintenance			
A.	Supplier should take full responsibility for supply, installation and commissioning of the Universal testing machine with related software's at NIT Meghalaya, Sohra Campus (Cherrapunjee) within the stipulated time frame.			
B.	Minimum warranty of 1year need to give			
C.	Delivery Within 180 Days from the date of Issue of Work Order			
D	Manual: Service, operational manual and maintenance manual should be supplied with the system in CD			
E	Demonstration & Training: Comprehensive Demonstration and training should be provided to make NIT Meghalaya operator trained about multiple machine operation, maintenance etc			
F	On site Calibration: Supplied and installed machine need to be calibrated by manufacturer's service engineers in NIT Meghalaya, Sohra Campus (Cherrapunjee)			

ANNEXURE-IV

TENDER ACCEPTANCE LETTER
(To be given on Company Letter Head)

Ref. No.

Date:

To,

The Registrar
National Institute of Technology Meghalaya
Bijni Complex, Laitumkrah
Shillong 793003, Meghalaya

Sub: Acceptance of Terms & Conditions of Tender.

Tender Reference No.: NITMGH/..... dated2021

Name of Tender:-

Sir,

1. I / We have downloaded / obtained the tender document(s) for the above mentioned Tender from the web site of NIT Meghalaya, Shillong as per your advertisement, given in the CPP Portal and the above mentioned website.
2. I / We hereby certify that I / we have read the entire terms and conditions of the tender documents from Page No.....to (including all annexure(s), schedule(s), etc.), which form part of the contract agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein.
3. The corrigendum(s), if any, issued from time to time by NIT Meghalaya, Shillong, have also been taken into consideration, while submitting this acceptance letter.
4. I / We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.
5. I / We do hereby declare that our Firm has not been blacklisted/ debarred by any Govt. Department/Public sector undertaking.
6. I / We certify that all information furnished by our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then NIT Meghalaya, Shillong shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

Yours Faithfully,

(Signature of the Bidder, with Official Seal)

SIGNATURE OF BIDDER