



Institute of Infrastructure, Technology, Research And Management

(An Autonomous University, Established by Government of Gujarat)
IITRAM Campus, Parishkar Campus, Near Khokhra Circle,
Maninagar (East), Ahmedabad – 380026, Gujarat.

Phone: 079-67775430

e-Mail: office@iitram.ac.in

Website : www.iitram.ac.in

Tender No.: 2022/26

Date:13.09.2022

NOTICE INVITING TENDER

Important Information:

Name of Item:	BID FORM for Procurement of Equipment for Dynamics and Vibrations Laboratory
Date of Issue	13.09.2022
Tender Fee	Rs.1770.00 (Including 18% GST)
EMD	Rs.32,500.00 (Refundable)
Last date for Online BID Submission	04.10.2022 till 12:00 AM (midnight)
Last date for Physical BID Submission	06.10.2022 till 05:00 PM
Opening of Technical BID	11.10.2022 at 04:00 PM
Opening of Financial BID	To be announced later through email
Tender Inviting Authority and Address	The Registrar (In-Charge), Institute of Infrastructure, Technology, Research And Management, Near Khokhara Circle, Maninagar (East), Ahmedabad – 380026, Gujarat. Phone: - 079-67775430

Institute of Infrastructure, Technology, Research And Management

NOTICE INVITING TENDER

Name of Item: Procurement of Equipment for Dynamics and Vibrations Laboratory

Sir,

The Institute of Infrastructure, Technology, Research And Management (IITRAM), Ahmedabad invites quotations for **Procurement of Equipment for Dynamics and Vibrations Laboratory** under “Two bid system in e-Tender format.” Interested parties who wish to participate in this e-Tender may obtain the Tender documents from IITRAM website www.iitram.ac.in or from <https://education.nprocure.com>. Firms have to submit the technical documents through RPAD, Speed Post or in Person till the last date and time prescribed for submission. Tender sent by other means will not be accepted in any case. Hardcopy of Tender Document, Tender Fee, EMD and other essential documents should be submitted on or before **06.10.2022 till 05:00 PM** in the office of the Room No. G2, IITRAM, Near Khokhara Circle, Maninagar (East), Ahmedabad-380026. Financial bid is to be submitted in electronic form only on (n)Procure website (<https://education.nprocure.com>).

1. Eligibility Criteria:

- 1.1 The firm should have PAN No. Enclose a copy of the PAN Card.
- 1.2 The firm should be registered with GST. Enclose a copy of the Registration No.
- 1.3 The firm has to submit at least last three years Income Tax Return of their firm.
- 1.4 The firm has to submit the Firm Registration Certificate.
- 1.5 The firm has to submit the Authorization Letter from the Original Manufacturer in case if the firm is a Distributor or a Supplier.

2. General Terms and Conditions:

- 2.1 The firm has to quote the price for the item as mentioned in particular Annexure-I.
- 2.2 The price quoted shall include taxes, other levy payable, all freight, packing & forwarding, transportation, loading & unloading, custom duty, excise duty & other duties, other charges to supply Goods at IITRAM.
- 2.3 Rates quoted should also including training, installation, commissioning, erection and demonstration of machine/material/goods/instruments/equipment at our site.
- 2.4 The items for which quotation have been submitted must be in accordance with the specifications given in **Annexure-I**.
- 2.5 The rates quoted by the firm shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
- 2.6 The offer shall be valid up to 90 days from the date of opening of Technical bid.

- 2.7 The Tender is liable to be rejected if complete information is not given therein or if the particulars and date (if any) asked for in the scheduled tender are not fully filled in. Particular attention must be paid to delivery date and also to the particulars referred to in the condition of the contract.
- 2.8 Financial bids will be opened in online format of technically qualified firms only.
- 2.9 Tenders not complying with the above conditions are liable to be rejected at the sole discretion of IITRAM without any further reference / communication.
- 2.10 This tender is not transferable.
- 2.11 IITRAM reserves the right to choose, accept or reject any or all requests/deviations/offers, in full or part and also reserve the right at any stage to reduce or increase the quantity and split the order.
- 2.12 The Supplier/Vendor has to submit photocopy of following documents along with duly signed & stamped:
- i. PAN Card
 - ii. Firm's Registration Certificate
 - iii. GST Registration Number
 - iv. Income Tax Return (Last three years')
 - v. This NIT Documents, Annexures, Appendix, etc.
 - vi. If firm is newly established, provide chartered accountant certificate to make firm eligible for tender. In case of foreign company/organization/industry, has to provide necessary document like firm registration, original manufacturing certificate etc. Otherwise, it shall be liable for disqualification of this NIT.
- 2.13 **Performance Security:** The successful firm shall be required to deposit Performance Security from any Nationalized Bank @5% of the cost of the items to be supplied for the duration of warranty plus additional two months in favor of "IITRAM" within 30 days of the receipt of the Purchase Order. If the firm fails to comply with the above requirements within the said period, the EMD already deposited by him/ them shall be applicable for forfeiture and IITRAM shall purchase the items required at the risk and cost of the successful firm.
- 2.14 This Performance Security will be returned (without any interest) within 30 (Working) days after satisfactorily completion of warranty period.
- 2.15 The successful firm shall have to enter into the Agreement in the prescribed Performa provided by IITRAM. (In Rs.300 Stamp Paper).
- 2.16 **Inspection:** Pre-dispatch inspection at Bidders site or inspection after the delivery of goods, as the case may be.
- 2.17 **Inspection Charges** @0.5% within Gujarat State and Inspection Charges @1% for outside Gujarat State of the total order value should be borne by the bidder.
- 2.18 All or any Claim(s), dispute(s) or difference(s) arising out of or in with connection with this agreement shall be subject to the jurisdiction of the Courts at Ahmedabad only.

- 2.19 Any loss or damage caused to the article in transit/Installation/Testing is to be made up item by the firm free of cost within period of 30 days.
- 2.20 If the firm is blacklisted by Central Government or State Government or any other Government body then its submitted tender will be rejected. It is essential for firm to submit **Appendix - I** duly filled, signed, sealed & stamped manner in hardcopy, failing which the tender will be summarily rejected.
- 2.21 If there happens to be a holiday on any date indicated in the quotation, the transaction shall be performed on the next Working Day.
- 2.22 No firm shall withdraw his rates after the Tender is opened. If a firm does so, his tender related deposit/s shall be forfeited and such firm shall be considered ineligible for work/contract in future.

3. Submission of bid:

- 3.1 The Tender document can be downloaded from website www.iitram.ac.in or from <https://education.nprocure.com>. The fully filled in and complete in all respect Tender must be submitted with Tender Fee, EMD in the form of Demand Draft in separate cover in favor of the "IITRAM" payable at Ahmedabad.
- 3.2 Please mention Tender Number and Firm Name of Firm on back side of DD.
- 3.3 The EMD is refundable (without any interest) within 30 (Working) days after successful award of Purchase Order:
- 3.3.1 EMD of unsuccessful suppliers / vendors will be returned within 30 (Thirty) working days from the date of award of Purchase Order.**
- 3.3.2 EMD of successful supplier / vendor will be returned within 30 (Thirty) working days after submission Performance Security.**
- 3.3.3 The EMD shall be forfeited:**
- If the bidder withdraws his bid during the validity period of the bid.
- 3.4 The firm has to submit the Tender in two parts viz., (a) Technical Bid in envelop No.1 and (b) EMD in envelope No.2; both these envelopes should be sealed and put together in a covering envelope, super scribed with, Please Don't Open, bid for "***Procurement of Equipment for Dynamics and Vibrations Laboratory***" with due date, Tender Number and complete address.
- 3.5 The firm has to submit financial quotation online only at (n)Procure portal.
- 3.6 The bidder has to provide the make, model and detail technical specifications of the quoted item(s) and provide the technical specification of item as mentioned in Appendix-I. **Without this information, bid submitted by the bidder will be rejected.**
- 3.7 **It is essential for firm to submit Annexures, Appendix & Tender documents (all pages) and other essential documents as mentioned in this NIT notice with duly filled, signed, sealed & stamped manner in hardcopy, failing which the firm tender will be summarily rejected.**
- 3.8 Price quoted "ONLINE" will only be considered for L1.

4. Evaluation of Quotations:

The tender evaluation committee of the IITRAM will evaluate and compare the received quotations to determine the substantially responsive tender i.e. (i) tender is complete (ii) properly signed (iii) confirm the terms/conditions and specifications. Further, the financial evaluation will be done only for the substantially responsive tender based on the following parameter(s):

- Total Price quoted (ONLINE ONLY) as per specifications mentioned in Annexure-I.

5. Award of Contract:

- 5.1 IITRAM will award the contract to the firm who has offered lowest price.
- 5.2 Notwithstanding the above, IITRAM reserves the right to accept or reject any quotation and to cancel the bidding process and reject all quotations at any time prior to the award of contract without giving any reason.
- 5.3 The firm whose bid is accepted will be notified of the award of contract by the IITRAM prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the Purchase Order.

6. Delivery Period & Penalty:

- 6.1 The Equipment/ Instrument/ Machines/ Goods/ Item are to be delivered within a maximum time limit of 90 days from the issue date of Purchase Order. However, in case of imported Equipment/ Instrument/ Machines/ Goods/ Item are can be delivered within a maximum time limit of 120 days from the issue date of Purchase Order.
- 6.2 After the receipt of Items/Goods in acceptable condition at IITRAM, Ahmedabad bidder has to install Equipment/ Instrument/ Machines/ Goods/ Item within 30 Days. Bidder have to specify delivery period along with the technical documents.
- 6.3 **Penalty:** Penalty of 1% per week of order value will be charged after duration specified above individually. Further, 06 weeks or above delay from above mention days may lead to cancellation of order at the discretion of the university and forfeiting of Performance Security or EMD or Maximum Penalty shall be applicable 10%.

7. Warranty:

- 7.1 Minimum One-year complete warranty from the date of complete installation, commissioning and erection of all the Equipment/Instruments/Machines/Goods at our site.
- 7.2 Warranty certificate should be provided by original manufacturer in case of bidder is distributor or supplier on company's letter head.

8. Terms of Payment:

- The payment in INR will be released against firm Tax Invoice through the “CROSSED BANK CHEQUE” instrument within 30 days’ credit period after acceptance of successful delivery, installation at IITRAM.

9. Address for the Physical Bid Submission:

**The Registrar (In-charge),
Institute of Infrastructure, Technology, Research And Management,
Near Khokhara Circle, Maninagar (East), Ahmedabad- 380026.**

I/c. Registrar

(Schedule of Quantity)

Sr. No.	Name of Item & Specification	Qty.
1.	<p>UNIVERSAL VIBRATION APPARATUS (Free, Forced, Torsional and Longitudinal system)</p> <p><u>Specifications</u></p> <ul style="list-style-type: none"> • Exciter Unit should be provided with FHP DC Motor with Speed Control Facility. • RPM measurement should be done by Digital RPM Indicator with Proximity sensor. • Chart recorder for recording Frequency & Amplitude of Vibration and Electronic Stop Watch should be provided along with set-up. • The whole set-up should be well designed and arranged on a rigid structure painted with industrial PU Paint. • Operating/instruction manual and sample calculations should be provided along with the tender documents. • Equipment has to be demonstrated at college site, results should be repeatable within $\pm 5\%$ of the sample calculations provided. <p><u>Equipment should perform following experiments:</u></p> <ul style="list-style-type: none"> • To verify the relation simple pendulum. • To verify the relation of compound pendulum & to determine the radius of gyration. • To study radius of gyration of bi-filar suspension. • To study the undamped free vibration of spring mass system. • To study the longitudinal vibration of helical coiled spring. • To study the forced vibration of simply supported beam for different damping. • Undamped torsional vibrations of single rotor system. • Undamped torsional vibrations of double rotor system. • To study the damped torsional vibration of single rotor system and to determine the damping co-efficient. • Verification of Dunker Ley's Rule. • To study the forced damped vibration of spring mass system 	01 Nos.
2	<p>UNIVERSAL VIBRATION APPARATUS (Free and Forced vibration system)</p> <p><u>Specifications</u></p> <ul style="list-style-type: none"> • Exciter Unit should be provided with FHP DC Motor with Speed Control Facility. • RPM measurement should be done by Digital RPM Indicator with Proximity sensor. • Chart recorder should be provided for recording Frequency and Amplitude of Vibration. • Electronic Stop Watch should be provided along with set-up. • The whole set-up should be well designed and arranged on a rigid structure painted with industrial PU Paint. <p><u>Equipment should perform following experiments:</u></p>	01 Nos.

	<ul style="list-style-type: none"> • To study the undamped free vibration of spring mass system. • To study the forced vibration of simply supported beam for different damping. • To study the forced damped vibration of spring mass system. 	
3	<p>WHIRLING OF SHAFT DEMONSTRATOR (With digital RPM indicator)</p> <p><u>Specifications</u></p> <ul style="list-style-type: none"> • Six Shafts made of high tensile steel of Length 1000 mm, Dia. 3.6 & 7 mm • Digital RPM indicator with proximity sensor (non-contact type should be provided for RPM measurement. • Kinematic coupling bearing for fixed or free ends without restraint. • Three safety bearings and transparent protective cover to be provided for the safe operations. • Digital display of speed, speed controlled electronically to be provided. • Three phases motor to be provided. • The whole set-up should be well designed and arranged on a rigid structure painted with industrial PU Paint. <p><u>Equipment should perform following experiments:</u></p> <ul style="list-style-type: none"> • Display of various modes of whirl for a shaft with: <ul style="list-style-type: none"> a) Both ends directionally fixed. b) One ends fixed and other free c) Both ends directionally free. <p>Modes of vibrations can be studied and frequency can be measured in each case.</p>	01 Nos.
4	<p>STATIC & DYNAMIC BALANCING DEMONSTRATOR</p> <p><u>Specifications</u></p> <ul style="list-style-type: none"> • Four Balancing weights with different sized eccentric mass for varying unbalance should have made of Stainless Steel 304 Grade. • Transparent protective cover to be provided for safety point of view. • Foundation with elastic bearing • The whole set-up should be well designed and arranged on a rigid structure painted with industrial PU Paint. <p><u>Equipment should perform following experiments:</u></p> <ul style="list-style-type: none"> • To balance the masses statically and dynamically of a single rotating mass system. • Comparing static and dynamics imbalance. • To observation of effect of unbalance in a rotating mass system. • To determine the imbalance. • Demonstrate the imbalance vibration at different speeds. 	01 Nos.
5	<p>MOTORISED GYROSCOPE (With digital RPM indicator)</p> <p><u>Specifications</u></p> <ul style="list-style-type: none"> • Gyro: Driving motor power 3.6W, moment of the inertia of the gyro 375gcm² • Speed of the rotation axis 1000 to 6000rpm • Gyroscopic moment 61Nm • Transparent protective to be provided for the safety operations. 	01 Nos.

	<ul style="list-style-type: none"> • Non-contact type Digital RPM indicator with proximity sensor for RPM measurement. • The whole set-up should be well designed and arranged on a rigid structure painted with industrial PU Paint. <p><u>Equipment should perform following experiments:</u></p> <ul style="list-style-type: none"> • Experimental justification of the equation $T = I \cdot \omega \cdot \Omega_p$ • To study the gyroscopic effect of a rotating disc. 	
6	<p>JOURNAL BEARING APPARATUS (With digital RPM indicator)</p> <p><u>Specifications</u></p> <ul style="list-style-type: none"> • Journal of Diameter 50 mm and Bearing of Diameter 55 mm should be drive by Variable speed FHP Motor with speed controlling unit. • Weights of 2 kg, 1 kg should be provided. • Compound Pressure gauge (-1 to 1) Kg/cm² for Pressure measurement. • Digital display of the pressure to be provided with high accuracy. • Non-contact type Digital RPM indicator with proximity sensor for RPM measurement. • The whole set-up should be well designed and arranged on a rigid structure painted with industrial PU Paint. <p><u>Equipment should perform following experiments:</u></p> <p>To calculate the pressure distribution</p>	01 Nos.
7	<p>MICHELL TILTING PAD BEARING APPARATUS</p> <p><u>Specifications</u></p> <ul style="list-style-type: none"> • Trapezoidal shape Tilting pad should be provided with highly polished surface & pressure tapings. • Endless belt should be running over wide pulleys, immersed in oil bath and driven by Variable Speed Motor ½ HP, 1500 RPM. • Multi Tube Manometer and arrangement for measurement of indication & gap should be provided. • RPM measurement should be done by Digital RPM indicator with proximity sensor (non-contact type). • The whole set-up should be well designed and arranged on a rigid structure painted with industrial PU Paint. <p><u>Equipment should perform following experiments:</u></p> <ul style="list-style-type: none"> • Demonstration of pressure development. • Plotting pressure variation curve in longitudinal & transverse direction of a pad for various speeds and pad inclination. • Demonstration of cavitation phenomenon. 	01 Nos.

FORMAT FOR SUBMISSION OF COMPANY DETAILS (DATA SHEET)

Sr. No.	Particulars	Details to be filled by the Organization
1	Name of the Company	
2	Registered Office Address Telephone Number Fax Number e-Mail	
3	Correspondence Address Telephone Number Fax Number e-Mail:	
4	Details of the authorized person (Name, designation, address) Telephone Number Fax Number e-Mail:	
5	Is the firm - <ul style="list-style-type: none">• Government/ Public Sector Undertaking• Proprietary Firm• Partnership firm (if yes, give partnership deed)• Limited company or Limited Corporation• Member of a group of companies (if yes, give name and address and description of other companies)• Subsidiary of a large corporation (if yes give the name and address of the parent organization) If the company is subsidiary, state what involvement if any, will the parent company have in the project.	
6	Goods & Service Tax Number (GST):	
7	Permanent Account Number (PAN) of the firm.	

Seal & Signature of Company

Date: _____

Place: _____

FINANCIAL BID

(Format for Submission of Financial Details)

(Data Sheet to be submitted ONLY Online at (n)Procure Portal)

Sr. No.	Name of Items	Qty.	Rate (Without GST)	Total Amount (INR)	GST Slab Rate (%)
A	B	C	D	E = (C*D)	F
1.	UNIVERSAL VIBRATION APPARATUS (Free, Forced, Torsional and Longitudinal system)	01 Nos.			
2	UNIVERSAL VIBRATION APPARATUS (Free and Forced vibration system)	01 Nos.			
3	WHIRLING OF SHAFT DEMONSTRATOR (With digital RPM indicator)	01 Nos.			
4	STATIC & DYNAMIC BALANCING DEMONSTRATOR	01 Nos.			
5	MOTORISED GYROSCOPE (With digital RPM indicator)	01 Nos.			
6	JOURNAL BEARING APPARATUS (With digital RPM indicator)	01 Nos.			
7	MICHELL TILTING PAD BEARING APPARATUS	01 Nos.			

This table of financial bid is stated for reference purpose only and please do not disclose any price here at the time of submission of this document.

Declaration:

I/We hereby declare and affirm that I/We have read and understood the terms and conditions of the contract as stipulated in this NIT.

Seal & Signature of Company

Date: _____

Place: _____

(To be printed on Firm's Letter Head)

Appendix - I

UNDERTAKING

I, _____ hereby declare that Firm / Company / Agency / Organization / Partnership firm / Proprietary firm titled as _____ has not been blacklisted or banned or debarred at any stage from inception till this date by any of the NITs / IITs / IIITs / Central Universities / IISERs / CSIR Labs Central and State Government body / PSUs / Autonomous Institute or any Other Government Organization. In case of the any fraudulency, the Firm / Company / Agency / Organization / Partnership firm / Proprietary firm is fully aware that the tender / contract will be rejected / cancelled by IITRAM and EMD / Performance Security or any deposited amount shall be forfeited.

In addition to above, IITRAM will not be responsible to pay the bills for any completed / partially completed/supplied work.

Seal and Signature of Company

Date: _____

Place: _____