

(TO BE SUBMITTED ALONG WITH TECHNICAL BID)

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TENDER NOTIFICATION NO: -----

Phone No:- 27296326

TENDER FORM

The Registrar,
Delhi Technological University,
Bawana Road,
Delhi-110042

We the undersigned (herein after called as Contractor/Vendors/Suppliers) hereby offer to execute supply of items as per specification against which we have quoted over rates and for which this tender may be accepted at the rates stated there in and subject to the terms & conditions set forth for such items as may be ordered by the Registrar, Delhi Technological University or officer acting on his behalf.

Date this _____ **Day of** _____

Signature of Contractor _____

Address _____

Guidelines/Procedure to be followed in introduction of 'e'-procurement solution:

1. Payment of cost of Tender documents: The collection of cost of Tender documents is dispensed away with, as there is no physical supply of tender documents and also to have absolute anonymity of bidder participating in e-procurement solution. The bidders can view/download the tender documents from the: <https://govtprocurement.delhi.gov.in>. .

2. Submission of bids: The bidders who are desirous of participating in 'e'- procurement shall submit their price bids in the standard formats prescribed in the Tender documents, displayed at : <https://govtprocurement.delhi.gov.in>. The bidder should upload the scanned copies of all the relevant certificates, documents etc. in the: <https://govtprocurement.delhi.gov.in>. in support of their price bids. The bidder shall sign on all the statements, documents, certificates, uploaded by him, owning responsibility for their correctness/authenticity and copies thereof may also be submitted in the office of the Asst. Registrar(S&P), DTU along with original EMD. However, documents of the bidders downloaded online or requisitioned subsequently only will form the basis for deciding the tender.

3. Payment of Bid Security (Earnest Money Deposit): The EMD shall be in the form of the Demand Draft/Pay order of scheduled bank/Fixed Deposit Receipt of a scheduled bank issued in favour of Registrar, Delhi Technological University, Delhi. Zerox copy of the DD/PO/FDR is to be scanned and uploaded along with the bid, and the original DD/PO/FDR shall be sent to DTU so as to reach before the date & time of closing of the bids. Failure to furnish the original DD/PO/FDR before the closing of the bid, will entail rejection of bid and blacklisting.

4. Price Bid Opening: The Price Bids will be opened online by the concerned officer/officers at the specified date & time and the result will be displayed on the: <https://govtprocurement.delhi.gov.in>. which can be seen by all the bidders who participated in the tenders.

5. Processing of Tenders: The concerned officer/officers will evaluate and process the tenders as done in the conventional tenders and will communicate the decision to the bidder online.

6. Payment of Performance Guarantee: The successful tenderer shall furnish a bank guarantee/FDR of the value of 05% of the basic cost of the item for a period of 60 days beyond the warranty period from a nationalized bank to ensure the satisfactory performance of item supplied. The performance guarantee is to be submitted at the time of installation / demonstration of equipments. In case the performance of the item is not found satisfactory, the amount of bank guarantee will be forfeited & credited in university account.

7. Participation of Bidders at the time of opening of bids: Bidders have two options to participate in tendering process at the time of opening of Bids:

- (i). Bidders can come at the place of opening of bids (electronically) as done in the conventional tender process.
- (ii). Bidders can visualize the process online.

8. Participation Financial Rules for e-procurement: The e-procurement system would be applicable for purchase of goods, outsourcing of services and execution of work as prescribed in GFRs.

ASSTT. REGISTRAR (S&P)
DELHI TECHNOLOGICAL UNIVERSITY,
SHAHBAD DAULATPUR, BAWANA ROAD,
DELHI – 110 042

TERMS AND CONDITIONS

TENDER FORMS ARE NOT TRANSFERABLE

Procedure for submission of bids: The bidders who are desirous of participating in 'e'-procurement shall submit their technical and price bids in the standard formats prescribed in the Tender documents, displayed at: <https://govtprocurement.delhi.gov.in>. The bidder should upload the scanned copies of all the relevant certificates, documents etc. after page-numbering all documents and tender document and prepare an index thereof in the: <https://govtprocurement.delhi.gov.in>. in support of their price bids. The bidder shall sign on all the statements, documents, certificates, uploaded by him, owning responsibility for their correctness/authenticity and copies thereof may also be submitted in the office of the Asstt. Registrar (S&P), DTU alongwith original EMD. However, documents of the bidders downloaded online or requisitioned subsequently only will form the basis for deciding the tender.

1. The Competent Authority of the University does not bind himself to accept the lowest or any tender.
2. ALTERATION IN THE SPECIFICATION.
 - (i) The specifications mentioned/issued with this form of tender must not be altered by the Suppliers.
3. INCOMPLETE TENDERS

Tender will not be considered if complete information is not given at the time of tendering or if the particulars and data (if any) asked for are not given.
4. CANCELLATION OF TENDER/ CONTRACT/ IN PART OR IN FULL IN CASE OF DEFAULT IN CONTRACT/SUPPLY:

If the Supplier, in the opinion of the Institute fails or neglects to comply with any of the terms & conditions forming, part of the order issued, the head of institute shall without prejudice to any other right or remedies under the contract, has the right to cancel the contract /order by giving 15 days notice in writing to the Suppliers/firms without being liable to pay compensation for such cancellation.
5. Tender shall be uploaded as per guidelines indicated for e-procurement solution.
6. Demonstration of equipments has to be arranged by the suppliers, if desired by the institute. The technical committee may visit production facility if so desired for sample verification.
7. The quotation should be valid for a period of one year from the date of opening of the tender.
8. Rates are to be quoted in INR (Rupee terms) only and any revision thereof is not allowed after the tenders have been opened.
9. The delivery period should be clearly mentioned against each item, incase, the items are not readily available, ex-stock offer will be preferred.
10. Rates should be quoted F.O.R Institution. Sales tax/VAT/Octroi, Custom duty and other taxes leviable, should be mentioned clearly; indicating whether these are to be charged extra or included in the quoted price.
11. Consignment will not be insured at the Institute / University Cost.
12. Preference will be given to quotation pertaining to indigenous products, However, where suitable substitutes are not available and item need to be imported the following clarification / information should be given.
 - (i) Whether the item will be imported by the intended tenderers against its own import license or university will have to provide Custom Exemption Certificate (CDE).
 - (ii) Name and address of the foreign supplier.

- (iii) Break up of CIF, and duty (if paid) should be given along with service charges if any.
 - (iv) Delivery period including information about mode of dispatch and possible duration (after dispatch) for receipt of item at the port.
 - (v) Whether the item required any special preparation for installation. In case yes, full details should be given regarding operation maintenance of the items.
 - (vi) In case of costly/sophisticated items whether the tenderers will arrange any special training regarding operation / maintenance of the items.
 - (vii) Nature of assurance for the supply of spares after the warranty period.
13. The payment will be made within 30 days after the successful demonstration/installation of the equipment. Rejected items/goods should also be removed within 30 days after which no responsibility will be accepted by University.
 14. Conditional quotations and/or incomplete quotations in any respect will be rejected.
 15. In case you cannot quote for one or more of the items asked for in the tender the word "NOT QUOTED" (in the rate column) should be indicated.
 16. The specification of the item quoted by the firm should confirm to the University specifications. Confirmation, in this respect should be specifically mentioned in the tender. Where the tenderer feels that the specification of the item not fully given or differ, from the specification of the item mentioned by the university, the exact specification of such item should be attached with the tender indicating the item quoted.
 17. The Firm is required to link the University specifications with catalogues & leaflets/literature for each item. Details features, for compliance of specification should be provided on specification sheet & appropriate reference i.e. page no. & para of literature, leaflet wherefrom the relevant information has been checked, should be indicated.
 18. **EARNEST MONEY:-** EMD should be attached with the technical bid. The EMD shall be in the form of the Demand Draft/Pay order/BG/Fixed Deposit Receipt of a scheduled bank issued in favour of Registrar, Delhi Technological University, Delhi. Zerox copy thereof is to be scanned and uploaded along with the bid, and the original instruments shall be sent to DTU so as to reach before the date of closing of the bids. Failure to furnish the original instrument before the closing of the bid, will entail rejection of bid and blacklisting. **If the tenderer after acceptance of the tender refused to take up the purchase order, his Earnest Money will be forfeited.** Any tender received without / less Earnest Money deposit shall be summarily rejected.
 19. The Competent Authority reserves the right to reject any or all the tenders without assigning any reason, at any stage, and his decision will be final.
 20. The supplies shall have to be made within the period specified in the purchase order failing which the order shall be cancelled and the Earnest Money will be forfeited. However, in exceptional circumstance and, on written request, from the supplier/tenderer, extension of date for supply of the material will be considered. Extension in supply period is at the sole discretion of the competent authority.
 21. Service manuals, wherever available/ required, should be provided along-with the Equipments.
 22. A WARRANTY certificate should invariably be supplied along with the item at the time of delivery. Non-Compliance of the same will result in non-acceptance of the item from the firm with whom the order was placed beside rejection of the tender.
 23. The Competent Authority reserves the right to levy liquidated damages up to 2% of the value of the order for delayed supply. If the supply is delayed beyond the extended period, the University reserves the right even to cancel the order and forfeit the EMD of the firm/ tenderer.
 24. **PERFORMANCE SECURITY DEPOSIT:-** The successful tenderer shall furnish Performance Security Deposit of the value of 05% of the basic cost of the item in the shape of Bank Guarantee/FDR etc. from a nationalized bank pledged to Registrar, DTU, for a period of 60

- days beyond the warrantee period to ensure the satisfactory performance of item supplied. The performance guarantee is to be submitted at the time of installation / demonstration of equipments. In case the performance of the item is not found satisfactory, the amount of bank guarantee will be credited in university account.
25. DEFAULT: - In the event of default and unsatisfactory service of the contractor/Supplier firm, the DTU will be at liberty to repair/get the item serviced from other party at the cost of supplier/ contractor/ tenderer.
26. In case of software items, the suppliers should ensure that:-
- i. Legal software is supplied in original sealed pouches / P. K. T.
 - ii. A license agreement is enclosed with it.
 - iii. A registration card is available for software.
27. FAILURE AND TERMINATION: - If the Contractor / Supplier fails to deliver the stores or any installment thereof within the period fixed for such delivery or at any time repudiates the contract before the expiry of such period, DTU may without prejudice to the right of the purchaser may recover damages for breach of the contract.
28. The technical & financial bids of only those bidders will be opened who fulfill the eligibility criteria and the required whose documents are found in order. If any of the date earmarked for opening of technical or financial bids happens to be holiday, the bids will be opened on the very next working day.
29. For any query/clarification in r/o technical aspect of the enquiry, HOD(Civil/Env.), DTU may be contacted.
30. Disputes, if any, arising out of this tender shall be subject to exclusive jurisdiction of Courts of Delhi/New Delhi only.

ASSTT. REGISTRAR (S&P)
DELHI TECHNOLOGICAL UNIVERSITY,
SHAHBAD DAULATPUR, BAWANA ROAD,
DELHI – 110 042

CHECK LIST OF DOCUMENTS TO BE SENT WITH TECHNICAL BID.

S.No.	Particulars of documents	Page no.	No. of pages
1.	Proof of EMD (mention amount with instrument number and date)		
2.	Proof of PAN no. (mention no.....)		
3.	Proof VAT/Sales Tax Registration. (mention no.)		
4.	Brochure/Leaflets/Technical Information of the item(s), if any		
5.	Page no. 1 of Tender Document, duly signed.		
6.	Detailed Technical specifications, Terms & Conditions and Delivery period to be submitted on firm's letter head		
7.	Warranty Certificate		

Note: All copies of above documents should be duly signed and stamped by the tenderer before uploading.

Signature of tenderer:.....
Name:.....
Name of firm:
Telephone No:.....

GOVERNMENT OF NATIONAL CAPITAL TERRITORY OF DELHI
DELHI TECHNOLOGICAL UNIVERSITY
(FORMERLY DELHI COLLEGE OF ENGINEERING) Ph. 27296326
SHAHBAD DAULATPUR: BAWANA ROAD: DELHI-110 042

No.F.211/4-2/11-12/P/

Dated:

NOTICE INVITING TENDER

E- Tenders along with illustrated literature/leaflets for the supply/execution of item(s)/stores/work detailed below are invited in two-bids system through 'e' procurement solution only as per the guidelines and terms & conditions given in tender document - details of the NIT along with terms & conditions, specifications etc. can be seen/downloaded at/from the website.

The interested tenderers should upload duly signed tender form and their bids along with scanned copies of all the relevant certificates, documents etc. in support of their technical & price bids – all duly signed - on the: <https://govtprocurement.delhi.gov.in>. latest by **14/03/2012 up to 3.00P.M. An index prepared after pagination of all documents may also be uploaded** The technical bids will be opened online on **14/03/2012 at 3.30 P.M** {those bidders only whose original instrument of EMD amount is dropped in Tender Box placed in the office of Asst. Registrar (S&P)} in the presence of the bidders who wish to be present and will also be displayed on the website. For participation in the tender through e-procurement solution, the tenderers are required to have digital certificate and get registered with application Service Provider NIC.

Tender document is also available for viewing on the website of Delhi Technological University, Delhi at www.dce.edu and www.dce.ac.in

Yours faithfully,

EMD: Rs. 1,10,000/-

ASST. REGISTRAR (S&P),

S. No.	Item Description	Qty. (no.)
1	Vibration Analyzer with 12 Experimental Models of Structural Dynamics Experiments	1 set

Specifications on next page.....

TECHNICAL SPECIFICATIONS

1. VIBRATION ANALYZER WITH SUITABLE ACCESSORIES

Main features of multi-channel vibrations analyzer:

- 4 channel, expandable to 16
- FFT and recording capability
- Stand-alone analyzing capability, with in-built removable hard-disk of minimum 60 GB capacity
- 2 no. trigger channels.
- 2 no. output channel or generator.

Specifications:

- **INPUT:** 4-channels up-gradable to 8, 12 or 16 input. BNC type. AC/DC/ICP input \pm 20mV to 40V.
- **SAMPLING:** 2 kHz to 102.4 kHz (user selectable), 24-bit ADC
- **RESOLUTION:** ADC minimum 24 bit
- **OUTPUT:** 2 output channel or generators with \pm 10 V range, DC to 40 kHz DAC
- **EXT. SYNC. CHANNELS:** 2 external sync (trigger/tach) channels over and above the specified input channels.
- **AUXILIARY CHANNELS:** 4 nos. Auxiliary BNC sockets for additional outputs, Ext.sync., DC inputs.
- **MEMORY:** Internal: 60 GB memory with recording throughput rate 16 channels x 51.2 kHz x 32 bits. Capable of stand alone measurement.
- **RECORDER OPTION:** 32 tracks + ext. sync. + DC recorder/player, multi record file. Data recording rate at least 16384 kS/s.
- **EXPORT/IMPORT:** Export: UFF, TXT, SDF, Matlab, Wav audio
Import: TXT, AE2, WAV, Excel.
- **TEMPERATURE:** up to 50 degree C.
- **DYNAMIC RESPONSE:** > 120 dB
- **ACCURACY (Input):** Phase \pm 0.02 degree
- **COMPUTATIONAL POWER:** DSP on board (the analyzer should not use PC power for computation).
- **SOFTWARE:** Recording and FFT (offline & online)
- Input channels must have means to setup HP filters, Input Gain separately for each channel and attach different types of transducers to different channels.
- Automatic detection of cable breaks, shorts and digital overload.
- **PORTABLE & Display:** Weight not more than 8 kg. and system should not have integrated TFT/computer with the analyzer. Please quote Laptop separately in option.
- Internal Battery backup for 45 min and provision of auxiliary power for uninterrupted measurement.
- Should be able to take data from various structures mounted on shake table.
- **FUTURE UPGRADATION:** The system should have the capability to do the following for future up-gradation: (i) sound intensity & source location, (ii) dynamic stress, (iii) order tracking, (iv) Modal & ODS, (v) Sound power.

ACCELEROMETER

Specifications:

- Range : \pm 50g
- Sensitivity : 100 mV/g
- Type : Single axis, IEPE
- Connector : 10-32 coaxial side mounted
- Frequency Range : 1 to 10000 Hz

With cable at least 3 m

Analysis Software

- Real time FFT on all the channels independently 6400 lines on each channel.
- Programmable force and response, Henning, Hamming, Kaiser Bessel, Flat-top, uniform
- Preprocessing: Time, Auto spectrum, Cross spectrum
- Manual, free run, availability of connected result, time period, edge detection, RPM value, Delta RPM and combination between all of them
- Spectral Unit: RMS (Root Mean Square), PWR (Power), PSF, RMSSD (RMS Spectral Density), ESD (Energy Spectral Density), PSD (Power Spectral Density), peak – peak, EU2
- Post Processing: FRF (H1, H2), 1/FRF (1/H1, 1/H2), Coherence, Auto-correlation, Cross correlation
- Impulse response, polar representation, waterfall, zoom analysis, lissajous
- A Microsoft access compatible transducers database and an automatic calibration master for managing and calibrating transducers
- Free marker, harmonic marker, peak marker, max marker, side band marker, power band marker, octave marker
- Reference and Side band cursors to analyze spectra
- Facility to export data directly to Microsoft Office pack ages for post analysis, reporting and statistical analysis
- FFT, overall, time recording, octave, order analysis simultaneous
- Ability to quantify the performance by over laying measurements
- Copy bitmap function for the graphs, copy data for the data to be exported in Excel, automatic report tool to generate reports in Word

Horizontal Shake Table with Cylindrical Cam

The shake table will consist of a flywheel, a camshaft, a vibration table and user designed cams. The cam to connected to a variable speed motor with the help of a camshaft. A circular mounting plate to be placed on the vibrating plate through a T-slot, so that, the test structure can be mounted at any desired angle relative to the angle of incidence of the base motion. The flywheel assembly should ensure frequency control within 5% accuracy. A set of four cams should be there to generate harmonic motions of different amplitudes and, also, to provide saw-tooth type of (Non Harmonic) base motion. By varying the speed of the motor, the frequency content of the base motion can be varied.

Specifications:

- Maximum payload: 30 kg
- Sliding table dimension: 400mm x 400mm
- Circular mounting plate: 390 mm dia.
- Motor: 1 HP
- Frequency: 0-25 Hertz
- Frequency Control: 5%

Specification of the cams

- Wave Form Frequency Amplitude
- SHM 0-25 Hz \pm 0.5 mm
- SHM 0-25 Hz \pm 1 mm
- SHM 0-15 Hz \pm 2 mm
- Saw Tooth 0-10 Hz \pm 10 mm

Vertical Shake Table

This shake table should produce harmonic vertical base motion. The shake table should consist of a connecting rod, a vibration table and a cam. The cam to be connected to a variable speed ac/dc motor with the help of a bearing assembly. The vibration table will be mounted on springs and the roller supports prevents wobbling. Frequency control 5% accuracy. A screw mechanism to be present to vary the amplitude of base motion. By varying the speed of the motor, the frequency content of the base motion can be varied

Specifications

- Maximum payload : 30 kg
- Sliding table dimension : 400mm x 400 mm
- Motor : 1 HP variable speed DC
- Frequency : 0-25 Hertz
- Frequency Control : 5%
- Motor : 1 HP
- Amplitude : 0 to 5 mm
- Resolution : 1 mm

EXPERIMENTAL MODELS OF STRUCTURAL DYNAMICS EXPERIMENTS

- Three Storey Frame- Shear Building Model
- Vibration Absorber Model
- Vibration Isolation Model
- One Storey Frame With Planar Asymmetry-Torsion Building Model
- Two Span Simply Supported Beam Model
- Soil Model-Soil Amplification
- One Storey Frame-Small
- Liquefaction Model
- Four Storey Frame With Stiffeners-Soft Storey Model
- One Storey Frame With Stiffeners
- Four Storey Frame-Weak Storey
- Water Tank