

Tender Ref No:DAVV/IET/PHE/2018-19/8

Dated:27/02/19

Price of Tender Form: Rs. 2000/-

Last date of Submission:19/03/19

Devi Ahilya Vishwavidyalaya, Indore
Institute of Engineering and Technology

Tender Document
For the purchase of :

**Photoelasticity unit with strain gauges measurement system and
artificial vision system**

February 2019



Institute of Engineering and Technology
Devi Ahilya Vishwavidyalaya
Khandwa Road, Indore (M.P.)

Phone No.:91-731-22361116/17/2764385

Website : www.ietdavv.edu.in

Email: stokekar@ietdavv.edu.in

**Devi Ahilya Vishwavidyalaya
Institute of Engineering and Technology**

To,

Ref: Tender Enquiry No: DAVV/IET/PHE/2018-19/8

dated: 27/02/19

S.N.	Name of Equipment	Quantity	Technical Details
1.	Photoelasticity unit with strain gauges measurement system and artificial vision system	01	Annexure A

Dear Sir,

Tender forms can be downloaded from **mptenders.gov.in**.

Tender to be submitted online through **mptenders.gov.in** along with tender fee and EMD.

Section 1: General terms and conditions applicable for all items:

- 1 Rates quoted should be inclusive of all taxes and other charges for delivery and installation F.O.R. IET-DAVV, Indore. Mode of payment shall be after receipt of goods.
- 2 Vendors are requested to read specifications carefully Annexure(A) and submit quotations as per the specifications given.
- 3 All the pages of quotation must have seal and name & signature of the authorized person.
- 4 The complete detailed specifications along with accessories, if any, be clearly mentioned in the quotation giving the guarantee/ warranty period. Facilities for service should also be indicated. Detailed technical information, Brochures, leaflets, and drawings whichever is applicable must be furnished along with tender(s).
- 5 The vendor should enclose the certificate of authorization for dealership, sole manufacturer or propriety item.
- 6 No claim for any tax or duty, not stipulated in the tender will be admitted at any stage.
- 7 Vendor will furnish the list of addresses (if any), where similar equipment/software has been supplied or work has been carried out in the past.
- 8 University reserves the right to invite on its own the bids directly from Internationally recognized top listed companies or manufacturers and select the reputed brands as suggested by its technical committee/experts.
- 9 We do not intend to call vendors for financial negotiations. Vendor should, therefore, quote their lowest possible rates (Clearly mentioning the discount for educational institute, if any). However, technical discussion may be held, if felt necessary by the technical committee.

- 10 For each item, tenders are to be submitted as per details given on mptenders.gov.in.
- 11 Tender may be accepted in part or in full or may summarily be rejected without assigning any reason.
- 12 Delivery period must be mentioned against each item. After the order has been placed the goods must be delivered within the stipulated period.
- 13 Ordinarily, the payment is made after the goods have been received and inspected at destination. In case the goods are rejected these have to be removed by the vendors at their cost. The rejected goods must be replaced by the vendor within 15 days of dispatch of registered notice intimating that the goods have been rejected, failing which the order may be cancelled.
- 14 Unless otherwise stipulated the tender should be valid for at least 90 days from the due date of opening of the tender.
- 15 All disputes shall be subject to Indore Jurisdiction.
- 16 Without EMD, the tender shall be considered as invalid.**
- 17 Tender received after due date will not be considered.
- 18 Instruction manuals containing instructions for installation, operations, part list and instructions for trouble shooting must be supplied and included in the cost of the equipment.
- 19 DAVV reserves the right to change the quantity of items as per the requirement.
- 20 Custom duty / excise duty exemption certificate from DSIR, Govt. of India, is available with the University and will be provided if required. Custom duty / excise duty should not be charged due to exemption certificate.
- 21 Any revisions, corrigendum to the tender will be posted on the D.A.V.V. website: www.dauniv.ac.in only and will not be published in any other media.**
- 22 In case of any dispute the decision of the Vice Chancellor of Devi Ahilya Vishwavidyalaya, Indore shall be final and binding.**

The vendor is requested to read all terms and conditions carefully before submitting the tender. Clarification (if any) may be sought out during office hours from Institute of Engineering and Technology, Devi Ahilya Vishwavidyalaya, Khandwa Road, Indore before submitting the tender.

Director

**Institute of Engineering and
Technology
DAVV**

Section 2: Letter of Invitation

Dated :

Dear Sir/Madam:

1. **Institute of Engineering and Technology, Devi Ahilya Vishwavidyalaya, Khandwa Road, Indore** invites e-tenders, under online system, from eligible bidders for “Supply of Photoelasticity unit with strain gauges measurement system and artificial vision system mentioned in the tender”.

2. Other details are as under:

Sr No.	Particulars	Description
1	Uploading/Publication of Tender Document	27 th February 2019 by 0900 hrs
2	Downloading of Tender Document through website https://www.mptenders.gov.in	27 th February 2019 by 0930 hrs
3	Last date of bid submission	19 th March 2019 by 16.00 hrs
4	Technical bid opening	20 th March 2019 by 16.00 hrs
5	Financial Bid Opening	22 nd March 2019 by 16.00 hrs
6	Bid Security/Earnest Money Deposit (EMD)	INR Rs.90,000.00/- (Rs. Ninety Thousand Only) to be paid online through e-procurement portal in favor of Registrar, Devi Ahilya Vishwavidyalaya, Indore. Bidder is required to upload the scanned copy of e-transaction details.
7	Tender Fee	INR Rs. 2000/- (Rupees Two Thousand only) (nonrefundable) + GST to be paid online through e-procurement portal in favor of Registrar, Devi Ahilya Vishwavidyalaya, Indore. Bidder is required to upload the scanned copy of e-transaction details

3. Tenders shall be valid for a period of not less than 90 days from the date of opening of tender (online bids). Tenders submitted without Earnest Money Deposit will be rejected.
4. Financial bid will be opened only for successful Bidders, who will be selected on the basis of technical committee report.

Director
Institute of Engineering and Technology
Devi Ahilya Vishwavidyalaya,
Indore

Section 3. Instruction to Bidders:

1. The Agencies are expected to examine this tender document in detail, while preparing their technical and financial proposal. Material deficiencies in providing the information may result in rejection of the proposal.
2. Proposals received after due date will be summarily rejected. University shall not be responsible for any delay in postal services.
3. The Agencies are required to submit the online tenders in the following manner. There will be three steps. Contents of only one envelope is as under:

1) Envelope 1 should have the following:

- 1. Detail of online tender fee and EMD.**
- 2. Form 1 and Form 2.**
- 3. Form 3**
- 4. Annexure B**

This envelope has to send to Director, Institute of Engineering and Technology, Devi Ahilya Vishwavidyalaya, Khandwa Road, Indore.

Scanned copies proof of online payment of tender fee and EMD, Form 1, Form 2, Form 3 and Annexure B along with other documents as requested on site should be uploaded on .pdf format.

2) Online submit the financial bid in prescribed BOQ format (.xls).

Note: The technical proposal shall not include any financial information.

Note: Any correction/overwriting should be attested by the person signing the documents, failing which the tender will be rejected without any notice. Use of correcting fluid is strictly prohibited. All the pages must have seal, name and signature of the authorized person.

The university reserves all the rights to accept/reject any/all/part of tenders without assigning any reason.

The bidders are required to submit the required details strictly in the specified format, failing which their tender is likely to be rejected.

Section 4: General Conditions for bidders

1. The individual signing the Tender Document and other documents on behalf of the bidder should submit proof in support of his /her authority.
2. No interest would be payable for any period on EMD. The amount of EMD will be refunded only after finalisation of tenders. The EMD in case of successful bidder may be adjusted against security deposit.
3. All disputes shall be subject to Indore jurisdiction.
4. The payment will be made against delivery followed by successful installation of the software and hardware items and the verification of the goods against the order. For imported instruments, LC can be opened, if the amount is to be paid in foreign currency.
5. The bidder should have a valid GST registration number.
6. As on date of the submission of the proposal, the bidder is neither blacklisted by central government/ State government.

Form - 1

(To be kept in Envelope-1)

General Information about the bidder

S.No.	Particulars	Details
1	Name and Address of the Bidder	
2	Name and Mobile number of the contact person	
4	Office Telephones	
5	Fax Number	
6	e-mail address	
7	Name of the Chief Executive and Telephone No	
8	Name(s), contact number and address(s) of proprietor or Directors.	
9	1. GSTIN No.	
	2. Commercial Tax / CST No.	
10	Income Tax PAN No.	
11	List of Major Clients and Size of Orders executed in brief.	

Use separate sheet and attach proof where ever required.

**Signature of Bidder
With Stamp & Seal**

Form 2

Item name : Photoelasticity unit with strain gauges measurement system and artificial vision system

(To be kept in Envelope-1)

1. Name of Organization :

2. Address :
.....
.....

3. Online payment in favour of Registrar, DAVV payable at Indore.

i) Tender form price Rs. 2000/-

a. Name of Bank & Branch: _____

b. date: _____

c. Reference ID: _____

ii) EMD: Rs 90000/-

a. Name of Bank & Branch: _____

b. date: _____

c. Reference ID: _____

4. Contact person name and phone number : _____

Signature:

Name:

Date:

Seal:

Form 3

Item name : Photoelasticity unit with strain gauges measurement system and artificial vision system

We are ready to supply the item as per the specifications mentioned below:

S.No.	List of specifications and accessories for each item	Supplying Items (Yes/No)
1.	i) ii) iii) iv) v) vi)	

Signature _____

Date:

Name _____

In capacity of _____

Name of the organization & seal

TECHNICAL SPECIFICATIONS

Annexure A

Item : photoelasticity unit with strain gauges measurement system and artificial vision system

Quantity : 01

Features :

1 MAIN Unit:

Bench-top unit.

Anodized aluminium structure.

Main metallic elements in stainless steel.

Light source, two fluorescent tubes of 30 cm and 8W.

Monochromatic light 35W.

Opalescent diffuser plate.

Double effect polarizing filters (linear polarization and circular polarization), of 30 x 30 cm and protected by methacrylate plates.

Load frame with pulling jack.

10 pressure screws and accessories.

The unit is supplied with:

Kit of Static Test Specimens (basic kit), formed by:

- A. Stepped Rectangular Specimen.
- B. Compact Circular Specimen.
- C. Circular with Orifice Specimen.
- D. Medium Rectangular Specimen.
- E. "C" Specimen.
- F. Specimen with Arch.
- G. Square with Diagonal Bar Specimen.

Kit of Test Specimens with Strain Gauges (basic kit), formed by:

- H. Trapezoidal Specimen with strain gauges + Trapezoidal Specimen.
- I. Big Rectangular Specimen with strain gauges + Big Rectangular Specimen.
- J. "T" Beam Specimen with strain gauges + "T" Beam Specimen.

STRAIN GAUGE MEASUREMENT KIT

Load cell for direct force measurement.

Electronics, hardware and software for strain gauges measurement from PC, and direct force measurement applied to the specimens:

- Control Interface Box:

Metallic box.

Sensors connectors.

Main switch.

- USB Data Acquisition Board:

High Speed Multifunction Data Acquisition Board (500kS/s).

Signal Streaming technology through USB to ensure high speed and bidirectional data transfer.

USB compatibility: USB2.0 Hi Speed (480Mbits/s) or full speed.

Truly Plug & Play: the PC will automatically detect the new device and install the software.

- Computer Control+Data Acquisition+Data Management Software:

Compatible with actual Windows operating systems.

Control and Data Acquisition in real time.

Management, processing, comparison and storage of data.

Main functions of the Software:

Analysis and measurement of the strains.

Young 's module calculation.

Poisson 's ration calculation.

Measurement the force applied.

Analysis and measurement of stresses.

Register of the (experimental) practical exercises.

Calibration of sensors.

-VISION KIT. Hardware (webcam) and software for image acquisition and treatment.

Main functions of the Software:

Generation of directional field and analysis of isoclines.

Analysis of the color spectrum in one pictures or part of the picture.

Analysis and determination of the fringe factor.

Quantitative measurement between points of interest.

Visualization and storage of pictures and videos from the webcam.

2 Cables and Accessories, for normal operation.

3 Manuals: This unit is supplied with 8 manuals: Required Services, Assembly and Installation, Interface and Control Software, Starting-up, Safety, Maintenance, Calibration &Practices Manuals.

Above 1 to 3: MAIN UNIT + Cables and Accessories + Manuals are included in the minimum supply for enabling normal and full operation.

EXERCISES AND PRACTICAL POSSIBILITIES

- 1.- Introduction to photoelasticity: optical elements, isochromatic, isoclinic, band order, band factor, edge tension sign, etc.
- 2.- Determination of principal stress difference.
- 3.- Isochromatics.
- 4.- Illustration of the themes about elasticity, strength of materials and structures using photoelastic tests.
- 5.- Pure traction/optical-tensional law.
- 6.- Diametrically compressed disc.
- 7.- Ring with diametrical compression traction.
- 8.- Ring with diametrical compression.
- 9.- Plate with circular drill with traction.
- 10.- Comparison of the effects from different engraves in piece with traction.
- 11.- Pure traction in a piece with section linearly variable.
- 12.- Pure flexion.
- 13.- Simple flexion.
- 14.- Simple flexion, compound beams.
- 15.- Compound flexion.
- 16.- Compound central core of the section.

- 17.- Piece with a great curvature subjected to flexion.
- 18.- Arch built-in with a central charge.
- 19.- Triangular structure.
- 20.- Comparison of the structures.
- 21.- Comparison of the effect of different notches.
- 22.- Strain and stress analysis and measurements with strain gauges using computer.
- 23.- Image acquisition and treatment with software.

MAIN FEATURES:

5 – YEAR WARRANTY

Advanced Real-Time.

Open Control + Multicontrol + Real-Time Control.

Projector and/or electronic whiteboard compatibility allows the unit to be explained and demonstrated to an entire class at one time.

