



## Himachal Pradesh University Shimla-171005 (INDIA)

**Tender document for the Purchase of SEM out of the Grant of UGC Plan Development Scheme for the purchase of Equipments during XI Plan Period , allocated by the Academic Planning Board for University Science Instrumentation Centre (USIC ) , Himachal Pradesh University.**

**Tender No: 01 / 2009-10 / USIC / HPU/.**

**Last due date for submission of tender  
13 / 3 / 2010**

**Through**

**Incharge, University Science Instrumentation Centre ( USIC )  
Himachal Pradesh University  
Shimla-171005 (INDIA)  
(Web Site: [www.hpuniv.nic.in](http://www.hpuniv.nic.in))**

**Tender No : : 01 / 2009-10 / USIC / HPU/.**

Serial No. : \_\_\_\_\_

Issued to : \_\_\_\_\_

Request No. : \_\_\_\_\_ Dated : / / 2010

Cost of Tender Document : Rs 1000/- (one thousand only) received vide

DD No. \_\_\_\_\_ Dated : / / 2010

drawn on Bank \_\_\_\_\_

Tender Document issued on Dated : 03 / 03 / 2010

Authorized Signatory

## TENDER SUMMARY

Tender No.	01 / 2009-10 / USIC / HPU/.
Description	Tender document for the Purchase of SEM
Earnest Money	@ 2% of the tentative cost of the equipment
Cost of Tender Document	Rs. 1000/- (Rupees one thousand only)
Date of Advertisement	
Last Date & Time of receipt of Bids in the O/o The Incharge, University Science Instrumentation Centre (USIC) , Department of Physics, Himachal Pradesh University, Shimla	
Date of Evaluation of Technical Bids	
Date & Time of opening of commercial bids of eligible parties after Technical Bid	Shall be communicated to the bidders who qualify the Technical Bid as soon as the evaluation by the “Technical Committee” is over
Validity of the Tender	Six months from the date of opening “Commercial Bids”.
Completion of the supply order	60 Days (Sixty Days) from the date of supply order.

**Note: The Department shall not be responsible for any postal delay about non-receipt/ non-delivery of the documents.**

**SECTION – I**

**INVITATION FOR BIDS**

This invitation of bids is for the supply of Tender document for the Purchase of SEM sponsored by Academic Planning Board for University Science Instrumentation Centre (USIC), Himachal Pradesh University, Shimla-171005 (INDIA)

- 1.1.1 Bidders are advised to study the Tender Document carefully. Submission of Tender shall be deemed to have been done after careful study and examination of the Tender Document with full understanding of its implications.
- 1.2 Sealed offers prepared in accordance with the procedures enumerated in herein should be submitted to the Incharge University Science Instrumentation Centre (USIC), Department of Physics, Himachal Pradesh University, Shimla-171005 not later than the last date of submission.
- 1.3 All technical bids must be accompanied by a Earnest Money @ 2% of the tentative cost of the equipment in the form of Bank Draft in favour of Incharge University Science Instrumentation Centre (USIC), Himachal Pradesh University, Shimla-171005 payable at Shimla and the cost of the Tender Document i.e. Rs. 1000- (Rupees one thousand only) in case the Tender document is downloaded from the university website [www.hpuniv.nic.in](http://www.hpuniv.nic.in). The demand draft of the earnest money shall be returned to the firm concerned if their tenders are not approved.
- 1.4 This Tender document is not transferable.

## Section-II

### ITEM WITH TENTATIVE COSTS

S.No.	Name of the Item	Tentative Cost
1.	SEM	Rs. 90 lacs (Rs. ninety lacs only)

## SECTION-III

### Technical Specifications

1.A digital Scanning Electron Microscope(SEM) with state of art features (latest Model with latest technology) is required to investigate a wide variety of materials for analytical analysis of morphology, topography, elemental composition and crystallography.

2.The SEM should provide flexibility and versatility to handle the challenges of today's wide ranging research needs of different scientific faculties.

3.The system should be capable of analysing wide variety of samples i.e non-conductive, contaminating, hot, light emitting, delicate, hydrated, masked, dynamic, wet, oily, dirty & degassing type.

#### Specifications

S.No.	Criteria	Specifications	Rate (in Rs.)
1.	Electron optics	High performance thermal emission SEM column with dual-anode source emission geometry Fixed objective aperture for ease of operation 45° objective lens geometry with through-the-lens differential pumping Magnification: 20 to 1000000	
2	Accelerating Voltage	200v to 30kv continuously adjustable	
3	Probe current:	up to 2 uA, continuously adjustable or better	
4	Beam Deceleration Range	0 to 4 kV or Better Continuously Variable User Selectable Minimum Landing Voltage : 50V	
5	Operational Mode & Resolution	<b>High vacuum Mode</b> 3.0 nm at 30 kV (SE) 4.0 nm at 30 kV (BSE) 10.0 nm at 3 kV (SE) 6.2 nm at 3 kV with beam deceleration	
		<b>Low vacuum Mode</b> 3.0 nm at 30 kV (SE) 4.0 nm at 30k V (BSE) 10 nm at 3 kV (SE)	
		<b>Extended vacuum Mode</b> 3.0 nm at 30 kV (SE)	
6	Detectors	Everhardt Thornley SED (secondary electron detector) Large Field Low vacuum SED (LFD)	

		<p>Secondary Electron detector for extended vacuum mode)  High sensitivity low kV SS-BSED  low voltage high contrast detector  IR CCD camera</p>	
7		<p><b>EDS Detector /System with following configuration</b></p> <p><b>Liquid Nitrogen free Silicon Drift Detector (SDD type)</b>  Detecting Unit:  Liquid Nitrogen free with integrated thermo electric cooling system  Resolution of 132 eV or better, measured at MnK, 60,000 cps  Peak shift less than 2eV up to 100,000cps  Capable of <b>quantifying elements down</b> to Boron;  SUTW Window; should allow quantitative detection of lower elements such as C, N, O, etc.  Sensor: 10mm<sup>2</sup> or better  Peak to background &gt;9000:1.  Capable of handling input count rates &gt;500Kcps and throughput of &gt;100Kcps.  The results and resolution should remain same at different count rates under different column environmental condition ( HV, LV and extended vacuum)  <b>EDS Analysis Software</b>  SEM Quant software  Spectrum Utility  <b>Imaging/Mapping software</b>  <b>Line Scan acquisition software</b>  <b>Fast Mapping software</b>  <b>Quant Map Software</b></p>	
8	Chamber	<p>284 mm size left to right or better  10 mm analytical WD  EDX take-off angle: 35°</p>	
9	Vacuum system	<p>1 x 240 l/s TMP (turbo molecular pump),  Through-the-lens differential pumping  Beam gas path length: 10 mm or 2 mm  Chamber vacuum (high) &lt; 6e<sup>-4</sup> Pa  Chamber vacuum (low) &lt; 10 to 130 Pa or better  Extended vacuum &lt; 10 to 2500 Pa or better</p>	

10	Specimen Stage	X-Y = 50 mm or better Z = 50 mm T = - 15° to + 75° R = 360° continuous Repeatability: 2 µm (x and y) Tilt- True eucentric at analytical height (10 mm)	
11	Sample sizes	Maximum size > 100 mm diameter Maximum thickness 50 mm Weight 1000g ( without tilt)	
12	Sample Holders	Multi-stub holder Single stub mount, mounts directly onto stage Multiple specimen holder kit	
13	System control	32-bit graphical user interface with <i>Windows® XP</i> , keyboard, optical mouse One/Two 19-inch LCD displays, SVGA 1280 x 1024	
14	Image processor	Up to 4096 x 3536 pixels (14 MP) File type: TIFF (8 or 16 bit), BMP or JPEG Single frame or 4-quadrant image display 4 quadrants live Live or static signal mixing in color or grayscale 256 frame average or integration Digital video recording (.avi) Image histogram and measurement software	
15	Supporting software	Navigation Montage automated routine SW temperature control Interval image acquisition in 1 to 4 quads Multiple image saving function Movie Creator Utility (custom .avi file creation from automatically acquired TIFF image series) 'Beams per quad' graphical user interface	
16		Manual user interface	
17		Joystick	

18	Dynamic Experimental accessories	Peltier /Heating Stage Control Kit SW controlled Peltier cooled specimen stage SW controlled 1000 °C heating stage	
19	Ups& Printer	UPS (7.5 KVA with 60 MINUTES Back up ) and Colour laser Printer	
			Total (In figures)  (In words)

**Custom Clearance/Insurance & other Charges**

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**Optional Accessories-Essential SEM capabilities for future Up gradations**

S.No.	Optional Accessories	Rate ( in Rs.)
1.	STEM detector	
2.	WDS	
3.	EBS	
4.	EBS	
5.	Cryo stage	
6.	Cathodoluminescence	
7.	Sample current detector	
8.	Nanomanipulators	
9.	Lithography system	
10	Filaments	
11	Specimen stub holder	
12	Apertures	
		Total (In figures) (In words)

Grand Total	(In figures)  (In words)
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## **SECTION-IV INSTRUCTIONS TO BIDDERS**

- 3.1. Procedure for Submission of Bids: It is proposed to have a Two Cover System for this tender;
  - (a) Technical Bid in one cover.
  - (b) Commercial Bid in another separate cover.
  
- 3.2
  - (a) Technical Bid should be filled in original and should be sealed in separate cover. The cover containing Technical Bid should be super-scribed as “Technical Bid” and put in a cover along with earnest money and the cost of the Tender Document in case the Tender Document is downloaded from the website. The bidder should sign all pages of the Technical Bid.
  - (b) The Commercial Bid as prescribed should be filled in original in a separate cover. The cover containing Commercial Bid should be super-scribed as “Commercial Bid”. The bidder should sign all pages of the Commercial Bid.
  - (c) The covers containing Technical & Commercial Bids must be put in a single cover. The final cover thus prepared should indicate clearly the name and address of the bidder so as to enable the Bid to be returned unopened in case it is received “late” as the bid received after the due date & time shall be rejected and returned unopened to the bidder.
  
- 3.3 Commercial Bids of only those bidders shall be opened who qualify in the Technical Bid.
  
- 3.4 Technical bids will be opened on the prescribed date and time and checked for submission of earnest money, cost of the Tender Document (if applicable) and other applicable documents.
  
- 3.5. The Technical Bid will be opened and checked for technical specifications and working of the equipment as per the requirement.
  
- 3.6 In case of a tie in fee quoted, the decision of the Tender Evaluation Committee will be final.
  
- 3.7 The successful bidder shall be issued supply order by the Incharge, University Science Instrumentation Centre (USIC), Himachal Pradesh University, Shimla-171005. The successful bidder shall have to deposit security equivalent to 2% of the bid price in the shape of the F.D.R pledged to the university for a period of three years or irrevocable bank guarantee for the said amount/period, which shall be liable to be forfeited/enforced in the event of breach of the conditions of supply order. The successful bidder shall have to supply the ordered equipment within 60 days (sixty days) from the date of supply order. In case the successful bidder fails to do so within the given time, then the earnest money deposited by him shall be forfeited and the supply order shall be given to the next party which Technical Committee finds fit.

- 3.8 The bidder shall bear all costs associated with the preparation and submission of its Bids including the cost of presentation for the purposes of technical clarification of the equipment if so desired by the Technical Committee.
- 3.9 The bidder is expected to carefully examine all the instructions, technical specifications, terms and conditions laid down in the Tender Document. Failure to furnish all information required in the Tender Document or submission of a bid not substantially responsive to the requirement as per the Tender Document in every respect will be at the bidder's risk and may result in the rejection of the bid.
- 3.10 A prospective bidder may seek any clarification regarding the Tender Document in person from the Incharge, University Science Instrumentation Centre (USIC), Himachal Pradesh University, Shimla-171005 or through e-mail: [vs\\_rangra@yahoo.co.in](mailto:vs_rangra@yahoo.co.in)
- 3.11 At any time upto the last date for receipt of bids, the Principal Investigator may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder , modify the Tender Document by an amendment. Such amendment /s will be notified in the website and by Fax or via email to the prospective bidders who have received the Tender Document from the University Science Instrumentation Centre (USIC), Himachal Pradesh University, Shimla-171005 by hand and shall be binding on them.
- 3.12 The bids prepared by the bidders and all correspondence and documents related to the bids shall be accepted in English language only.
- 3.13 The Technical Bids prepared by the bidders shall consist of Bid Proposal as per Performa attached.
- 3.14 The successful bidders has to install the equipment/s in the University Science Instrumentation Centre (USIC), Himachal Pradesh University, Shimla-171005 in working position with at least three years on said warranty period. Only then the supply order shall be considered fulfilled. On the completion of the supply order "Successful Completion of Supply Certificate" shall be issued by the Technical Committee for the purpose of payments of the equipment /s cost. Therefore, the bidder should quote the rate inclusive of all the taxes, software, freight and installation charges etc.

**SECTION-V**  
**TERMS AND CONDITIONS**

- 4.1. The bidder should be a manufacturer or authorized distributor of manufacturer of the equipments for which the bid is being quoted in the tender. Such manufacturer / authorized distributor should have sufficient experience in dealing with the equipments for which the bid is being quoted. The authorized distributors shall procure recent authorized distributor ship certificate from manufacturers particularly for this tender.
- 4.2 The individual signing the tender or other document, in connection with the tender, must certify as to whether he or she has signed as a manufacturer or authorized distributor for the equipments for which the bid is being quoted. Bids with incomplete information in this regard are liable to be rejected.
- 4.3 Principal Investigator / Technical Committee reserve the right to negotiate for further reduction of rates as quoted in the tender.
- 4.4 The implementation schedule specified in the tender should be strictly adhered to.
- 4.5 The successful bidder shall have to provide one year on site warranty on the equipments for which the bid is being quoted and complete information on the after sale service of the equipments be supplied in the Technical Bid.
- 4.6. The earnest money of the Successful Bidder (s) will be refunded only after the completion of one year on site warranty period. No interest shall be payable on the earnest money.
- 4.7. The quotes should be done strictly as per the specifications given in the “Broad Technical Specifications” of this tender document.
- 4.8 The rates quoted shall be valid up to six months or till fresh rates are approved which ever is later.
- 4.9 The insurance charges, if any should be mentioned. The original payees receipt will be required along with the bill for payment of insurance charges.

- 4.10 Where full specifications are not incorporated against any equipment in the “Broad Technical Specifications” of this tender document or where specifications are such that the supplier cannot quote for exactly, the suppliers should give their own specifications in detail ( illustrative literature, if any should also accompany duly stamped and signed ).
- 4.11 The supplier should also indicate whether or not they will be in a position to give a demonstration of the equipments for which the bid is being quoted, if desired.
- 4.12 The delivery of the equipment will have to be made within 60 days (sixty days) from the date of supply order.
- 4.13 No bids shall be considered unless and until all the documents are properly signed and supported with a earnest money @ 2% of the tentative cost of the equipment in the form of Bank Draft in favour of Incharge, University Science Instrumentation Centre (USIC), Himachal Pradesh University, Shimla-171005, payable at Shimla and the cost of Tender Document i.e. Rs 1000 ( Rupees one thousand only ) in case the Tender Document is downloaded from the university website [www.hpuniv.nic.in](http://www.hpuniv.nic.in) .
- 4.14 The rate and units shall not be over written. Amount shall be both in figures and words. If there is any difference in the rates quoted in words and in figures, then the amount in words will be taken as final. All corrections must be signed in full by the bidder.
- 4.15 The signatures on the quote and sample etc. (sent there with) will be deemed to be the authorized signatures of the bidder.
- 4.16 In case of any dispute, the decision of the Vice- Chancellor, H.P.University shall be final and binding.
- 4.17 The University reserves the rights to accept or reject any or all of the tenders and increase or decrease the quantity as mentioned in the advertisement without assigning any reason and no claim will be admitted in this regard.

- 4.18 Payment will be made by cheque drawn on State Bank of India after presentations of bills and on the installation and the procurement of “Successful completion of supplies certificate” from the Technical Committee.
- 4.19 In the event of tender being accepted, the whole tender document shall be converted into contract.

**SECTION – VI**  
**BID PROPOSAL PROFORMAE**

**A. Forwarding Letter**

To

The Incharge  
University Science Instrumentation Centre (USIC),  
Himachal Pradesh University,  
Shimla-171005 (INDIA)

**Subject: Proposal for providing SEM by the University Science Instrumentation Centre (USIC), Himachal Pradesh University, Shimla-171005 (INDIA).**

Dear Sir,

I/We, the undersigned Bidder /s, having read and examined in detail the specifications and all bidding documents for providing SEM do hereby propose to provide this/these equipments as per specifications provided in the Technical Bid.

All the rates mentioned in our proposal are in accordance with the terms as specified in Tender Document.

I/We have enclosed the earnest money @ 2% of the tentative cost of the equipments and the cost of Tender Document (if downloaded from website) in the form of Bank Draft in favour Incharge, University Science Instrumentation Centre (USIC), Himachal Pradesh University, Shimla-171005 payable at Shimla.

I/We further declare that the rates stated in our proposal are in accordance with the terms and conditions of the Tender Documents.

I/We confirm having submitted in qualifying data as required by you in your tender document. In case you require any further information / documentary proof in this regard for the technical evaluation of our bid, we agree to furnish the same in time to your satisfaction.

I/We do hereby declare that our proposal is made in good faith, without collusion or fraud and the information contained in the proposal is true and correct to the best of our knowledge & belief.

Bid submitted by me/us is properly sealed and prepared so as to prevent any subsequent alteration and replacement.

I/We understand that you are not bound to accept the lowest or any bid you may receive.

Thanking you,

Yours faithfully,

(Signature)  
Name :  
Designation :  
Business Address :  
Seal :

Date :  
Place :

## **B. TECHNICAL BID PROPOSAL SHEET**

(All the relevant information in support of your claim be attached herewith)

### **GENERAL INFORMATION**

1. Name of the Organisation:
2. Nature of the Organisation:  
(Govt./Public/Private/Partnership/Proprietorship)
3. Whether manufacturer or authorized distributor of manufacturer of the equipment for which the bid is being quoted:  
(Proof to be furnished: In case of authorized distributors, recent authorized distributor ship certificate from manufacturers particularly for this tender be provided) :
4. Address with phone no, fax and email:
4. Detail of providing such equipment to any other institution prior to this (Proof to be furnished):
5. Number of Years of Operation in the concerned field (Proof to be furnished):
6. Technical Details in support of your offer (To be supported with documentary proofs):
7. Any other details:

As of this date the information furnished in all parts of this form is accurate and true to the best of my knowledge and belief.

Company Seal

(With signature, name, designation & address of the bidder)

### C. IMPLEMENTATION SCHEDULE

Issuance of supply order	Day 1
Supply of the equipments and their installation in the University Science Instrumentation Centre (USIC), Himachal Pradesh University, Shimla-171005	60 days ( sixty days ) from the issuance of supply order
On site warranty period	Three years from the date of installation of the system and “Successful Completion of Supplies Certificate” from Technical Committee
Payments of the equipment’s cost	On the production of “Successful Completion/installation of Supplies Certificate” from Technical Committee
Refund of security money	On completion of warranty period of three years

The above schedule of implementation is acceptable to us.

Company Seal

(With signature, name, designation & address of the bidder)

## **D. COMMERCIAL OFFER**

**Rate quoted as per “Tender document for the Purchase of SEM**

<b>Name of the Item</b>	<b>Rate in rupees ( in figures )</b>	<b>Rate in rupees ( in words )</b>
<b>SEM</b>		

1. The rates should be quoted for H.P. University including all taxes, installation and commissioning of the system.
2. The rates be quoted inclusive of custom clearance / insurance and other charges.

**Company Seal**

**(With signature, name, designation & address of the bidder)**