

Minutes of the Pre-Bid Conference held on 31.01.2017 at Conference Hall, Administrative Block, Room No.F1-02 (First Floor), CUTN in connection with pre-bid queries raised by prospective bidders against our Tender Enquiry No.31/2016-17 for supply and installation of Scanning Electron Microscope for department of Physics

The following members of the Committee were present:

- (1) Dr. V. Madhurima, Associate Professor & Head, Department of Physics .. Chairperson
- (2) Dr. M. Ponmurugan, Assistant Professor, Department of Physics ... Member
- (3) Dr. R. Arun, Assistant Professor, Department of Physics ... Member
- (4) Dr. K. Venkata Saravanan, Assistant Professor, Department of Physics - Member & Convener

The representatives of following prospective bidders attended the Pre Bid Conference:-

1. Shri Gaurav Kaushi, Area Manager – Sales, M/s. Jeol India Private Limited, Bangalore
2. Shri. B.F. Senthil Raja, M/s.Advance Scientific Equipment Private Ltd., Chennai
3. Shri. M. Muthupandi, Senior Executive – Sales, M/s. Carl Zeiss Private Ltd., Chennai

An email communication received from Shri.D. Vijay Kumar, M/s. Jeol India Private Limited, Bangalore with regard to specification has been addressed by the Committee.

The attendance sheet is enclosed herewith.

Opening Remarks:

- (i) Dr. V. Madhurima, Associate Professor & Head, Department of Physics at the beginning welcomed the participating members and after introduction, she briefed all participants about the tender.
- (ii) It was explained that purpose of Pre-Bid Conference is to explain the various important provisions of the bidding documents to the prospective bidders and to clarify the queries that the bidders may have in the subject, bidding documents.

The technical queries and clarification sought by the prospective bidders are given as under:-

Sl. No	Query/ Clarification Sought	Amendment
1	Point no 2. You have asked LaB6 in the option hence, Please change resolution at SE as 3nm@30kV in high vacuum. This is possible with Tungstun filament.	2 nm@30kVA is important hence the specs have been changed as Tungsten and LAB6 interchangeable
2	Point no.4. Kindly change it to 1pa To 1ua or more. All Analytical experiments including EDS, EBSD & WDS etc are possible with this range of Probe current. Hence we request you to change the same.	The change is acceptable and is without any compromise in accuracy for us. This change was also acceptable to all other vendors and hence the specs are changed as 1pA to 1 uA or more.
3	Point no5. Kindly change Magnification range as 25X to 300,000X. Please note that JEOL specifies true magnification, meaning magnification obtained on a Polaroid film. However Display magnification will be 10,000,00X	This point was emphasized by all vendors and hence the specs are modified as 25X to 3,00,000X or better.
4	Point 7. Kindly change as Low vacuum mode upto 650Pa as we don't have 700Pa. Note that with 650Pa all applications can be performed without any difficulty.	After appropriate deliberations, the specs have been modified to 500 Pascal or better optionally extendable up to 2600 Pa or more with water

		vapor.
5	Under Accessories, Point no 2, We suggest Gold /Platinum coater is sufficient.	This point was not acceptable since many of our envisaged samples will require carbon coating.
6	One of the vendor suggested that the model quoted should be a universally accepted model and not a regional variant.	The committee accepted the suggestion.

The techno-commercial queries and clarification sought by the prospective bidders are given as under:-


1.	As per tender clause No.30, the delivery period for equip will be Four Weeks from the date of issuance of PO. It is very difficult to supply the equipment within short span of four weeks, hence requested for extend in delivery period.	The delivery period shall be 10 weeks from the date of issuance of purchase order
2.	The following two points were suggested by the prospective bidders for inclusion in the tender clause: (1) Track Record for past three years with regard to service condition. (2) Quoted model shall be in accordance to the geographical location.	Accepted for inclusion in the tender clause


The bidders were informed to ensure that all mandatory documents / certificates / undertakings are enclosed with the bids, as specified in the tender document.

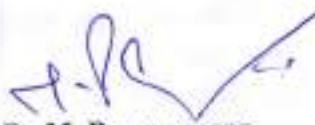
The bidders were informed that the minutes of the pre-bid conference and amendment of the bidding forms shall be published on the website of Central University of Tamil Nadu. The bidders were also informed that they should also regularly visit the CUTN website for any amendments issued.

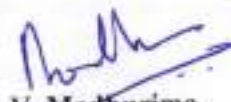
In case of any further information/clarification, they were asked to contact over phone, to the Purchase Section at 04366-277359 (or) send email on purchase@cutn.ac.in; Individual visits are not entertained.


The meeting ended with a vote of thanks to the representatives of the prospective bidders.


Dr. K. Venkata Saravanan,
Assistant Professor,
Department of Physics


Dr. R. Arun,
Assistant Professor,
Department of Physics


Dr. M. Ponmurugan,
Assistant Professor,
Department of Physics


Dr. V. Madhurima,
Associate Professor & Head,
Department of Physics

 PURCHASE S	
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Inward No	779(01-00PN)
Date	10/02/2017
Department	Physics.

Specification for Scanning Electron Microscope (SEM)

Central University of Tamil Nadu, India is planning to buy a SEM (Scanning Electron Microscope) intended primarily for use to investigate the microstructure and perform chemical analysis using Energy Dispersive X-ray Spectroscopy (EDS). It should also be possible to perform STEM and SEM with at low temperatures. The microscope is to be used for examination of conducting and non-conducting specimens. Detailed specifications of the microscope and other sub systems are given below. It is requested that models meeting these specifications be quoted along with their detailed specifications and capabilities. The model quoted should be globally recognized and not a regionally-specific model. It is also requested that reasonable and realistic budgetary prices of these sub systems for different models as well as the total package price for basic unit plus sub systems with different specifications be quoted.

S.No	Description	Specification
1	Electron Source	Tungsten and LAB6 interchangeable
2	RESOLUTION	SE: 2.0 nm or finer at 30 KV (High Vacuum Mode) BSE 4.0 nm at 30 KV (Low Vacuum mode)
3	ACCELERATING VOLTAGE	500 V to 30 KV. Continuously adjustable or in appropriately, close spaced steps for the different voltage ranges.
4	PROBECURRENT	1pA to 1 uA or more
5	MAGNIFICATION RANGE	25X to 3,00,000X or better.
6	Sample Holder	Suitable sample holder for above maximum sample size and also provision for holding smaller samples on stubs (at least 7).
7	STAGE	5 Axis motorized stage with stage movements X = ≥ 110 mm or more Y = ≥ 80 mm or more Z = ≥ 50 mm or more Tilt = -5 or lower to + 60 or more (Continuous) ; Rotation = 360° (Continuous) Stage movements with both computer controlled and Joy Stick controlled.
	Low Vacuum mode	500 Pascal or better optionally extendable up to 2600pa or more with water vapor
8	DETECTORS	SE detector ,BSE and low vacuum secondary detector CCD camera with IR illumination for in chamber view.
10	VACUUM SYSTEM	Suitable vacuum system with Turbo molecular pump and Rotary pump to attain required high vacuum and hassle free operations. Automatic venting with dry nitrogen connection
11	EDS system	Detector Size More than 20mm ² Resolution : 129 eV or better

M.S.

Arun

[Signature]

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		Analysis software should be capable of performing qualitative and quantitative spot elemental analysis, line elemental scan and X-ray elemental mapping.
12	IMAGE DISPLAY AND PROCESSING	24" LCD Flat wide Monitors :- 2 Nos (One for SEM images and one for EDS) Image frame store: 512x512, 1024x1024 pixels, 2048x2048 pixels or better. Higher Pixel ranges if available are to be offered as they are preferable. File type: TIFF, BMP, JPEG. Digital video recording (AVI) option if available to be indicated and price to be quoted separately. The image should contain Date, Accelerating Voltage, Magnification, Micron bar, Film number and identification details etc
13	USER INTERFACE & SOFTWARE	Fully computer controlled system with windows 7 or later based software with user friendly graphical interface for adjustment and control of SEM parameters, stage control, CCD camera and vacuum interlocks. Control panel/hard panel to manually adjust focus, scan rotation, astigmatism has to be supplied.
14	WORK STATION AND COMPUTER	Branded Workstation (HP/DELL) With Inteli3/ i5/i7 Processor, 1TB or more hard disk, 8GB RAM minimum, graphic card, original Intel mother board, DVD to be provided.
15	ANTI VIBRATION & Movable aperture	Anti-vibration table for chamber, microscope column and support for Monitor, Mouse and keyboard. Movable and adjustable Objective lens apertures from outside for both Imaging & Analysis
16	UPS	Suitable online UPS (7.5 KV with half hour back up)
17	SPARES	Spares & Consumable to be quoted separately
18	Installation Demo & TRAINING	Installation training for 5 working days thoroughly at CUTN Thiruvapur
19	SERVICE NETWORK	Should provide details about the availability of trained service engineers in India for attending the problem in 5 working days.

Accessories

- STEM detector.
Semiconductor type STEM detector
- Sputter coater & carbon evaporation unit
Turbo pump based sputter coater capable doing sputtering & carbon evaporation with digital panel for inputting the parameters.
Should have option for stage rotation for uniform coating.
- Peltier cooling stage
-20 to 45 degree or better and should be fully integrated with SEM control software so that the temp & other adjustments should be possible from SEM control software.

H.P.R.

KArun



