Notice Inviting Quotation (E-Procurement mode)

INDIAN INSTITUTE OF TECHNOLOGY DELHI

HAUZ KHAS, NEW DELHI-110016

Dated: 11/09/2017

Open Tender Notice No.IITD/BTXT(SP-1238)/2017

Indian Institute of Technology Delhi is in the process of purchasing following item(s) as per details as given as under.

Details of the item	**X ray Photoelectron spectroscopy (XPS)**
Earnest Money Deposit to be submitted	**NIL**
Warranty	60 months warranty from the date of installation as per the details mentioned in the technical specification S.No.25
Performance security	**10% of FOB value**

Tender Documents may be downloaded from Central Public Procurement Portal http://eprocure.gov.in/eprocure/app . Aspiring Bidders who have not enrolled / registered in e-procurement should enroll / register before participating through the website http://eprocure.gov.in/eprocure/app . The portal enrolment is free of cost. Bidders are advised to go through instructions provided at 'Instructions for online Bid Submission '.

Tenderers can access tender documents on the website (For searching in the NIC site, kindly go to Tender Search option and type 'IIT'. Thereafter, Click on "GO" button to view all IIT Delhi tenders). Select the appropriate tender and fill them with all relevant information and submit the completed tender document online on the website http://eprocure.gov.in/eprocure/app as per the schedule given in the next page.

No manual bids will be accepted. All quotation (both Technical and Financial should be submitted in the E-procurement portal).

Schedule

Name of Organization	Indian Institute of Technology Delhi
Tender Type (Open/Limited/EOI/Auction/Single)	Open
Tender Category (Services/Goods/works)	Goods
Type/Form of Contract (Work/Supply/ Auction/ Service/ Buy/ Empanelment/ Sell)	Buy
Product Category (Civil Works/Electrical Works/Fleet Management/ Computer Systems)	Instrument
Source of Fund (Institute/Project)	Budget Code _Nonrecurring/ Project Code MI01116 and Institute
Is Multi Currency Allowed	YES
Date of Issue/Publishing	11/09/2017 (15:00 Hrs)
Document Download/Sale Start Date	11/09/2017 (15:00 Hrs)
Document Download/Sale End Date	03/10/2017 (15:00 Hrs)
Date for Pre-Bid Conference	---
Venue of Pre-Bid Conference	---
Last Date and Time for Uploading of Bids	03/10/2017 (15:00 Hrs)
Date and Time of Opening of Technical Bids	05/10/2017 (15:00 Hrs)
Tender Fee	Rs.__NIL_____/- (For Tender Fee) Rs.__NIL_____/- (For EMD) (To be paid through RTGS/NEFT. IIT Delhi Bank details are as under: Name of the Bank A/C : IITD Revenue Account SBI A/C No. : 10773572622 Name of the Bank : State Bank of India, IIT Delhi, Hauz Khas, New Delhi-110016 IFSC Code : SBIN0001077 MICR Code : 110002156 Swift No. : SBININBB547 (This is mandatory that UTR Number is provided in the on-line quotation/bid. (Kindly refer to the UTR Column of the Declaration Sheet at Annexure-II)
EMD	
No. of Covers (1/2/3/4)	02
Bid Validity days (180/120/90/60/30)	90 days (From last date of opening of tender)
Address for Communication	**Prof. Ashwini K Agrawal** Department of Textile Technology Indian Institute of Technology, Hauz Khas, New Delhi – 110016
Contact No.	(+91)-11- 26591415
Email Address	ashwini@smita-iitd.com

Chairman Purchase Committee
(Buyer Member)

Instructions for Online Bid Submission:

As per the directives of Department of Expenditure, this tender document has been published on the Central Public Procurement Portal (URL:http://eprocure.gov.in/eprocure/app). The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at:

http://eprocure.gov.in/eprocure/app

REGISTRATION

1) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL:http://eprocure.gov.in/eprocure/app) by clicking on the link "Click here to Enroll". Enrolment on the CPP Portal is free of charge.
2) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
3) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
4) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / TCS / nCode / eMudhra etc.), with their profile.
5) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse.
6) Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / eToken.

SEARCHING FOR TENDER DOCUMENTS

1) There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, organization name, location, date, value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords etc. to search for a tender published on the CPP Portal.
2) Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
3) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS

1) Bidder should take into account any corrigendum published on the tender document before submitting their bids.
2) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the

bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.

3) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF formats. Bid documents may be scanned with 100 dpi with black and white option.

4) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

SUBMISSION OF BIDS

1) Bidder should log into the site well in advance for bid submission so that he/she upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.

2) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.

3) Bidder has to select the payment option as "on-line" to pay the tender fee / EMD as applicable and enter details of the instrument. Whenever, EMD / Tender fees is sought, bidders need to pay the tender fee and EMD separately on-line through RTGS (Refer to Schedule, Page No.2).

4) A standard BoQ format has been provided with the tender document to be filled by all the bidders. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. Bidders are required to download the BoQ file, open it and complete the white colored (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.

   OR

   In some cases Financial Bids can be submitted in PDF format as well (in lieu of BOQ).

5) The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.

6) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done.

7) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.

8) Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.

9) Kindly add scanned PDF of all relevant documents in a single PDF file of compliance sheet.

ASSISTANCE TO BIDDERS

1) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
2) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is 1800 233 7315.

General Instructions to the Bidders

1) The tenders will be received online through portal http://eprocure.gov.in/eprocure/app . In the Technical Bids, the bidders are required to upload all the documents in .pdf format.

2) Possession of a Valid Class II/III Digital Signature Certificate (DSC) in the form of smart card/e-token in the company's name is a prerequisite for registration and participating in the bid submission activities through https://eprocure.gov.in/eprocure/app. Digital Signature Certificates can be obtained from the authorized certifying agencies, details of which are available in the web site https://eprocure.gov.in/eprocure/app under the link "Information about DSC".

3) Tenderer are advised to follow the instructions provided in the 'Instructions to the Tenderer for the e-submission of the bids online through the Central Public Procurement Portal for e Procurement at https://eprocure.gov.in/eprocure/app .

Department of Textile Technology
Indian Institute of Technology
Hauz Khas, New Delhi-110 016

NOTICE INVITING QUOTATIONS

Dated: 11/09/2017

Subject: X ray Photoelectron spectroscopy (XPS)

Invitation for Tender Offers

Indian Institute of Technology Delhi invites online Bids (Technical bid and Commercial bid) from eligible and experienced OEM (Original Equipment Manufacturer) OR OEM Authorized Dealer for **X ray Photoelectron spectroscopy (XPS)** with (warranty period as stated under technical specifications of this tender) on site comprehensive warranty from the date of receipt of the material as per terms & conditions specified in the tender document, which is available on CPP Portal http://eprocure.gov.in/eprocure/app

TECHNICAL SPECIFICATION:

X ray Photoelectron spectroscopy (XPS)
The technical specification describes the minimum technical requirements and the minimum acceptable performance standards for the x-ray photoelectron spectrometer (XPS) to be supplied and installed by the supplier

S.No.	Parameters	Specifications
1.	System	The XPS system should be able to perform standard as well as advanced surface analysis and obtain chemical information of powder samples, nano structured and thin film material including semiconductors, metal alloys, ceramics, glasses, polymers and other insulators. The ability to provide complete XPS experiment including Beam Scanning /parallel imaging, survey spectra, narrow region spectra from elements of interest and sputter depth profiling as well as angle dependent XPS analysis. The ability to acquire images of the sample of interest.
	X-ray sources	i) Automated Non-monochromatic dual anode Aluminium/Silver (Al/Ag) or Aluminium/Magnesium (Al/Mg) X-ray Source with cross talk < 0.4% ii) The instrument must also be equipped with standard mono chromatic Al (k-alpha) X-ray source of power ≥100 W. iii) The monochromator should be ≥200 mm Rowland circle quartz crystal X-ray monochromator for high resolution, high

		sensitivity, X-ray photoelectron spectroscopy. iv) The instrument must provide error-free positioning of the x-ray beam to allow small area XPS analysis in the range of ≤ 15 um to ≥300 um. v) The ultimate XPS energy resolution from conducting as well as non-conducting sample must be at <0.50 eV (FWHM) measured on Ag 3d5/2 and < 0.85 eV for O-C-O component on polyester sample. The tenderer must specify how this requirement is met.
2.	Vacuum system	i) The sample introduction chamber and analysis chamber should be fitted with a combination of Ion and/or oil free air cooled Turbo Molecular Pump (TMP), backed with an oil-free scroll pump and titanium sublimation pumps along with read out gauges. ii) All the pumps and valves must be controlled from system software. iii) A set of safety/interlock features protecting the integrity of vacuum system, in vacuum components and electronics in case of power failure must be equipped. iv) **Analysis chamber**: After baking for 48 hours, this must be guaranteed to attain pressure ≤5 x 10^{-10} torr
3.	Insertion chamber	i) There should be a camera system that gives a global view of sample holder.
4.	Analysis chamber	i) The chamber must be constructed from Mu-metal for optimum magnetic-field shielding. ii) Chamber should have ports to allow additional analytical components simultaneously for monochromated X-ray source, non monochromated dual anode X-ray source, UV lamp for UPS, electron gun for Auger electron spectroscopy and ion source for cleaning, depth profiling and charge neutralization, even if the analytical components are not opted in this purchase. iii) The bakeable analysis chamber must be sealed with appropriate UHV compatible gaskets. iv) Lead-glass windows for X-ray protection. v) The instrument must have an entrance chamber/ loadlock allowing rapid introduction of non-outgassing samples into

		the main analysis chamber in 30 minutes or less. vi) The chamber must have a high quality optical camera/microscope that views sample at the analysis position. vii) In the sample analysis chamber, sample should be heated using an on-board resistive heater connected to a thermally isolated area of the sample holder. Cooling of the same area should be achieved using liquid nitrogen delivered to a remote LN_2 reservoir. The temperature of the sample should be monitored by a thermocouple in direct contact with the thermally isolated area. viii) Provision for accommodating heating cooling sample stage with the guaranteed temperature range for heating and cooling should be +600° C to -100° C or better. ix) Regulation of the temperature must be by the software. Necessary software to allow PC control of the various heating and cooling accessories available with the main instrument.
5.	Sample holder stage manipulator	i) Should be able to accommodate large size sample holders of size ≥ 60 mm dia or ≥2800 mm^2 with option to place ≥15 samples. ii) Must have 5 axes of movement X, Y, Z Tilt and continuous azimuthal rotation. iii) All the five axes must be motorized and must be controllable from the system software. iv) At least three types of sample holder shall be available for different analysis modes. v) Standard samples (Au, Ag and Cu) should be provided for calibration. vi) The stage must have the facility to accommodate the hot/cold sample holder of range -100 to 600 ℃ or wider, without any compromise on the stage movement. At least 4 axis manipulation of the stage must be possible during a hot or cold on in-situ experiment.
6.	Sample holders	i) At least one sample holder ≥ 60 mm dia or ≥2800 mm^2 with option to place ≥15 samples. ii) At least one sample holder ≥ 25 mm diameter, stainless steel

		platen which has a recessed slot for powdered or bulk samples iii) At least one Faraday Cup ≥25 mm diameter platen containing a Faraday cup. iv) At least one stainless steel platen for angle dependent studies capable of mounting multiple samples (50 mm by 15 mm) v) 1 No. of heating and cooling sample holder compatible with the sample analysis chamber and temperature controlling software
7.	Electron energy analyser	i) The electron energy analyzer must comprise 180 degree C hemispherical analyzer with a mean radius of ≥120 mm. ii) The energy scan range should be at least 10 to 1100 eV or wider. iii) Minimum energy step size at different Pass Energies must be specified. iv) The selectable analysis area of sample must be variable in the range of ≤ 15 um to ≥300 um. v) The analyzer should be able to acquire XPS measurements in both the spectroscopy and mapping analysis modes with at least 128 channels.
8.	Mode of analysis	(a) Type of samples: Should be able to measure all types of samples including magnetic samples. (b) The analyzer should have the capability of obtaining chemical maps with lateral resolution of ≤15 um. (c) Angle Dependent XPS capability with takeoff angle varying from 0 to 90. The instrument must be consistent in providing results among different measuring angles. The angle dependent capability must be obtained via the setting of the specimen stage control and maintaining the original analysis position as the angle is changed. (d) Depth profiling: The instrument must have the capability for efficient and effective depth profiling of inorganic and organic samples comprising of both monoatomic Ar ion sputter gun and ≥20kV Ar cluster ion sputter gun. Both large and small area modes for

<table>
<tr><td></td><td></td><td>depth profiling should be available. Capability of simultaneous multi-point depth profiling is required.

The monoatomic Ar ion gun should provide ions with energy range variable between 0 – 5 keV. The etch rate determined on standard sample (Tantalum oxide i.e. $Ta_2\ O_5$ or silicon dioxide) should also be exemplified.

The number of Argon atoms per cluster in cluster ion beam must be specified.</td></tr>
<tr><td>9.</td><td>Charge Neutralization system</td><td>i) The instrument must be equipped with a robust charge neutralization system either by using low energy electron only or dual beam charge neutralization system comprising of low energy as well as positively charged ions. Though dual beam charge neutralization will be preferred. Charge neutralization should be possible during depth profiling.

ii) The capability of neutralization should be demonstrated on polyethylene terephthalate (PET) with FWHM < 0.85 eV for the O=CO peak in the carbon 1s spectrum.</td></tr>
<tr><td>10.</td><td>Sensitivity
Check this and suggest values for your system</td><td>The following XPS count rate and energy resolution as a function of analysis area (FWHM of the peak of Ag3d5/2) must be met and demonstrated.

<table>
<tr><td>Mimimum sensitivity for selected area analysis</td><td>Analysis size (diameter)</td><td>Resolution (FWHM of Ag 3d5/2 peak)</td></tr>
<tr><td>≥ 6 kcps</td><td>≤20.0 um</td><td>≤ 0.60 eV</td></tr>
<tr><td>≥ 1Mcps</td><td>Large area</td><td>≤ 1.00 eV</td></tr>
</table>
</td></tr>
<tr><td>11.</td><td>System software</td><td>i) Professional data analysis software for data processing and evaluation together with reference database must be specified and demonstrated. Easy to use software packages must be provided for instrument operation, data reduction and automated analysis. All software must be pre-installed in the computer and supplied with the system.

ii) Software must offer full control of XPS operation including X-ray source, vacuum management, charge and neutralizer, sample stage, automatic sample height alignment, automatic depth profiling and sequential angle resolved XPS as well as multi task analysis. All parameters and the sequence of tasks must be possible to be pre-defined by the user. For all software and auto controller features, manual over-ride option is essential.</td></tr>
</table>

		iii) The software must be its latest version and allows free update. iv) It must include a comprehensive, integrated package of instrument control, data acquisition and processing software for UPS and AES. v) It should include extensive spectral databases and spectral searching capability for element identification. vi) XPS Polymer data base should also be provided. vii)Data processing should be done on the computer connected to the equipment but also the data processing facility should be made available on several (at least 10 additional licenses) desktop computers for offline data reduction and analysis. viii) Complete data acquisition and analysis (including identification, peak fitting. and library) should be possible. ix) Hardware should be latest window /mac based system with large LCD/LED screen
12.	Network ability	i) The instrument must allow easy network and exporting of data, images, etc. in standardized formats and have comprehensive remote diagnostics built into the hardware and software. ii) The system must have an ability to be controlled remotely within an internal network or via the internet
13.	Computer hardware	Computer system with latest specifications should be provided
14.	Ultraviolet Photoelectron Spectroscopy (UPS) Kit	i) High intensity UV lamp producing both He I and He II radiation for UPS measurement should be provided. ii) User defined step size with a minimum step size of 0.005 eV iii) The tenderer must specify guaranteed sensitivity on a clean silver states as follows: $\geq$ 1 Mcps for Ag 4d and the Fermi edge $\leq$120 meV in width (20% and 80%) at room temperature. Resolution of the UPS performance should be demonstrated on a clean silver sample.
15.	Accessories	i) The Instruments should be delivered with all accessories

		necessary to make it fully operational including a recirculating water chillers and compressor that will enable the XPS system to meet the manufacturer's specification at all time. These should be manufactured by the manufacturer itself or other internationally reputed manufacturer. ii) A complete set of system baking kit for the UHV should be supplied, including baking-jacket, insulation boards, power supply, temperature control, safety devices etc. iii) All the necessary standards used during calibration/ analysis should be provided
16.	Power supply	Should meet Indian Power standards preferably without use of external converters
17.	Protection & safety	The XPS instrument must have a protection from damage at power fluctuation, vacuum and/or cooling water failure. Safety interlocks for vacuum, water cooling and high voltage should be provided
18.	Manuals	i) A complete instruction manual in English both in hard and in electronic version must accompany the equipment. Description of all the main functions and operations of that equipment (XPS) must be included in the manual. ii) Service manual should also be provided with the instrument.
19.	Pre-installation requirement	i) Complete technical details of pre-installation requirements should be furnished along with the technical bid to ensure quoted performance. IIT Delhi will only provide the installation room, air-conditioning units and required electrical outlets and water connections. ii) Vendors must conduct the site survey before installation at no additional cost.
20.	Installation, and Commissioning	i) Installation, complete interfacing of the system with its subsystems, and commissioning is to be carried out by the vendor's factory-trained engineers, followed by a demonstration of the system's performance to the user's complete satisfaction. ii) An estimated time schedule for installation, commissioning and training must be provided.
21.	Training	*i)* The manufacturer/supplier of XPS should provide seven days onsite training initially during installation *ii)* The supplier or manufacturer should also provide dedicated five days advanced application training subsequent to the above training during installation.

		iii) Regular follow up training every six months during the period of extended warranty on mutually convenient dates for hardware, software and application to the laboratory personnel in the installation, operation and maintenance of the instruments.
22.	Maintenance & service support	*i)* The manufacturer and/or their Indian representative must have at least two qualified and factory trained service engineer in India to be able to attend to service at IIT Delhi within 48 hours on submitting a complaint. Training certificates from the manufacturer have to be provided with the tender. ii) For the warranty period only factory trained and certified engineers are acceptable to attend the service. *iii)* The response time with an engineer on site must be less than 48 hours from the notification of the failure. The company must provide evidence that it can fulfil this requirement. *iv)* In case the parts are required to be imported for repairs, the same should be made available within 2 weeks from the date of reporting of the issue. Any extension in this time will need to be compensated by the manufacturer by extending the comprehensive warranty by the excess period taken (i.e. period beyond 2 weeks) in completing the repairs. *v)* A 10% performance guarantee will need to be maintained during the period of extended warranty.
23.	System Consumable Parts	Basic frequently required spares/consumable should be provided for the entire period of extended warranty. A list of these items should be attached with the quotation.
24.	Warranty	At least a 60 months comprehensive warranty from the date of installation should be provided for the system including x-ray sources and accessories (both hardware and software) inclusive of parts and labour needed for maintenance and against all manufacturing defects after commissioning. The warranty shall cover unlimited breakdown service calls, calibration and software upgrades, at no additional cost. The comprehensive warranty should cover: 1. All parts including accessories, consumables (as mentioned above), and labour on site

		2. Free repair, maintenance and service on site or at factory with no cost, 3. The preventive maintenance of the unit shall be in accordance with the manufacturer's procedure and interval 4. Regular up-gradation of softwares free of cost **All parts including frequently used consumables (except for utilities) should be covered under the warranty and this fact should be clearly and explicitly specified in the tender document.**

Sl. No.	**List of optional items**
1	High Temperature Gas Reaction Cell
2	Field emission High Resolution Scanning Auger System
3	LaB_6 emitter high resolution scanning auger system
4	Flex-lock glove box
5	Air-sensitive sample transporter
6	Any other option(s) available with the vendor

A complete set of tender documents* may be Download by prospective bidder free of cost from the website http://eprocure.gov.in/eprocure/app. Bidder has to make payment of requisite fees (i.e. Tender fees (if any) and EMD) online through RTGS/NEFT only.

Terms & Conditions Details

Sl. No.	Specification
1.	**Due date**: The tender has to be submitted on-line before the due date. The offers received after the due date and time will not be considered. No manual bids will be considered.
2.	**Preparation of Bids**: The offer/bid should be submitted in two bid systems (i.e.) Technical bid and financial bid. The technical bid should consist of all technical details along with commercial terms and conditions. Financial bid should indicate item wise price for the items mentioned in the technical bid in the given format i.e Financial Bids to be submitted in PDF format. The Technical bid and the financial bid should be submitted Online.
3.	**EMD (if applicable)**: The tenderer should submit an EMD amount through RTGS/NEFT. The Technical Bid without EMD would be considered as UNRESPONSIVE and will not be accepted. The EMD will be refunded without any interest to the unsuccessful bidders after the award of contract. Refer to Schedule (at page 1 of this document) for its actual place of submission.
4.	**Refund of EMD**: The EMD will be returned to unsuccessful Tenderer only after the Tenders are finalized. In case of successful Tenderer, it will be retained till the successful and complete installation of the equipment.
5.	**Opening of the tender**: The online bid will be opened by a committee duly constituted for this purpose. Online bids (complete in all respect) received along with EMD (if any) will be opened as mentioned at "Annexure: Schedule" in presence of bidders representative if available. Only one representative will be allowed to participate in the tender opening. Bid received without EMD (if present) will be rejected straight way. The technical bid will be opened online first and it will be examined by a technical committee (as per specification and requirement). The financial offer/bid will be opened only for the offer/bid which technically meets all requirements as per the specification, and will be opened in the presence of the vendor's representatives subsequently for further evaluation. The bidders if interested may participate on the tender opening Date and Time. The bidder should produce authorization letter from their company to participate in the tender opening.
6.	**Acceptance/ Rejection of bids:** The Committee reserves the right to reject any or all offers without assigning any reason.
7.	**Pre-qualification criteria:** (i) Bidders should be the manufacturer / authorized dealer. Letter of Authorization from original equipment manufacturer (OEM) on the same and specific to the tender should be enclosed. (ii) An undertaking from the OEM is required stating that they would facilitate the bidder on a regular basis with technology/product updates and extend support for the warranty as well. (Ref. Annexure-II) (iii) OEM should be internationally reputed Branded Company. (iv) Non-compliance of tender terms, non-submission of required documents, lack of clarity of the specifications, contradiction between bidder specification and supporting documents etc. may lead to rejection of the bid. (v) In the tender, either the Indian agent on behalf of the Principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender. (vi) If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product.
8.	**Performance Security**: The supplier shall require to submit the performance security in the form of irrevocable bank guarantee issued by any Indian Nationalized Bank for an amount which is stated at page #1 of the tender document within 21 days from the date of receipt of the purchase order/LC and should be kept valid for a period of 60 days beyond the date of completion of warranty period.
9.	**Force Majeure:** The Supplier shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, it's delay in performance or other failure

	to perform its obligations under the Contract is the result of an event of Force Majeure. • For purposes of this Clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the Purchaser either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes. • If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such conditions and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.
10.	**Risk Purchase Clause**: In event of failure of supply of the item/equipment within the stipulated delivery schedule, the purchaser has all the right to purchase the item/equipment from the other source on the total risk of the supplier under risk purchase clause.
11.	**Packing Instructions**: Each package will be marked on three sides with proper paint/indelible ink, the following: i. Item Nomenclature ii. Order/Contract No. iii. Country of Origin of Goods iv. Supplier's Name and Address v. Consignee details vi. Packing list reference number
12.	**Delivery and Documents:** Delivery of the goods should be made within a maximum of 08 to 16 weeks from the date of placement of purchase order and the opening of LC. Within 24 hours of shipment, the supplier shall notify the purchaser and the insurance company by cable/telex/fax/e mail the full details of the shipment including contract number, railway receipt number/ AAP etc. and date, description of goods, quantity, name of the consignee, invoice etc. The supplier shall mail the following documents to the purchaser with a copy to the insurance company: 1. 4 Copies of the Supplier invoice showing contract number, goods' description, quantity 2. unit price, total amount; 3. Insurance Certificate if applicable; 4. Manufacturer's/Supplier's warranty certificate; 5. Inspection Certificate issued by the nominated inspection agency, if any 6. Supplier's factory inspection report; and 7. Certificate of Origin (if possible by the beneficiary); 8. Two copies of the packing list identifying the contents of each package. 9. The above documents should be received by the Purchaser before arrival of the Goods (except where the Goods have been delivered directly to the Consignee with all documents) and, if not received, the Supplier will be responsible for any consequent expenses.
13.	**Delayed delivery:** If the delivery is not made within the due date for any reason, the Committee will have the right to impose penalty 1% per week and the maximum deduction is 10% of the contract value / price.
14.	**Prices**: The price should be quoted in net per unit (after breakup) and must include all packing and delivery charges. The offer/bid should be exclusive of taxes and duties, which will be paid by the purchaser as applicable. However the percentage of taxes & duties shall be clearly indicated. The price should be quoted without custom duty and excise duty, since IIT Delhi is exempted from payment of Excise Duty and is eligible for concessional rate of custom duty. Necessary certificate will be issued on demand. **In case of imports, the price should be quoted on FOB/FCA origin Airport Basis only.** Under

	special circumstances (eg. perishable chemicals), when the item is imported on CIF/CIP, please indicate CIF/CIP charges separately upto IIT Delhi indicating the mode of shipment. IIT Delhi will make necessary arrangements for the clearance of imported goods at the Airport/Seaport. Hence the price should not include the above charges. **At any circumstances, it is the responsibility of the foreign supplier to handover the material to our forwarder at the origin airport after completing all the inland clearing. No Ex- Works consignment will be entertained.** "In case of **CIF/CIP** shipments, kindly provide the shipment information at least 2 days in advance before landing the shipment along with the documents i.e. invoice, packing list, forwarder Name, address, contact No. in India to save penalty/demurrage charges (imposed by Indian Customs) . Otherwise these charges will be recovered from the supplier/Indian Agent."
15.	**Notices:** For the purpose of all notices, the following shall be the address of the Purchaser and Supplier. **Purchaser: Ashwini Agrawal** Deptt. of Textile Technology Indian Institute of Technology Hauz Khas, New Delhi - 110016. **Supplier:** (To be filled in by the supplier) **(All supplier's should submit its supplies information as per Annexure-II).** _____ _____
16.	**Progress of Supply**: Wherever applicable, supplier shall regularly intimate progress of supply, in writing, to the Purchaser as under: 1. Quantity offered for inspection and date; 2. Quantity accepted/rejected by inspecting agency and date; 3. Quantity dispatched/delivered to consignees and date; 4. Quantity where incidental services have been satisfactorily completed with date; 5. Quantity where rectification/repair/replacement effected/completed on receipt of any communication from consignee/Purchaser with date; 6. Date of completion of entire Contract including incidental services, if any; and **7.** Date of receipt of entire payments under the Contract (In case of stage-wise inspection, details required may also be specified).
17.	**Inspection and Tests:** Inspection and tests prior to shipment of Goods and at final acceptance are as follows: • After the goods are manufactured and assembled, inspection and testing of the goods shall be carried out at the supplier's plant by the supplier, prior to shipment to check whether the goods are in conformity with the technical specifications attached to the purchase order. Manufacturer's test certificate with data sheet shall be issued to this effect and submitted along with the delivery documents. The purchaser shall be present at the supplier's premises during such inspection and testing if need is felt. The location where the inspection is required to be conducted should be clearly indicated. The supplier shall inform the purchaser about the site preparation, if any, needed for installation of the goods at the purchaser's site at the time of submission of order acceptance. • The acceptance test will be conducted by the Purchaser, their consultant or other such person nominated by the Purchaser at its option after the equipment is installed at purchaser's site in the presence of supplier's representatives. The acceptance will involve trouble free operation and ascertaining conformity with the ordered specifications and quality. There shall not be any additional charges for carrying out acceptance test. No malfunction, partial or complete failure of any part of the equipment is expected to occur. The Supplier shall maintain necessary log in respect of the result of the test to establish to the entire satisfaction of the Purchaser, the successful

	completion of the test specified. • In the event of the ordered item failing to pass the acceptance test, a period not exceeding one weeks will be given to rectify the defects and clear the acceptance test, failing which the Purchaser reserve the right to get the equipment replaced by the Supplier at no extra cost to the Purchaser. • Successful conduct and conclusion of the acceptance test for the installed goods and equipment shall also be the responsibility and at the cost of the Supplier.
18.	**Resolution of Disputes**: The dispute resolution mechanism to be applied pursuant shall be as follows: • In case of Dispute or difference arising between the Purchaser and a domestic supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996, the rules there under and any statutory modifications or re-enactments thereof shall apply to the arbitration proceedings. The dispute shall be referred to the Director, Indian Institute of Technology (IIT) Delhi and if he is unable or unwilling to act, to the sole arbitration of some other person appointed by him willing to act as such Arbitrator. The award of the arbitrator so appointed shall be final, conclusive and binding on all parties to this order. • In the case of a dispute between the purchaser and a Foreign Supplier, the dispute shall be settled by arbitration in accordance with provision of sub-clause (a) above. But if this is not acceptable to the supplier then the dispute shall be settled in accordance with provisions of UNCITRAL (United Nations Commission on International Trade Law) Arbitration Rules. • The venue of the arbitration shall be the place from where the order is issued.
19.	**Applicable Law:** The place of jurisdiction would be New Delhi (Delhi) INDIA.
20.	**Right to Use Defective Goods** If after delivery, acceptance and installation and within the guarantee and warranty period, the operation or use of the goods proves to be unsatisfactory, the Purchaser shall have the right to continue to operate or use such goods until rectifications of defects, errors or omissions by repair or by partial or complete replacement is made without interfering with the Purchaser's operation.
21.	**Supplier Integrity** The Supplier is responsible for and obliged to conduct all contracted activities in accordance with the Contract using state of the art methods and economic principles and exercising all means available to achieve the performance specified in the contract.
22.	**Training** The Supplier is required to provide training to the designated Purchaser's technical and end user personnel to enable them to effectively operate the total equipment.
23.	**Installation & Demonstration** The supplier is required to done the installation and demonstration of the equipment within one month of the arrival of materials at the IITD site of installation, otherwise the penalty clause will be the same as per the supply of materials. In case of any mishappening/damage to equipment and supplies during the carriage of supplies from the origin of equipment to the installation site, the supplier has to replace it with new equipment/supplies immediately at his own risk. Supplier will settle his claim with the insurance company as per his convenience. IITD will not be liable to any type of losses in any form.
24.	**Insurance:** For delivery of goods at the purchaser's premises, the insurance shall be obtained by the supplier in an amount equal to 110% of the value of the goods from "warehouse to warehouse" (final destinations) on "All Risks" basis including War Risks and Strikes. The insurance shall be valid for a period of not less than 3 months after installation and commissioning. **In case of orders placed on FOB/FCA basis, the purchaser shall arrange Insurance. If orders placed on CIF/CIP basis, the insurance should be up to IIT Delhi.**
25.	**Incidental services:** The incidental services also include:

	• Furnishing of 01 set of detailed operations & maintenance manual. • Arranging the shifting/moving of the item to their location of final installation within IITD premises at the cost of Supplier through their Indian representatives.
26.	**Warranty**: (i) Warranty period shall be (as stated at page #2 of this tender) from date of installation of Goods at the IITD site of installation. The Supplier shall, in addition, comply with the performance and/or consumption guarantees specified under the contract. If for reasons attributable to the Supplier, these guarantees are not attained in whole or in part, the Supplier shall at its discretion make such changes, modifications, and/or additions to the Goods or any part thereof as may be necessary in order to attain the contractual guarantees specified in the Contract at its own cost and expense and to carry out further performance tests. The warranty should be comprehensive on site. (ii) The Purchaser shall promptly notify the Supplier in writing of any claims arising under this warranty. Upon receipt of such notice, the Supplier shall immediately within in 02 days arrange to repair or replace the defective goods or parts thereof free of cost at the ultimate destination. The Supplier shall take over the replaced parts/goods at the time of their replacement. No claim whatsoever shall lie on the Purchaser for the replaced parts/goods thereafter. The period for correction of defects in the warranty period is 02 days. If the supplier having been notified fails to remedy the defects within 02 days, the purchaser may proceed to take such remedial action as may be necessary, at the supplier's risk and expenses and without prejudice to any other rights, which the purchaser may have against the supplier under the contract. (iii) The warranty period should be clearly mentioned. The maintenance charges (AMC) under different schemes after the expiry of the warranty should also be mentioned. The comprehensive warranty will commence from the date of the satisfactory installation/commissioning of the equipment against the defect of any manufacturing, workmanship and poor quality of the components. (iv) After the warranty period is over, Annual Maintenance Contract (AMC)/Comprehensive Maintenance Contract (CMC) up to next two years should be started. The AMC/CMC charges will not be included in computing the total cost of the equipment.
27.	**Governing Language** The contract shall be written in English language. English language version of the Contract shall govern its interpretation. All correspondence and other documents pertaining to the Contract, which are exchanged by the parties, shall be written in the same language.
28.	**Applicable Law** The Contract shall be interpreted in accordance with the laws of the Union of India and all disputes shall be subject to place of jurisdiction.
29.	**Notices** • Any notice given by one party to the other pursuant to this contract/order shall be sent to the other party in writing or by cable, telex, FAX or e mail and confirmed in writing to the other party's address. • A notice shall be effective when delivered or on the notice's effective date, whichever is later.
30.	**Taxes** Suppliers shall be entirely responsible for all taxes, duties, license fees, octroi, road permits, etc., incurred until delivery of the contracted Goods to the Purchaser. However, VAT in respect of the transaction between the Purchaser and the Supplier shall be payable extra, if so stipulated in the order.
31.	**Duties** IIT Delhi is exempted from paying custom duty under notification No.51/96 (partially or full) and necessary "Custom Duty Exemption Certificate" can be issued after providing following information and Custom Duty Exemption Certificate will be issued to the shipment in the name of the Institute, (no certificate will be issued to third party): The procured product should be used for teaching, scientific

	and research work only. a) Shipping details i.e. Master Airway Bill No. and House Airway No. (if exists) b) Forwarder details i.e. Name, Contact No., etc. IIT Delhi is exempted from paying Excise Duty and necessary Excise Duty Exemption Certificate will be provided for which following information are required. b) Quotation with details of Basic Price, Rate, Tax & Amount on which ED is applicable c) Supply Order Copy d) Proforma-Invoice Copy.
32.	**Agency Commission**: Agency commission if any will be paid to the Indian agent in Rupees on receipt of the equipment and after satisfactory installation. Agency Commission will not be paid in foreign currency under any circumstances. The details should be explicitly shown in Tender even in case of Nil commission. The tenderer should indicate the percentage of agency commission to be paid to the Indian agent.
33.	**Payment**: (i) For imported items Payment will be made through irrevocable Letter of Credit (LC) Cash Against Documents (CAD)/Against delivery/after satisfactory installation by T.T. Letter of Credit (LC) will be established in favour of foreign Supplier after the submission of performance security. The letter of credit (LC) will be established on the exchange rates as applicable on the date of establishment. For Imports, LC will be opened for 100% FOB/CIF value. 80% of the LC amount shall be released on presentation of complete and clear shipping documents and 20% of the LC amount shall be released after the installation and demonstration of the equipment at the INST site of installation in faultless working condition for period of 60 days from the date of the satisfactory installation and subject to the production of unconditional performance bank guarantee as specified in Clause 8 of tender terms and conditions. (ii) For Indigenous supplies, 100% payment shall be made by the Purchaser against delivery, inspection, successful installation, commissioning and acceptance of the equipment at IITD in good condition and to the entire satisfaction of the Purchaser and on production of unconditional performance bank guarantee as specified in Clause 9 of tender terms and conditions. (iii) Indian Agency commission (IAC), if any shall be paid after satisfactory installation & commissioning of the goods at the destination at the exchange rate prevailing on the date of negotiation of LC documents, subject to DGS&D registration for restricted items. (iv) All the bank charges within India will be borne by the Institute and outside India will be borne by the Supplier.
34.	**User list:** Brochure detailing technical specifications and performance, list of industrial and educational establishments where the items enquired have been supplied must be provided. (Ref. Annexure-III)
35.	**Manuals and Drawings** (i) Before the goods and equipment are taken over by the Purchaser, the Supplier shall supply operation and maintenance manuals. These shall be in such details as will enable the Purchaser to operate, maintain, adjust and repair all parts of the works as stated in the specifications. (ii) The Manuals shall be in the ruling language (English) in such form and numbers as stated in the contract. (iii) Unless and otherwise agreed, the goods equipment shall not be considered to be completed for the purposes of taking over until such manuals and drawing have been supplied to the Purchaser.
36.	**Application Specialist**: The Tenderer should mention in the Techno-Commercial bid the availability and names of Application Specialist and Service Engineers in the nearest regional office. (Ref. to Annexure-III)
37.	**Site Preparation**: The supplier shall inform to the Institute about the site preparation, if any, needed for the installation of equipment, immediately after the receipt of the purchase order. The supplier

	must provide complete details regarding space and all the other infrastructural requirements needed for the equipment, which the Institute should arrange before the arrival of the equipment to ensure its timely installation and smooth operation thereafter. The supplier shall visit the Institute and see the site where the equipment is to be installed and may offer his advice and render assistance to the Institute in the preparation of the site and other pre-installation requirements.
38.	**Spare Parts** The Supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier: ii. Such spare parts as the Purchaser may elect to purchase from the Supplier, providing that this election shall not relieve the Supplier of any warranty obligations under the Contract; and iii. In the event of termination of production of the spare parts: iv. Advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed requirements; and v. Following such termination, furnishing at no cost to the Purchaser, the blueprints, drawings and specifications of the spare parts, if requested. Supplier shall carry sufficient inventories to assure ex-stock supply of consumable spares for the Goods, such as gaskets, plugs, washers, belts etc. Other spare parts and components shall be supplied as promptly as possible but in any case within six months of placement of order.
39.	**Defective Equipment**: If any of the equipment supplied by the Tenderer is found to be substandard, refurbished, un-merchantable or not in accordance with the description/specification or otherwise faulty, the committee will have the right to reject the equipment or its part. The prices of such equipment shall be refunded by the Tenderer with 18% interest if such payments for such equipment have already been made. All damaged or unapproved goods shall be returned at suppliers cost and risk and the incidental expenses incurred thereon shall be recovered from the supplier. Defective part in equipment, if found before installation and/or during warranty period, shall be replaced within 45 days on receipt of the intimation from this office at the cost and risk of supplier including all other charges. In case supplier fails to replace above item as per above terms & conditions, IIT Delhi may consider "Banning" the supplier.
40.	**Termination for Default** The Purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, terminate the Contract in whole or part: i. If the Supplier fails to deliver any or all of the Goods within the period(s) specified in the order, or within any extension thereof granted by the Purchaser; or ii If the Supplier fails to perform any other obligation(s) under the Contract. iii If the Supplier, in the judgment of the Purchaser has engaged in corrupt or fraudulent practices in competing for or in executing the Contract. ● For the purpose of this Clause: i. "**Corrupt practice**" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution. ii. "**Fraudulent practice**" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition;'" ● In the event the Purchaser terminates the Contract in whole or in part, the Purchaser may procure, upon such terms and in such manner, as it deems appropriate, Goods or Services similar to those undelivered, and the Supplier shall be liable to the Purchaser for any excess costs for such similar

	Goods or Services. However, the Supplier shall continue the performance of the Contract to the extent not terminated.
41.	**Shifting**: After 1-2 years once our new Academic Block will be ready, the supplier has to shift and reinstall the instrument free of cost (if required).
42.	**Downtime:** During the warranty period not more than 5% downtime will be permissible. For every day exceeding permissible downtime, penalty of 1/365 of the 5% FOB value will be imposed. Downtime will be counted from the date and time of the filing of complaint with in the business hours.
43.	**Training of Personnel:** The supplier shall be required to undertake to provide the technical training to the personnel involved in the use of the equipment at the Institute premises, immediately after completing the installation of the equipment for a minimum period of one week at the supplier's cost.
44.	**Disputes and Jurisdiction**: Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within New Delhi.
45.	**Compliancy certificate**: This certificate must be provided indicating conformity to the technical specifications. (Annexure-I)

COMPLIANCE SHEET

TECHNICAL SPECIFICATION

S.No.	Parameters	Specifications	COMPLIANCE Y/N
1.	System	The XPS system should be able to perform standard as well as advanced surface analysis and obtain chemical information of powder samples, nano structured and thin film material including semiconductors, metal alloys, ceramics, glasses, polymers and other insulators. The ability to provide complete XPS experiment including Beam Scanning /parallel imaging, survey spectra, narrow region spectra from elements of interest and sputter depth profiling as well as angle dependent XPS analysis. The ability to acquire images of the sample of interest.	
	X-ray sources	vi) Automated Non-monochromatic dual anode Aluminium/Silver (Al/Ag) or Aluminium/Magnesium (Al/Mg) X-ray Source with cross talk < 0.4% vii) The instrument must also be equipped with standard mono chromatic Al (k-alpha) X-ray source of power ≥100 W. viii) The monochromator should be ≥200 mm Rowland circle quartz crystal X-ray monochromator for high resolution, high sensitivity, X-ray photoelectron spectroscopy. ix) The instrument must provide error-free positioning of the x-ray beam to allow small area XPS analysis in the range of ≤ 15 um to ≥300 um. x) The ultimate XPS energy resolution from conducting as well as non-conducting sample must be at <0.50 eV (FWHM) measured on Ag 3d5/2 and < 0.85 eV for O-C-O component on polyester sample. The tenderer must specify how this requirement is met.	
2.	Vacuum system	v) The sample introduction chamber and analysis chamber should be fitted with a combination of Ion and/or oil free air cooled Turbo Molecular Pump (TMP), backed with an oil-free scroll pump and titanium sublimation pumps	

		along with read out gauges. vi) All the pumps and valves must be controlled from system software. vii) A set of safety/interlock features protecting the integrity of vacuum system, in vacuum components and electronics in case of power failure must be equipped. viii) **Analysis chamber**: After baking for 48 hours, this must be guaranteed to attain pressure $\leq 5 \times 10^{-10}$ torr	
3.	Insertion chamber	ii) There should be a camera system that gives a global view of sample holder.	
4.	Analysis chamber	x) The chamber must be constructed from Mu-metal for optimum magnetic-field shielding. xi) Chamber should have ports to allow additional analytical components simultaneously for monochromated X-ray source, non monochromated dual anode X-ray source, UV lamp for UPS, electron gun for Auger electron spectroscopy and ion source for cleaning, depth profiling and charge neutralization, even if the analytical components are not opted in this purchase. xii) The bakeable analysis chamber must be sealed with appropriate UHV compatible gaskets. xiii) Lead-glass windows for X-ray protection. xiv) The instrument must have an entrance chamber/ loadlock allowing rapid introduction of non-outgassing samples into the main analysis chamber in 30 minutes or less. xv) The chamber must have a high quality optical camera/microscope that views sample at the analysis position. xvi) In the sample analysis chamber, sample should be heated using an on-board resistive heater connected to a thermally isolated area of the sample holder. Cooling of the same area should be achieved using liquid nitrogen delivered to a remote LN_2 reservoir. The temperature of the sample should be monitored by a thermocouple in direct contact with the thermally isolated area. xvii) Provision for accommodating heating cooling sample stage with the guaranteed temperature range for heating	

		and cooling should be +600° C to -100° C or better. xviii) Regulation of the temperature must be by the software. Necessary software to allow PC control of the various heating and cooling accessories available with the main instrument.	
5.	Sample holder stage manipulator	vii) Should be able to accommodate large size sample holders of size ≥ 60 mm dia or ≥2800 mm^2 with option to place ≥15 samples. viii) Must have 5 axes of movement X, Y, Z Tilt and continuous azimuthal rotation. ix) All the five axes must be motorized and must be controllable from the system software. x) At least three types of sample holder shall be available for different analysis modes. xi) Standard samples (Au, Ag and Cu) should be provided for calibration. xii) The stage must have the facility to accommodate the hot/cold sample holder of range -100 to 600 ℃ or wider, without any compromise on the stage movement. At least 4 axis manipulation of the stage must be possible during a hot or cold on in-situ experiment.	
6.	Sample holders	vi) At least one sample holder ≥ 60 mm dia or ≥2800 mm^2 with option to place ≥15 samples. vii) At least one sample holder ≥ 25 mm diameter, stainless steel platen which has a recessed slot for powdered or bulk samples viii) At least one Faraday Cup ≥25 mm diameter platen containing a Faraday cup. ix) At least one stainless steel platen for angle dependent studies capable of mounting multiple samples (50 mm by 15 mm) x) 1 No. of heating and cooling sample holder compatible with the sample analysis chamber and temperature controlling software	
7.	Electron	vi) The electron energy analyzer must comprise 180 degree C hemispherical analyzer with a mean radius of ≥120	

	energy analyser	mm. vii) The energy scan range should be at least 10 to 1100 eV or wider. viii) Minimum energy step size at different Pass Energies must be specified. ix) The selectable analysis area of sample must be variable in the range of ≤ 15 um to ≥300 um. x) The analyzer should be able to acquire XPS measurements in both the spectroscopy and mapping analysis modes with at least 128 channels.	
8.	Mode of analysis	(a) Type of samples: Should be able to measure all types of samples including magnetic samples. (b) The analyzer should have the capability of obtaining chemical maps with lateral resolution of ≤15 um. (c) Angle Dependent XPS capability with takeoff angle varying from 0 to 90. The instrument must be consistent in providing results among different measuring angles. The angle dependent capability must be obtained via the setting of the specimen stage control and maintaining the original analysis position as the angle is changed. (d) Depth profiling: The instrument must have the capability for efficient and effective depth profiling of inorganic and organic samples comprising of both monoatomic Ar ion sputter gun and ≥20kV Ar cluster ion sputter gun. Both large and small area modes for depth profiling should be available. Capability of simultaneous multi-point depth profiling is required. The monoatomic Ar ion gun should provide ions with energy range variable between 0 – 5 keV. The etch rate determined on standard sample (Tantalum oxide i.e. Ta_2 O_5 or silicon dioxide) should also be exemplified. The number of Argon atoms per cluster in cluster ion beam must be specified.	

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<td>9.</td>
<td>Charge Neutralization system</td>
<td>iii) The instrument must be equipped with a robust charge neutralization system either by using low energy electron only or dual beam charge neutralization system comprising of low energy as well as positively charged ions. Though dual beam charge neutralization will be preferred. Charge neutralization should be possible during depth profiling.

iv) The capability of neutralization should be demonstrated on polyethylene terephthalate (PET) with FWHM < 0.85 eV for the O=CO peak in the carbon 1s spectrum.</td>
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<td>10.</td>
<td>Sensitivity
Check this and suggest values for your system</td>
<td>The following XPS count rate and energy resolution as a function of analysis area (FWHM of the peak of Ag3d5/2) must be met and demonstrated.
<table>
<tr><th>Mimimum sensitivity for selected area analysis</th><th>Analysis size (diameter)</th><th>Resolution (FWHM of Ag 3d5/2 peak)</th></tr>
<tr><td>≥ 6 kcps</td><td>≤20.0 um</td><td>≤ 0.60 eV</td></tr>
<tr><td>≥ 1Mcps</td><td>Large area</td><td>≤ 1.00 eV</td></tr>
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<td>11.</td>
<td>System software</td>
<td>x) Professional data analysis software for data processing and evaluation together with reference database must be specified and demonstrated. Easy to use software packages must be provided for instrument operation, data reduction and automated analysis. All software must be pre-installed in the computer and supplied with the system.

xi) Software must offer full control of XPS operation including X-ray source, vacuum management, charge and neutralizer, sample stage, automatic sample height alignment, automatic depth profiling and sequential angle resolved XPS as well as multi task analysis. All parameters and the sequence of tasks must be possible to be pre-defined by the user. For all software and auto controller features, manual over-ride option is essential.

xii) The software must be its latest version and allows free update.

xiii) It must include a comprehensive, integrated package of instrument control, data acquisition and processing software for UPS and AES.

xiv) It should include extensive spectral databases and spectral searching capability for element identification.</td>
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		xv) XPS Polymer data base should also be provided. xvi) Data processing should be done on the computer connected to the equipment but also the data processing facility should be made available on several (at least 10 additional licenses) desktop computers for offline data reduction and analysis. xvii) Complete data acquisition and analysis (including identification, peak fitting. and library) should be possible. xviii) Hardware should be latest window /mac based system with large LCD/LED screen	
12.	Network ability	iii) The instrument must allow easy network and exporting of data, images, etc. in standardized formats and have comprehensive remote diagnostics built into the hardware and software. iv) The system must have an ability to be controlled remotely within an internal network or via the internet	
13.	Computer hardware	Computer system with latest specifications should be provided	
14.	Ultraviolet Photoelectron Spectroscopy (UPS) Kit	iv) High intensity UV lamp producing both He I and He II radiation for UPS measurement should be provided. v) User defined step size with a minimum step size of 0.005 eV vi) The tenderer must specify guaranteed sensitivity on a clean silver states as follows: $\geq$ 1 Mcps for Ag 4d and the Fermi edge $\leq$120 meV in width (20% and 80%) at room temperature. Resolution of the UPS performance should be demonstrated on a clean silver sample.	
15.	Accessories	iv) The Instruments should be delivered with all accessories necessary to make it fully operational including a recirculating water chillers and compressor that will enable the XPS system to meet the manufacturer's specification at all time. These should be manufactured by the manufacturer itself or other internationally reputed manufacturer. v) A complete set of system baking kit for the UHV should be supplied, including baking-jacket, insulation boards,	

		power supply, temperature control, safety devices etc. vi) All the necessary standards used during calibration/ analysis should be provided	
16.	Power supply	Should meet Indian Power standards preferably without use of external converters	
17.	Protection & safety	The XPS instrument must have a protection from damage at power fluctuation, vacuum and/or cooling water failure. Safety interlocks for vacuum, water cooling and high voltage should be provided	
18.	Manuals	iii) A complete instruction manual in English both in hard and in electronic version must accompany the equipment. Description of all the main functions and operations of that equipment (XPS) must be included in the manual. iv) Service manual should also be provided with the instrument.	
19.	Pre-installation requirement	iii) Complete technical details of pre-installation requirements should be furnished along with the technical bid to ensure quoted performance. IIT Delhi will only provide the installation room, air-conditioning units and required electrical outlets and water connections. iv) Vendors must conduct the site survey before installation at no additional cost.	
20.	Installation, and Commissioning	iii) Installation, complete interfacing of the system with its subsystems, and commissioning is to be carried out by the vendor's factory-trained engineers, followed by a demonstration of the system's performance to the user's complete satisfaction. iv) An estimated time schedule for installation, commissioning and training must be provided.	
21.	Training	*iv)* The manufacturer/supplier of XPS should provide seven days onsite training initially during installation *v)* The supplier or manufacturer should also provide dedicated five days advanced application training subsequent to the above training during installation. *vi)* Regular follow up training every six months during the period of extended warranty on mutually convenient dates for hardware, software and application to the laboratory personnel in the installation, operation and maintenance of the instruments.	

22.	Maintenance & service support	*vi)* The manufacturer and/or their Indian representative must have at least two qualified and factory trained service engineer in India to be able to attend to service at IIT Delhi within 48 hours on submitting a complaint. Training certificates from the manufacturer have to be provided with the tender. vii) For the warranty period only factory trained and certified engineers are acceptable to attend the service. *viii)* The response time with an engineer on site must be less than 48 hours from the notification of the failure. The company must provide evidence that it can fulfil this requirement. *ix)* In case the parts are required to be imported for repairs, the same should be made available within 2 weeks from the date of reporting of the issue. Any extension in this time will need to be compensated by the manufacturer by extending the comprehensive warranty by the excess period taken (i.e. period beyond 2 weeks) in completing the repairs. *x)* A 10% performance guarantee will need to be maintained during the period of extended warranty.	
23.	System Consumable Parts	Basic frequently required spares/consumable should be provided for the entire period of extended warranty. A list of these items should be attached with the quotation.	

24.	Warranty	At least a 60 months comprehensive warranty from the date of installation should be provided for the system including x-ray sources and accessories (both hardware and software) inclusive of parts and labour needed for maintenance and against all manufacturing defects after commissioning. The warranty shall cover unlimited breakdown service calls, calibration and software upgrades, at no additional cost. The comprehensive warranty should cover: 1. All parts including accessories, consumables (as mentioned above), and labour on site 2. Free repair, maintenance and service on site or at factory with no cost, 3. The preventive maintenance of the unit shall be in accordance with the manufacturer's procedure and interval 4. Regular up-gradation of softwares free of cost **All parts including frequently used consumables (except for utilities) should be covered under the warranty and this fact should be clearly and explicitly specified in the tender document.**	
List of optional items:			
1.		High Temperature Gas Reaction Cell	
2.		Field emission High Resolution Scanning Auger System	
3.		LaB_6 emitter high resolution scanning auger system	
4.		Flex-lock glove box	
5.		Air-sensitive sample transporter	
6.		Any other option(s) available with the vendor	

I have also enclosed all relevant documents in support of my claims, (as above) in the following pages.

Signature of Bidder

Name: _____

Designation: _____

Organization Name: _____

Contact No. : _____

ANNEXURE-II

<< Organization Letter Head >>

DECLARATION SHEET

We, _____ hereby certify that all the information and data furnished by our organization with regard to this tender specification are true and complete to the best of our knowledge. I have gone through the specification, conditions and stipulations in details and agree to comply with the requirements and intent of specification.

This is certified that our organization has been authorized (Copy attached) by the OEM to participate in Tender. We further certified that our organization meets all the conditions of eligibility criteria laid down in this tender document. Moreover, OEM has agreed to support on regular basis with technology / product updates and extend support for the warranty.

The prices quoted in the financial bids are subsidized due to academic discount given to IIT Delhi.

We, further specifically certify that our organization has not been Black Listed/De Listed or put to any Holiday by any Institutional Agency/ Govt. Department/ Public Sector Undertaking in the last three years.	NAME & ADDRESS OF THE Vendor/ Manufacturer / Agent
1 Phone	
2 Fax	
3 E-mail	
4 Contact Person Name	
5 Mobile Number	
6 TIN Number	
7 PAN Number	
(In case of on-line payment of Tender Fees) 8 UTR No. (For Tender Fee)	
(In case of on-line payment of EMD) 9 UTR No. (For EMD)	
10 Kindly provide bank details of the bidder in the following format: a) Name of the Bank	
b) Account Number	
c) Kindly attach scanned copy of one Cheque book page to enable us to return the EMD to unsuccessful bidder	

(Signature of the Tenderer)

Name:

Seal of the Company

Annexure-III

List of Govt. Organization/Deptt.

List of Government Organizations for whom the Bidder has undertaken such work during last three years (must be supported with work orders)		
Name of the organization	**Name of Contact Person**	**Contact No.**

Name of certified application specialist and Service Engineer who have the technical competency to handle and support the quoted product during the warranty period. Please provide certificate from manufacturer		
Name of the organization	**Name of Contact Person**	**Contact No.**

Signature of Bidder

Name: _____

Designation: _____

Organization Name: _____

Contact No. : _____

Bid Submission

Online Bid Submission:

The Online bids (complete in all respect) must be uploaded online in **two** Envelops as explained below:-

Envelope – 1 (Following documents to be provided as single PDF file)			
Sl. No.	**Documents**	**Content**	**File Types**
1.	Technical Bid	Technical bid with parts and specifications and Compliance Sheet as per Annexure - I	.PDF
2.		Organization Declaration Sheet as per Annexure - II	.PDF
3.		List of organizations/ clients where the same products have been supplied (in last two years) along with their contact number(s). (Annexure-III)	.PDF
4.		Technical supporting documents in support of all claims made at Annexure-I (Annexure-IV)	.PDF
Envelope – 2			
Sl. No.	TYPES	Content	
1.	Financial Bid	Price bid should be submitted in PDF format.	.PDF

<Department/Centre Name>
Indian Institute of Technology Delhi
Hauz Khas, New Delhi-110016

Date: XX/XX/XXXX

Subject: Purchase of <Item> (Following format is used for imported items)

S. No.	Currency	Description and Specification of the Item	Qty. in Units	Unit Price (a)	Agency Commission (If applicable) (b)	Discount (c)	Ex-works price (d=a+b-c)	Packing + Handling + DOC + Inland Freight + FCA Charges (e)	FOB/FCA Airport Price (f=d+e)	Insurance + Freight (g)	CIF Price (f+g)
1											

Note: At any circumstances, it is the responsibility of the foreign supplier to hand over the material to our forwarder at the origin airport after completing all the inland clearing. No Ex-works consignment will be entertained.

For indigenous items please quote as per following format.

S. No.	Description and Specification of the Item	Qty. in Units	Unit Price in Rs.	GST%	Total Price in Rs.
1.					
2.					

Note: The above financial template should be strictly followed. Any deviation from the above template (in terms of description and specification of the item) may lead to cancellation of the tender.