

Tender for purchase of Instruments for Microwave Processing Lab & Solid Exile Fuel Cell

**Punjab Institute of Technology, Kapurthala**

**IK Gujral Punjab Technical University**

**Main Campus,**

**Kapurthala-Jalandhar Highway, Kapurthala (Punjab) Pin code-144603**



**PTU**

**I.K. GUJRAL PUNJAB TECHNICAL UNIVERSITY**

**Tender Document for the Purchase of Instruments for Microwave Processing  
Lab & Solid Exide Fuel Cell(SOFC)**

**Tender Notice No.....**

**(Two bid System)**

  
01/01/16



**Punjab Institute of Technology, IKG-PTU-Main Campus, Jalandhar-Kapurthala Highway, Kapurthala, Punjab Pincode-144603**

**Tender Document for the Purchase of Instruments for Microwave Processing Lab & Solid Oxide Fuel Cell(SOFC)**

**Tender Notice No.:** .....

**Last Date for Submission of Tender:**.....

**Date & Time of Opening:**.....

19<sup>th</sup> April 2016 by 02:00 PM.

19<sup>th</sup> April 2016 at 04:00 PM

Name and Address where tender to be submitted:

Director, Punjab Institute of Technology,  
IKG PTU-Main Campus, Kapurthala-Jalandhar Highway, Kapurthala, Punjab Pincode-144603

**Telephone:** 01822-2662572

**Mobile No.:** 09478098084

**Tender Purchase Details:**

The Tender document can be downloaded from the University website: [www.ptu.ac.in](http://www.ptu.ac.in)

While filing the tender it must be accompanied with a demand draft of Rs.1000/- in favor of Registrar, IKG PTU.

Demand Draft No. \_\_\_\_\_ Dated \_\_\_\_\_ Bank \_\_\_\_\_

**Earnest Money Details:**

**Item Qty EMD in rupees**

1. Impedance Analyzer/LCR Meter : Rs 30,000/-
2. Microhardness Tester: Rs.30,000/-
3. High Temperature Furnace: Rs.20,000/-

EMD must be deposited in the form of demand draft in favour of Registrar, IKG-PTU payable at Jalandhar.


Demand Draft No. \_\_\_\_\_ Dated \_\_\_\_\_ Bank \_\_\_\_\_

  
01/01/16



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**Section-I**

**Punjab Institute of Technology, IKG-PTU-Main Campus, Kapurthala-Jalandhar Highway, Near Pushpa Gujral Science City, Kapurthala, Punjab Pincode-144603**

**TENDER NOTICE No. ....(Two bid System)**

Punjab Institute of Technology, Kapurthala(PTU Campus) invites sealed tenders from reputed Manufacturers/ dealers/ contractors for the below mentioned instruments:

**Item Qty EMD in rupees**

1. Impedance Analyzer/LCR Meter : Rs 30,000/-
2. Microhardness Tester: Rs.30,000/-
3. High Temperature Furnace: Rs.20,000/-

**GENERAL TERMS & CONDITIONS:**

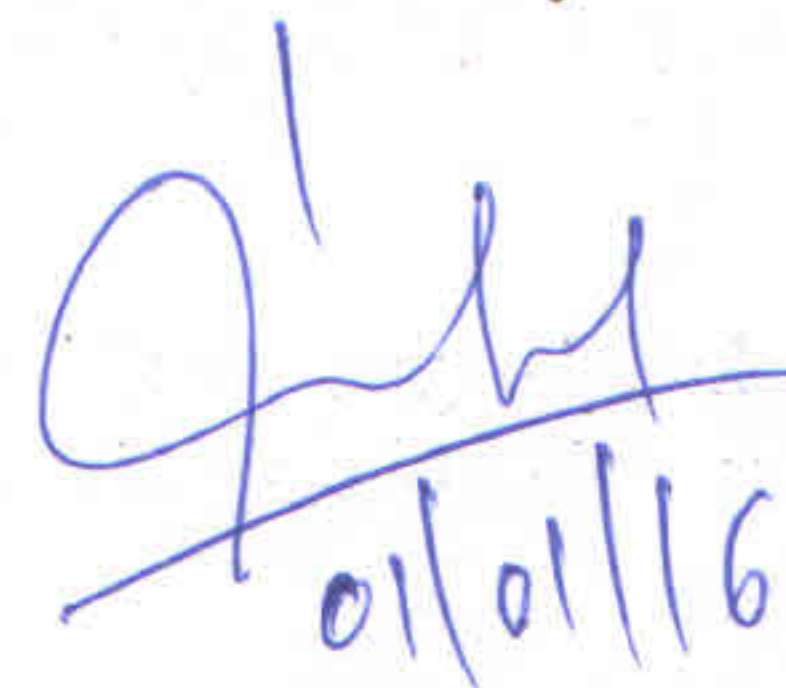
- i. The vendor/principal supplier/manufacture should have reputed background and be a registered corporate entity in India. In case of companies incorporated outside India, they should mention an authorized service entity that would provide post purchase services on behalf of its principal.
- ii. The party should have minimum annual turnover of Rs. 60 crores in last 3 years. Documentary evidence (include a copy of income tax return certificate) must be enclosed with tender.
- iii. Separate tender along with tender fee, EMD and necessary document should be submitted for each instrument.  
Top of the main envelope should clearly mention: Name of the instrument for which Quotation is being submitted. Last date of submission and Date of Opening of Tender.
- iv. Blank Tender Forms for the above item along with details can be downloaded from [www.ptu.ac.in](http://www.ptu.ac.in). A non-refundable application fee of Rs1000/- must be accompanied while filing the tender quotation.
- v. Last date of submission of tender along with requisite fee, EMD and all documents is 19<sup>th</sup> April 2016 till 02:00 p.m.
- vi. The DD for application fee, EMD or any other must be drawn in favour of Registrar, IKG PTU, payable at Jalandhar(Punjab)
- vii. The date & time of opening of technical bid will be 19<sup>th</sup> April 2016 04.00PM.





Tender for purchase of Instruments for Microwave Processing Lab & Solid Exile Fuel Cell

- viii. If the last date of submission is declared holiday in IKG- Punjab Technical University, Kapurthala the date of submission and technical bid opening will be next working days respectively.
- ix. Validity of tenders shall be 3 months from the last date of submission of the tenders.
- x. Place of delivery of the material is Punjab Institute of Technology, IKG PTU Main Campus, Kapurthala-Jalandhar Highway, Kapurthala, Punjab Pincode-144603 and secure delivery of the instruments will be the sole liability of the vendor only.
- xi. The Punjab Institute of Technology, Kapurthala (PTU Campus) reserves right to accept/reject any or all the tenders at any time without assigning any reason.
- xii. The tenders received late, without tender fee, without earnest money, without required documents or incomplete in any respect / Misleading will out rightly be rejected.
- xiii. Other terms & conditions specific for different instruments must be complied with tender form.
- xiv. Financial bid and Technical compliance sheet for each instrument should be strictly as per tender format.
- xv. If the supplier/firm is manufacturer/authorized dealer/sole distributor of any item, the certificate to this effect should be attached.
- xvi. Bidder selected for supply of equipment will have to provide Performance Bank Guarantee (PBG) on any scheduled bank situated in India, equivalent to 5 percent of the cost of the equipment which should be valid until the expiry of the Warranty period.
- xvii. Availability of Spares: The bidder must give certificate duly signed and stamped by manufacturer for the availability of spares and servicing of equipment for at least 10 years.
- xviii. Supplier should give an undertaking that spares parts will be supplied within the specified periods as and when ordered.
- xix. Certificate indicating country of manufacture should be attached.
- xx. Apart from all these terms and conditions, specific terms as specified with each equipment must also be complied.
- xxi. In case of any dispute the decision of Vice-Chancellor, IK Gujral Punjab Technical University will be final.
- xxii. The jurisdiction for any legal aspect will be Kapurthala Courts only.



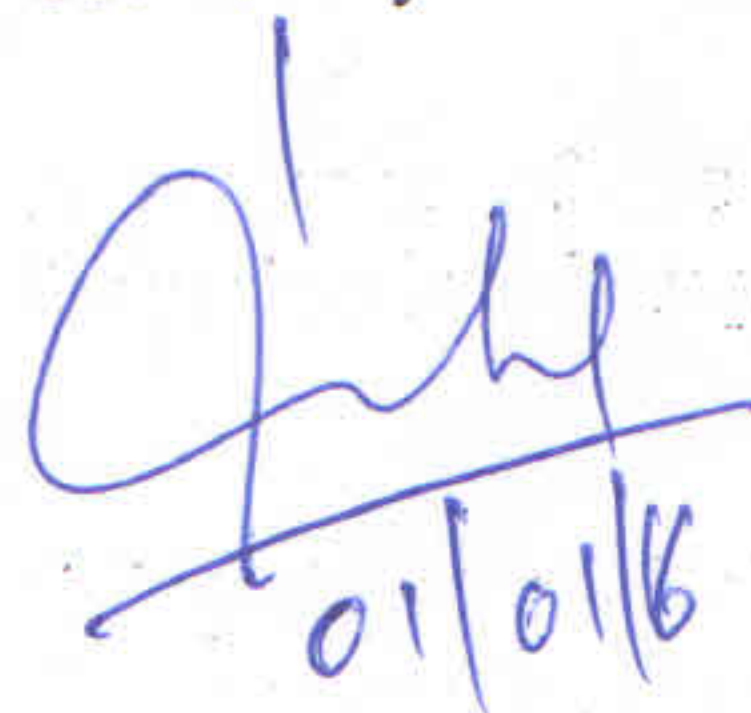


### PREPARATION OF TENDER:

- i. The tender no. and due date should invariably be superscribed on the envelop cover.
- ii. The proposals should be submitted in two parts, viz. Technical bid and Financial bid in two separate sealed envelopes (**with respective marking in bold letters**).
- iii. **The first envelope marked Technical bid** should include the technical specifications. The first envelope should not contain any cost information whatsoever.
- iv. The second envelope marked Financial bid should contain the detailed price offer in prescribed format.
- v. Both the sealed envelopes Technical bid and Financial bid should be placed in a bigger sealed cover. The top of cover must also contain Name and Address of the tenderer, telephone details and e-mail address for further correspondence.
- vi. The tender competing in technical evaluation will only be considered for financial evaluations. The price envelops of others will not be considered. At second stage, financial bids of only technically acceptable offers shall be opened for further evaluation and ranking before awarding the contract.
- vii. The financial proposal shall be opened in the presence of the tenderers or their representative who choose to attend. The prior information in this regard will be given to the qualified tenderers only.
- viii. The printed literature and catalogue/brochure giving full technical details should be included with the technical bid to verify the specifications quoted in the tender.

### DELIVERY OF TENDER

- i. All tenders should be addressed to Director, Punjab Institute of Technology, IKG PTU- Main Campus, Kapurthala-Jalandhar Highway, Kapurthala, Punjab Pincode-144603.
- ii. Tenders must be submitted alongwith all the required documentation through registered post/speed post. Tenders by hand will not be accepted.
- iii. Tenders which will be duly sealed will be considered.
- iv. No responsibility with regard to postal delays due to any reason whatsoever will be accepted.

  
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### **Evaluation of Bids Received**

The Institute has the right to evaluate, segregate, rank the responsive Bids and select the successful bidder for placement of the contract/order. Any decision regarding anything by Punjab Institute of Technology, IKG-Punjab Technical University Campus will be final.

### **PERFORMANCE SECURITY**

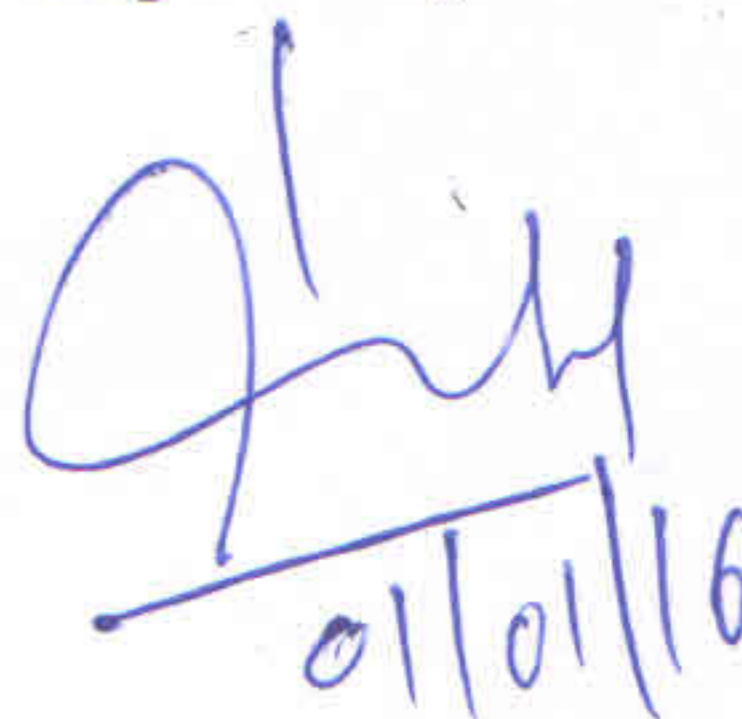
- i. To ensure due performance of the contract/order awarded, performance security equivalent to 5% of the total value of contract/order will be deposited by successful bidder.
- ii. Performance Security should remain valid for a period of sixty day beyond the date of completion of all order obligations of the supplier including warranty obligations.
- iii. Bid Security should be refunded to the successful bidder on receipt of performance security. The institute will pay no interest for the deposit.

### **DELIVERY, INSTALLATION AND WORK COMPLETION**

The delivery of the material will be made within stipulated time period as given in the supply/work award letter otherwise will attract penalty. In case of imported item, the supplier/their Indian Agent will be responsible for delivery of the material from the place of discharge of material to final point.

### **PRICE AND DELIVERY**

- i. The prices quoted must be net per unit, FOR Punjab Institute of Technology, Kapurthala IKG PTU Main Campus, Kapurthala-Jalandhar Highway, Kapurthala, Punjab. Pincode-144603.
- ii. All other charges including VAT/CST, Excise Duty, other levies and packing charges (if any) payable by Punjab Institute of Technology, Kapurthala (IKG PTU Campus) should be clearly indicated otherwise it will be presumed that the rates quoted are inclusive of all these charges and will not be paid.
- iii. The Excise Duty component (with percentage) should be indicated as the University is exempted from the payment of Custom/Excise Duty and exemption will be availed by providing Custom/Excise Duty Exemption Certificate with order.
- iv. Insurance to cover equipment up to the site of installation & successful acceptance of the equipment at Punjab Institute of Technology, Kapurthala (IKG PTU Campus) should be included in quotation.





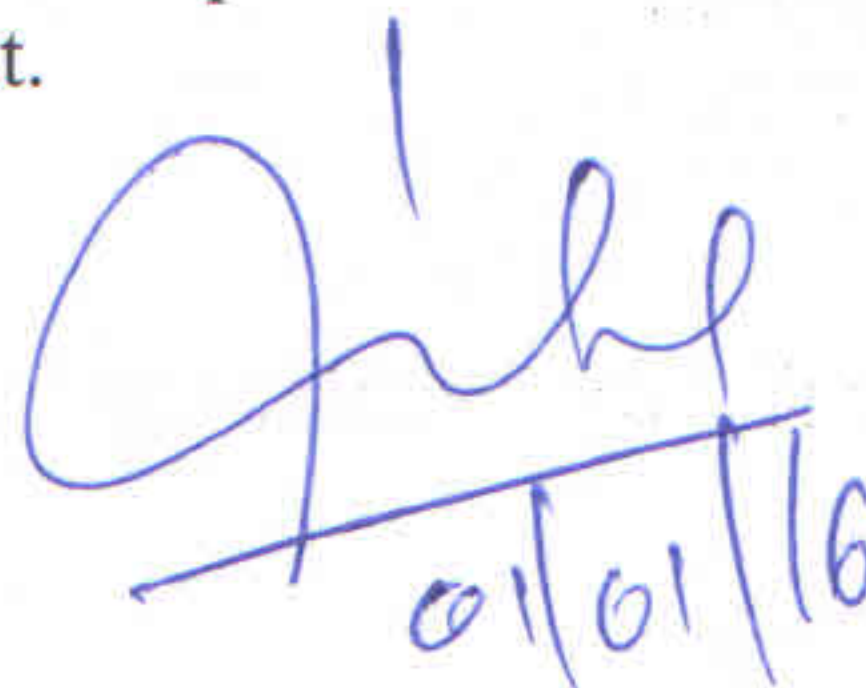
- Tender for purchase of Instruments for Microwave Processing Lab & Solid Exile Fuel Cell
- v. Special discounts/rebates, wherever applicable, keeping in view that the supplies are being made to an educational institution, may please be indicated.
  - vi. Wherever applicable, rates under duty exemption/high sea sales agreement should be quoted. The Quotes for this should be in US Dollars/ GBP/Japanese Yen/ Euro only. For the purposes of comparison, the exchange rate applicable on the day of Financial Bid opening will be taken.
  - vii. The Delivery Schedule, Payment Terms & Warranty/Guarantee etc must be clearly indicated. The charges for extended warranty and/or Annual Maintenance Contract after the expiry of offered warranty period may also be specified.
  - viii. The manufacturers' printed literature/catalogue/drawing/user's list in respect of range of product being quoted should also be submitted with the offer.
  - ix. In case the rates are being offered by the dealer/stockiest, a certificate from the manufacturer **in original** about the authorization of dealership/stockiest ship and to quote rates on their behalf be furnished with the offer along with a certificate from the manufacturer that for the material supplied through the authorized dealer/stockiest, they will be responsible for its quality and guarantee/warranty.
  - x. The supply of items approved specifications shall have to be made strictly as per given delivery schedule on placement of order failing which the material may be rejected and returned at the expenses of the supplier.
  - xi. To assist in the scrutiny, evaluation and comparison of offers, Punjab Institute of Technology may at its discretion can ask some or all vendors for clarification of their offer.
  - xii. The firms shall be required to arrange demonstration of the offered item if required by the University.

#### **PAYMENT:**

In case of imported equipment, the Performa Invoice of the manufacturer should be enclosed along with complete terms & conditions. The terms of payment in case of imported equipment will be Letter of Credit on F.O.B. basis as under:

L.C. will be opened for 100% amount and shall be bifurcated in the following manner:

- (i) L.C. for 90% of the cost of material, which shall be released by the bank on proof of dispatch of goods in good condition etc.
- (ii) The 10% amount against L.C. of the cost of material, shall be released by bank on satisfactory installation, commissioning of the equipment, deposition of performance warranty and/or security if any and all required documents on subsequent intimation by the office to the bank to this effect.





Tender for purchase of Instruments for Microwave Processing Lab & Solid Exile Fuel Cell

**Warranty**

Any defective goods or to replace or repair by the supplier without charges with similar goods free from defect. Any goods repaired or replaced by the supplier shall be delivered at the buyer's premises without costs to the buyer. A warranty certificate must be supplied with bid.

**Maintenance Contract**

The equipment or machinery is maintained free of charge by the supplier during warranty period or such other extended periods as the contract/order terms may provide and the paid maintenance should commence only thereafter. If the supplier fails to deliver the goods and / or perform the services within the contractual delivery period for reasons other than circumstances beyond supplier's control (which will be determined by the purchaser) and the purchaser extends the delivery period, the purchaser will also deduct from the contract price, as liquidated damages, a sum equivalent to 0.5% (half percent) of the delivered price of the delayed goods or unperformed services for each week of delay or part thereof until actual delivery or performance. The maximum limit of such deduction will, however, be 10% (ten percent) of the contract price of the delayed goods or services.

**No Commitment to Accept Lowest or Any Tender**

Punjab Institute of Technology, Kapurthala(IKG-PTU Campus) shall be under no obligation to accept the lowest or any other offer received in response to this tender notice and shall be entitled to reject any or all offers including those received late or incomplete offers without assigning any reason whatsoever. Punjab Institute of Technology, Kapurthala (PTU Campus) reserves the right to make any changes in the terms and conditions of purchase. Punjab Institute of Technology, Kapurthala (PTU Campus) will not be obliged to meet and have discussions with any vendor, and or to attend to any representations.

**SALE TAX REGISTRATION CERTIFICATE**

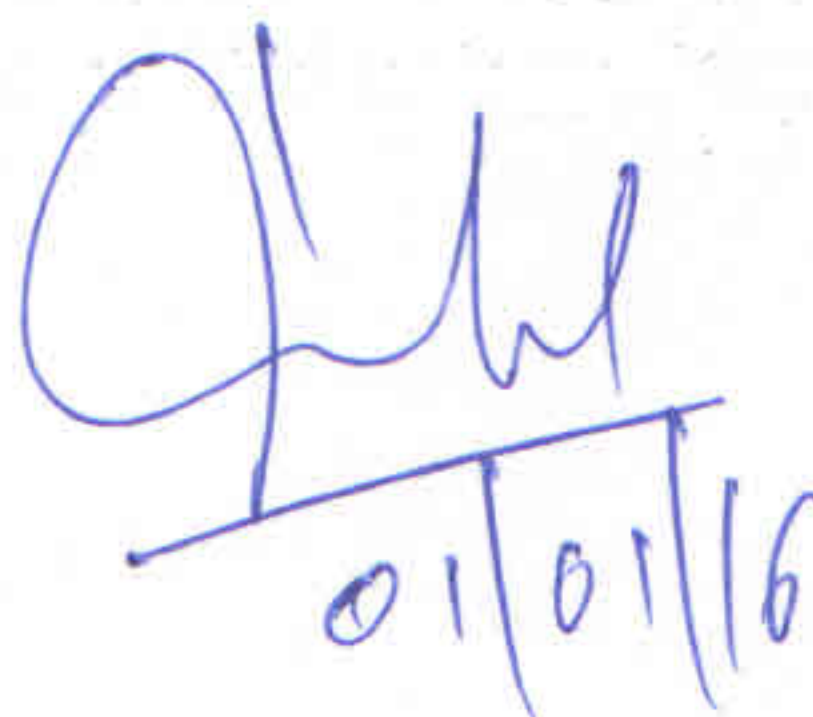
Every tender must be accompanied by Photo state copy, duly attested of the sales tax declaration to the effect that the firm is registered under the Sales Tax Deptt.

**INCOME TAX**

Photostat copy of the latest income tax clearance certificate and a copy of PAN No. may be provided.

**CUSTOM DUTY & EXCISE DUTY EXEMPTION**

Ours University is registered with the Department of Scientific & Industrial Research (DSIR) for purposes of availing customs duty exemption. The certificates will be made available.





**Annexure-I**

**APPLICATION FORM**

**(TO BE FILLED COMPLETELY & PLACED IN ENVELOPE-1)**

1. Name and full address of the head office of proposing firm:

- i. Name-
- ii. Address-
- iii. Tel. No.-
- iv. Fax -
- v. Email -
- vi. Web site (If any)-

2. Name and full address of local office of proposing firm nearest to Kapurthala:

- i. Name-
- ii. Address-
- iii. Tel. No.-
- iv. Fax -
- v. Email -
- vi. Web site (If any)

3. Name and full address of manufacturer:

- i. Name-
- ii. Address-
- iii. Tel. No.-
- iv. Fax -
- v. Email -
- vi. Web site (If any)

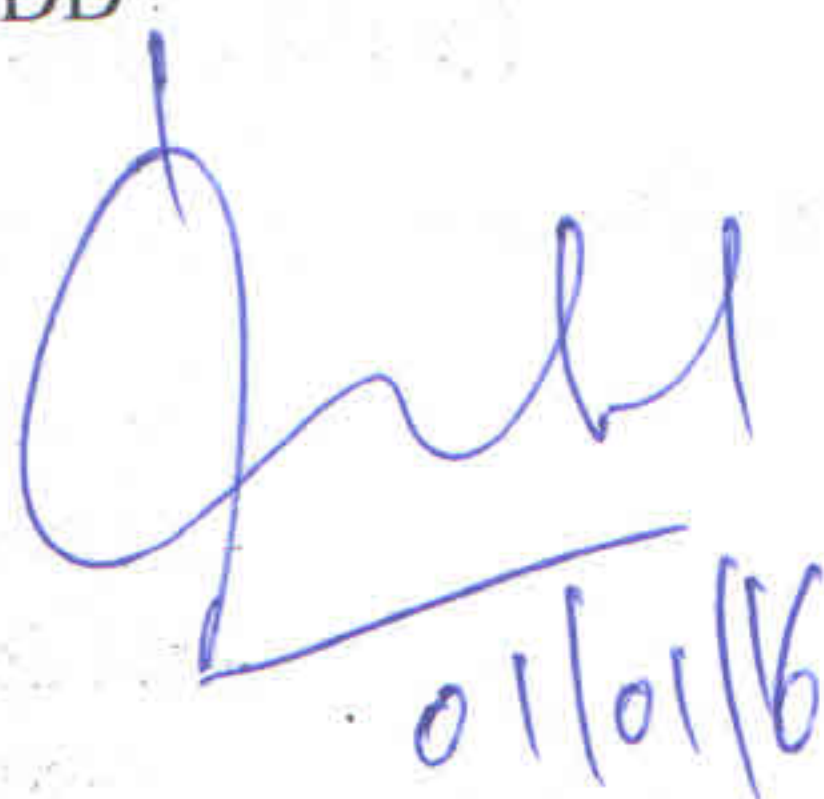
4. Bank account number:

5. PAN and TAN Number:

6. DD No. & name of the bank:

(a) Tender Fee DD

(b) EMD DD



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7. Manufacturing type (tick mark):

- i. Imported
- ii. Indigenous
- iii. Both

8. Any other relevant information: It is certified that I/we have carefully read and understood the entire general, special as well as specific terms and conditions of these documents and agree to abide by all of these. All the information and commitments provided with the quotations are truthful and binding on the firm.

**Place:**

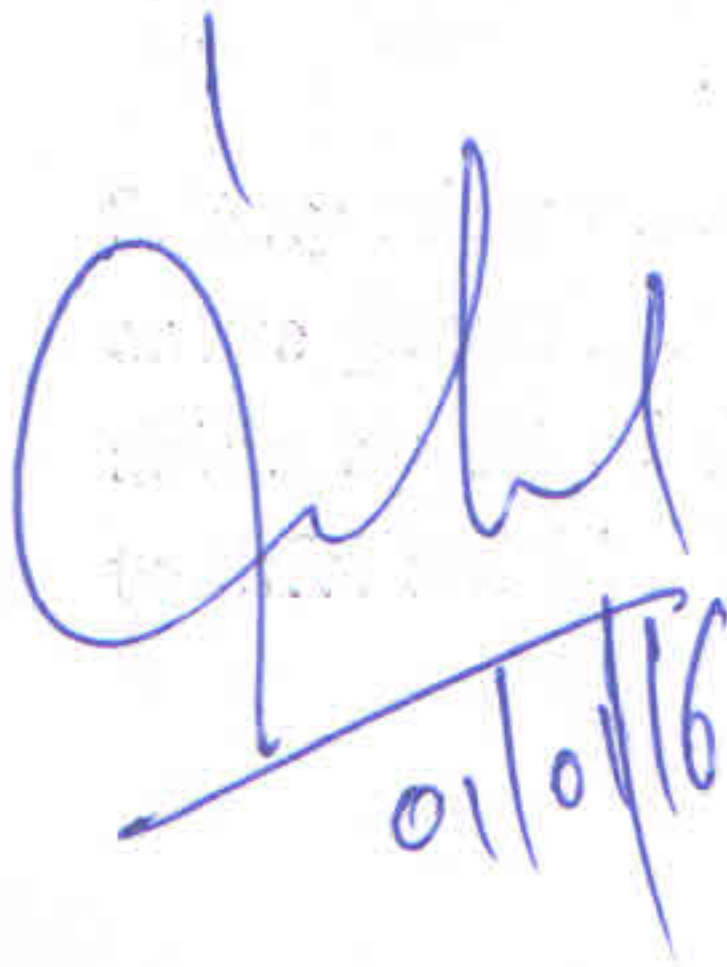
**Signature of Authorized Person**

**Date:**

**Designation:**

7. Manufacturing type (tick mark):

**Seal**



**Place:**

**Date:**

**Seal**



## ANNEXURE-II

Specifications for Impedance Analyzer/LCR Meter	
Parameter	Required Specification
Description / Measurement of Parameters	Impedance analyzer should measure high impedance up to 100 to 2GΩ with a broad frequency range. Voltage: 10 mV to 1V rms Built-in 40V DC Bias Max. Frequency: 5 MHz Min frequency: 20 Hz or better Basic Accuracy of measurement: $\pm 0.05\%$ The impedance analyzer should be able to connect with the computer through user friendly software and should be controlled with a computer for its operation and analysis. Instrument should have provision to operate easily through front  Z ,  Y , $\theta$ , R, X, G, B, L, C, D, Q or better
Fixture	Axial Radial component
Model Name	Clearly mention make, model and model number of the equipment being offered.
R, X, Z	100 mΩ to 2GΩ.
C	1fF to 1 F
L	100 pH to 1kH
Interface	GPIO interface with the computer through USB port
Connectors	Require 4 (four) BNC cable to BNC cable connection, 4-2 terminal fixture
Frequency Resolution	1 MHz
Sample holder	Should provide a sample holder for measurement of bulk sample at room temperature
Sweep Parameters	Frequency, Signal Voltage, DC bias
No. of Measurement Points	Upto 1600
Trimming Standards and Calibration	Provide trimming standards for calibration The Impedance Analyzer should be pre-calibrated
Software	The instrument should be installed with latest available version of software for control, operation and analysis. • The supplier should upgrade the software as and when the upgradations become available for at least five years from installation
Ranging	Auto /Manual
Power Supply	230 V, 50 Hz. ac.
Compatibility	Instrument should be compatible with high Temperature and Low temperature systems as per below specifications
Documentation	One sets of operating manual for the equipment and control system should be provided in hard copies. A soft copy of the above manuals should also be provided in a CD/DVD
Safety Norms	The instrument should be compliant with international norms for safety and environment.
Installation, Commissioning and Training	The Delivery of the impedance analyzer should be considered complete only after successful commissioning of the instrument. The pre-installation requirements should be communicated to IIT Kanpur well in advance of the installation.
After-sales service	The supplier should provide a prompt after-sales service such as regular





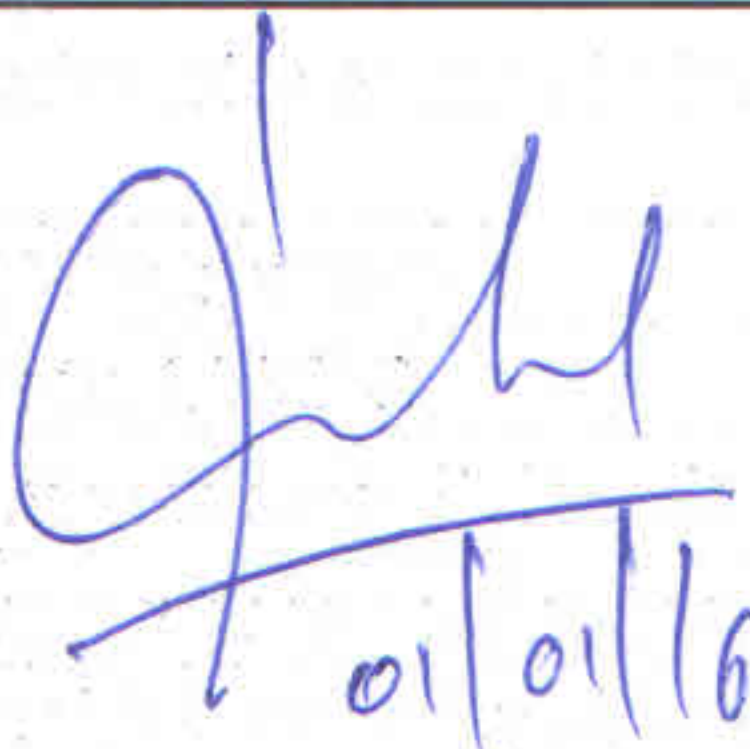
# Tender for purchase of Instruments for Microwave Processing Lab & Solid Exile Fuel Cell

	instrument maintenance, troubleshooting and fixing from factory trained engineers. The list of service centers in India should be included.
<b>High Temperature option Variable Temperature</b>	
Operating Temperature	Ambient to 1000°C
Sample Holder	High Temperature dielectric sample
Temperature Controller	PID Temperature controller
Data logging software	Parameter Vs Frequency , Parameter Vs Temperature
Interface	RS232
Interfacing Cables	Compatible Cables should be provided along with the setup which support the high frequency operation.

## **Precision Impedance Analyzer with high Temperature Facility**

### **Warranty and Maintenance:**

1. Must have warranty for two years (in base cost)
2. Include the extended warranty and AMC (annual maintenance cost) for the next three years as 'optional'

<hr/>	
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NAME	
COMPANY	
ADDRESS	
TELEPHONE	
MOBILE	
EMAIL	
INTERFACING CABLES	



**ANNEUXRE-III**

**Specifications of Micro Hardness Tester**

**Name of the item/Equipment:** Micro Hardness Tester

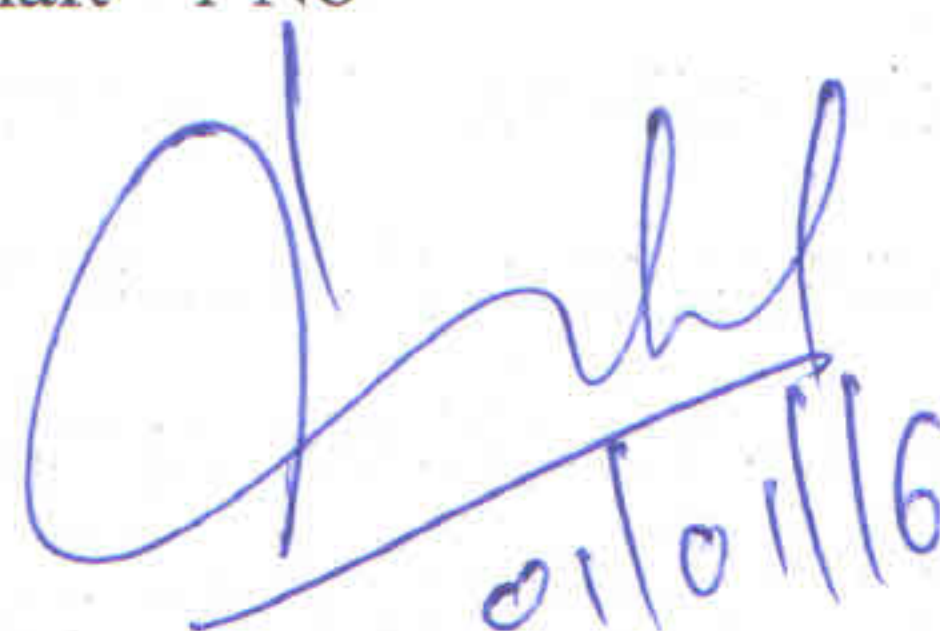
**Quantity:** 1 No.

**Technical Specifications:**

1. The instrument should measure both Knoop as well as Vickers hardness
2. The instrument may be fully/semi automatic/manual hardness instrument for loading, dwelling and unloading of the analyzing sample.
3. The instrument must be able to measure the hardness value in the range of 8-2900HV.
4. The test force of the indent on the sample must be out of the following:  
Load range 0.01-50 Kgf.
5. The measuring system should have the at least 400X magnification for measuring and at least 100X for observation with enhanced high resolution reading.
6. The instrument must have a minimum 0.03 $\mu$ m measuring unit.
7. Machine should be able to handle specimens of height 80mm or less.
8. The instrument should have dimensions close to 400x300x500mm as overall dimension.
9. The time duration of the measurement should be 0-60sec.
10. The instrument should work with standard power supply.
11. The instrument should have an LCD screen display with data output facility like printer and connector port.
12. HRA, HRB, HRC, HRD, HRF, HV, HK, HBW, HR15N, HR30N, HR45N, HR15T, HR30T, HR45T conversion scale must available.
13. The dimension of the testing table should be close to 100x100mm and maximum moving range of the X-Y testing table should be close to 25x25mm.

**Necessary accessories**

1. Weight shaft - 1 No





Tender for purchase of Instruments for Microwave Processing Lab & Solid Exile Fuel Cell

2. Weight - 1 No
3. Cross clamping testing table - 1 No
4. Flat clamping testing table - 1 No
5. Filament clamping testing table - 1 No
6. Thin specimen testing table - 1 No
7. Screw driver - 2 No's
8. Level adjustment screw components - 4 No's
9. Level bubble - 1 No
10. Objective 10x - 1No
11. Micro Vickers hardness block (high, low)- each 1
12. Knoop hardness block
13. Fuse(2A) - 2 No's
14. Power cable - 1No

#### **Terms and conditions**

1. The suppliers should encase brochure of the product offered.
2. The quote should also include the list of laboratories, preferably government institutions to whom similar units were supplied along with the date of supply and copy of the Purchase Order.
3. They should also enclose performance certificate, if any, from the clients already using the machines.
4. The supplier should demonstrate the proper operation of the equipment upon installation and provide proper training (atleast twice in first year of operation) for operation and maintenance of the equipment.
5. Service Centre / technical support must be available within India.
6. The vendor should be able to provide 2 years instrument warranty from the date of supply and specify the charges for extended warranty.

#### **Warranty and Maintenance:**

1. Must have warranty for two years ( in base cost)
2. Include the extended warranty and AMC (annual maintenance cost ) for the next three years as 'optional'



Handwritten signature and date: 01/01/16



## ANNEXURE-IV

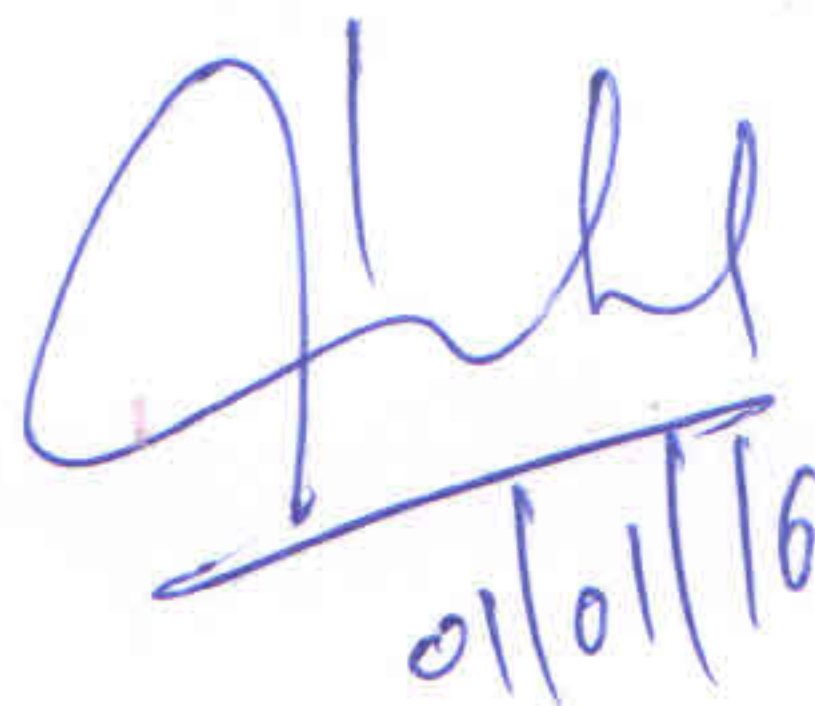
### Specifications of Atmosphere Control High Temperature Tubular Furnace

#### General Information:

Quantity :1

#### Technical information:

1. Atmosphere controlled high temperature tubular furnace
  2. Maximum temperature up to 1600°C
  3. PID controlled.
  4. Dimensions 550 mm heating zone
  5. Dia 100mm
  6. With accessories to control the atmosphere of hydrogen, argon, helium, nitrogen and oxygen.
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**ANNEXURE-V**

**Check list**

**Points to be verified**

**Yes/No**

- 1 Technical specification compliance sheet
- 2 Tender fee
- 3 EMD
- 4 Photocopy of PAN and TAN card
- 5 User list and certificates issued by clients
- 6 Copy of income tax return certificate
- 7 All other certificates as asked in tender document
- a)
- b)
- c)
- d)

**Place:**

**Signature of Authorized Person**

**Date:**

**Designation**

**Seal**

  
01/01/16





# **I.K. GUJRAL PUNJAB TECHNICAL UNIVERSITY**

**Jalandhar-Kapurthala Highway, Kapurthala.**

**Ph. : 01822-2662572**

## **TENDER NOTICE**

Punjab Institute of Technology, Kapurthala (IKG PTU Campus) invites sealed Tenders under two packet system from reputed manufacturers/dealers/ contractors for supply of following equipments :

<b>Equipments</b>	<b>EMD</b>
1. Impedance Analyzer/LCR meter	30,000/-
2. Micro hardness Tester	30,000/-
3. High Temperature Furnace	20,000/-

Tender documents containing complete information can be downloaded from website [www.ptu.ac.in](http://www.ptu.ac.in). The last date for submission of tenders is **19.04.2016**

Advt./2016/304

**Registrar.**