



# Institute of Physics

Sachivalaya Marg  
Po-Sainik School  
Bhubaneswar-751005

## Notice Inviting Tender Tender No.NIT/IOP/07/2013-14 (2 Parts Tender)

**Description of the Service:** supply, installation, testing and commissioning of the following items from the manufacturers and/or their authorised agents only

Sl. No	Name of the Item	Qty.	EMD in Rs.
1.	<b>HIGH VACUUM COATING UNIT</b>	01	Rs.50,000/-
2.	<b>HIGH TEMPERATURE EFFUSION CELL WITH MOUNTING FLANGE AND ACCESSORIES</b>	01	Rs.38,000/-

**Cost of Tender Paper** : Rs.500/- (Non refundable)

### Important Dates:

- (a) Sale of Tender : 30.10.2013 to 11.11.2013
- (b) Last date for submission of Tender : 18.11.2013 upto 1430hours
- (c) Opening of tender(Technical bid) in the presence of attending bidders at Library Conference hall : 18.11.2013 at 1500hours

For further details, please refer to the detailed NIT in IOP's website [www.iopb.res.in](http://www.iopb.res.in)

### NOTE:-

- 1) Parties may quote alongwith requisite amount of EMD indicated against above equipment. Party registered with SSI/DGS&D/DAE and foreign parties quoting directly are exempted from paying EMD only.
- 2) Bidder who submit the form downloaded from the web site must attach Demand Draft for Rs.500/- prepared in favour of the "Director, Institute of Physics" with their bid towards the cost of tender documents.

DIRECTOR

## **INSTITUTE OF PHYSICS NIT OPEN DOCUMENT (2 PART BID)**

Institute of Physics(IoP), Bhubaneswar, India is an Autonomous Institute under Dept of Atomic Energy, Government of India. IOP would like to procure the following equipment. The Technical Specifications, Schedule of Requirements and Allied Technical details are given in Part-1 of tender document.

- **Item:**
  1. **High vacuum coating unit**
  2. **High temperature effusion cell with mounting flange and accessories**
- **Tender Enquiry No:** NIT/IOP/07/2013-14
- **Due Date & Time:** 18.11.2013 upto 1430hours
- **Opening of Technical Bids:** 18.11.2013 at 1500hours.

Sealed tenders are invited for supply, installation, testing & commissioning of above items/equipment in the Institute of Physics, Bhubaneswar. The tender document consists of the following two parts.

Part-1: "TERMS & CONDITIONS" & "TECHNICAL BID" of the tender.

Part-2: "COMMERCIAL BID" of the tender.

The sealed envelope containing "Terms & Conditions", "Technical Bid" and "Commercial Bid" on prescribed tender document should reach the Director, Institute of Physics, Bhubaneswar on or before **18.11.2013 upto 1430hours** otherwise the tender will not be accepted.

The sealed envelope of the bidders containing Part-1 "Terms & Conditions" and "Technical bid" shall be opened on **18.11.2013 at 1500hours**. One authorized representative of each vendor may participate at the time of opening the bids. The Part -2 "Commercial Bid" of only those parties who qualify in Part -1 will be opened on a later date. The date of opening of Part-2 of the tender will be informed to each qualified party separately.

**DIRECTOR**

**The Institute can provide following documents.**

1. **Custom Duty / Excise duty exemption certificate.**
2. **Road permit for entering in Orissa.**

**The Institute can not provide following documents.**

1. **Form D for Central Sales tax/IIID for UP Trade Tax.**

**COST OF TENDER PAPER IS Rs.500/- (NON REFUNDABLE).**

**This is payable in cash or Demand Draft of a Scheduled Bank drawn in favour of the Director, Institute of Physics, Bhubaneswar.**

## PART - 1

1. Director, Institute of Physics, Bhubaneswar invites sealed tenders for Laboratory equipments from ISO certified manufacturers and their authorised agent having following credentials.

A. Should have satisfactorily completed **similar supply** (at least one of them in Central Government/Central Autonomous Body/Central PSU)

B. **Similar or Similar Nature of work means** Supply, Installation, testing and commissioning of Laboratory

Equipments for any of the following:

a) **Government/Autonomous Institutions**

b) **Government Research Centres**

c) **Universities**

d) **Autonomous/Reputed Private Research Centres**

C) Purchase Orders / Completion certificates if any, for supporting above requirements.

2. The Bidders are requested to give detailed tender or its own form in two Bids i.e.

Part - I Technical Bid.

Part - II Commercial Bid.

3. **Supply means:**

“Supply, Installation, Testing & Commissioning and satisfactory demonstration of the whole equipments”. If any charges extra are payable for Installation and Commissioning, the same should be specified in the commercial offer.

4. **Submission of Bids:**

(a) Place: Office of Director, Institute of Physics, Bhubaneswar

(b) Time and Date of Submission: **18.11.2013 upto 1430hours**

(c) Time and Date of opening Technical Bid: **18.11.2013 at 1500hours**

IOP will not be responsible, for submission / delivery of quotation at wrong places other than the Director, Institute of Physics, Bhubaneswar. IOP will also not be responsible for any postal delay.

5. **Two Bid System: (For each equipment separately)**

The two bid system should be followed for this tender. In this system the bidder must submit his offer in two separate sealed envelopes. Both the technical bid and commercial bid envelopes should be securely sealed and stamped separately and clearly marked as “Envelope No.1 – Technical Bid” and “Envelope No.2 – Commercial Bid” respectively. Both the sealed envelopes should be placed in a third larger envelope. The main envelope which will contain both the bids should be super scribed with our tender enquiry No. **NIT/IOP/07/2013-14** due on **18.11.2013** and to be submitted to the address given below so as to reach on or before **18.11.2013 upto 1430hours**.

Director  
Institute of Physics  
Sachivalaya Marg  
Bhubaneswar – 751005.  
India.

**The envelopes must be super-scribed with the following information:**

- Tender Reference Number
- Name of the Equipment
- Due Date
- Name of the Vendor
- Envelope No. 1: Shall contain “Acceptance of Terms & Conditions”, “Technical Bid” and Earnest Money Deposit (EMD)  
The technical offer should not contain any price information.
- Envelop No.2: Shall contain COMMERCIAL ID only.

The Technical Bid must be submitted in an organized and structured manner. No brochures/leaflets etc. should be submitted in loose form. Please indicate page nos. on your quotation eg. If the quotation is containing 25 Pages, please indicate as 1/25, 2/25, 3/25 -----  
25/25.

**Printed conditions of the vendor submitted with the tender will not be binding on Director, Institute of Physics, Bhubaneswar.**

**Important Instruction**

The parties are requested to make separate bid (technical & financial both) for each quoted equipment along with the requisite amount of EMD.

**The Technical Offer should comprise of the following:**

- a) Tenders, which are submitted without following the Two-Bid Offer System, will summarily be rejected.
- b) The technical offer should be complete to indicate that all products and services asked for are quoted. Each page of the bid and cutting/corrections shall be duly signed and stamped by the bidder. Unsigned Tenders will also be rejected. Failure to comply with this requirement may result in the bid being rejected.
- c) The purpose of certain specific conditions is to get or procure best product/service etc. for IOP. The opinion of Technical Committee shall be the guiding factor for technical short listing.
- d) The earnest money deposit as indicated against each items should be enclosed along with the terms & conditions & technical bid duly signed and stamped in the form of Account Payee Bank Draft payable on any branch of Nationalised/Schedule Bank at Bhubaneswar in favour of Director, Institute of Physics, Bhubaneswar, in a separate sealed envelope. All tenders submitted without requisite amount of earnest money shall be rejected and their technical and financial bids shall not be opened. No interest is payable on EMD.

The EMD will be returned to the bidders(s)/Agents whose offer is not accepted by IOP within one month from the date of the placing of the final order(s) on the selected bidder(s). In case of the bidder(s) whose offer is accepted the EMD will be returned on submission of Security Deposit (SD). However, if the return of EMD is delayed for any reason, no interest / penalty shall be payable to the bidders.

**The EMD shall be forfeited:** If the bidder withdraws the bid during the period of bid validity specified in the tender. In case a successful bidder fails to furnish the Security Deposit

- e) Undertaking that the successful bidder agrees to give a performance Bank Guaranty of 10% of the purchase order value in favour of “Director, Institute of Physics, Bhubaneswar” valid till warranty period.

**Performance Bank Guarantee:**

Within ten (10) days of the award of contract, the vendor shall furnish a Performance Bank Guarantee amounting to 10% of the purchase order value in the form of Bank Guarantee favouring the Director, Institute of Physics, Bhubaneswar valid till warranty period.

f) Duly filled in Technical Bid with proper seal and signature of authorized person on each page of the bid should be submitted and the same should accompany with complete specifications and drawings, Manufacturer’s name, address and relevant Technical Literature/Brochures with warranty Terms and EMD.

g) If the bid is for branded makes, authorization letter from principals clearly indicating that the vendor is the competent authority to sell and provide services towards the items mentioned in the scope of supply given in this tender document.

h) Copy of LST/CST/WCT No. PAN No. and TIN No. allotted by the concerned authorities. If registered with the National Small Industries Corporation, the registration number, purpose of registration and the validity period of registration and a copy of DGS&D registration wherever it is applicable should also be provided in Technical Bid.

i) List of deliverables / Bill of materials and services.

j) Compliance sheet with any deviation with reference to the terms and specifications.

k) Indicate the names of the Indian reputed Organizations where you have supplied similar items /equipments and may attach the satisfactory performance report of the equipments from user Organization.

l) The item should be supplied with manuals and the manuals including technical drawings should be complete in all respects to operate the system without any problem.

m) Bid documents should be submitted as per the above sequence with Index page and page numbers (including technical literature). Each page of the bid should be signed & stamped in original. Unsigned bids will not be considered for evaluation.

**• Envelope 2: “Commercial Bid” shall contain:**

- a) Price schedule complete in all respects with proper seal and signature of authorized person. Tender with any condition including conditional rebate shall be rejected forthwith.
- b) Cost of all the items should be mentioned clearly and individually in the Commercial Offer (Part-II) only.
- c) **The Bidders are requested to quote for Educational Institutional Price for Machine/ Equipment and, since we are eligible for the same.**

**6. Date of opening the Technical Bids.**

Technical Bids will be opened on - **18.11.2013 at 1500hours** at office of the Director, Institute of Physics, Bhubaneswar

The Technical bids will be opened in the presence of the bidders on the specified time and date. Bidders/Agents who have responded to the tender only will be allowed to be present.

The technical bids will be evaluated to shortlist the eligible bidders. The commercial bids of only the short listed bidders shall be considered for further processing. Bidders whose technical

offer is found acceptable and meeting the eligibility requirements as specified in this tender will be informed about the date and time of the opening of the commercial bid.

- Note:** (1) Please do not insert ‘Commercial Bid’ (prices quoted) in the technical bid envelope. If the price quoted is submitted with technical bid the tender will be rejected.  
(2) No camera mobiles / mobiles are allowed during tender opening.

## **7. Opening of Commercial Bids**

IOP will open commercial bids of only the short listed bidders, in the presence of the bidders or their authorized representatives who choose to attend the commercial bid opening. The Date and Time of opening the Commercial Bid will be intimated only to pre-qualified and technically acceptable Bidders for the item at a later date.

The representatives of short listed firms only will be allowed for commercial bid opening.

ONLY TECHNICALLY accepted competitive bids will be considered for placing Purchase Order. The commercial offers of the vendors whose technical offers are found to be technically deficient or do not meet the qualification criteria as specified in this tender will be returned to them without opening.

The bid can be submitted in person or through post/courier (IOP will not be responsible for delayed / late quotations submitted / sent by Post / Courier etc. resulting in disqualification/ rejection of any bid) so as to reach IOP on or before the due date and time. Fax / E-mail / Telegraphic / Telex tenders will not be considered unless it is asked for. The bidders ‘authorized representative can attend the bid opening.

**8. The Director, Institute of Physics, Bhubaneswar reserves the right to accept the offer in full or in parts or reject summarily or partly.**

## **9. Delivery Period / Timeliness**

The deliveries, installation must be completed within 90 days, after placement of purchase order. The time is the essence of the contract. It is mandatory for the bidders who respond to this bid to meet these expectations, as they are tightly linked to IOP’s plans of completing the project within the time frame.

## **10. Locations for the Supply / Services**

The Laboratory Equipments covered by this document is required to be supplied and installed at Institute of Physics, Bhubaneswar.

## **11. Order Placement and Release of Payment**

The Purchase Order and payment shall be processed by –  
Director  
Institute of Physics,  
**Bhubaneswar-751005, India.**

Payment for the items to be supplied by the vendor against the purchase order shall be made by Institute of Physics as follows:-

80% payment will be made after 100% delivery of the material on submission of original invoice and original delivery challans duly signed and stamped by the authorised representative of IOP along with performance Bank Guarantee.

Balance 20% payment will be released on submission of installation and warranty certificate duly signed and stamped by the authorized representative of the user department.

In case of imports 100% payment will be made through Letter of Credit. 80% will be paid after

submission of original shipping documents & balance 20% will be released after satisfactory installation and commissioning along with submission of performance Bank Guarantee.

**Agency Commission: Agency Commission to be paid to India Agent should be specified separately and same will be paid in INR.**

**The tenderers who are not agreeing to above payment terms are requested not to submit their tender otherwise their EMD will be forfeited.**

**12. IOP** will not provide any accommodation/transportation for the engineers/ representatives for attending installation, commissioning and demonstration work. It is the absolute responsibility of the Principal Supplier/Indian Agent to make their own arrangements.

**13. The successful bidder**, on award of contract / order, must send the contract / order acceptance in writing, within 7 days of award of contract / order failing which the EMD will be forfeited.

#### **14 Period of validity of bids**

Bids shall be valid for a period of 90 days from the date of opening the Technical bid.

IOP may ask for the bidder's consent to extend the period of validity. Such request and the response shall be made in writing only. The bidder is free not to accept such request without forfeiting the EMD. A bidder agreeing to the request for extension will not be permitted to modify his bid.

Bid evaluation will be based on the bid prices without taking into consideration the above corrections.

#### **15. AWARD OF CONTRACT**

IOP shall award the contract to the eligible bidder whose bid has been determined as the lowest evaluated commercial bid. If more than one bidder happens to quote the same lowest price, IOP reserves the right to award the contract to more than one bidder or any bidder.

**Purchaser's Right to vary Quantities at the time of Award:** IOP reserves the right at the time of award of Contract to increase or decrease the quantity of items specified in the Schedule of Requirements without any change in price or other terms and conditions.

#### **16. Corrupt or Fraudulent Practices**

IOP requires that the bidders who wish to bid for this project have highest standards of ethics. IOP will reject a bid if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices while competing for this contract. IOP may declare a vendor ineligible, either indefinitely or for a stated duration, to be awarded a contract if it at any time determines that the vendor has engaged in corrupt and fraudulent practices during the execution of contract.

#### **17. Interpretation of the clauses in the Tender Document / Contract Document**

In case of any ambiguity / dispute in the interpretation of any of the clauses in this Tender Document, Director, IOP's interpretation of the clauses shall be final and binding on all parties.

#### **18. Price**

The price quoted shall be considered firm and no price escalation will be permitted at any time. The quotation should be in Indian Rupees or any known foreign currency. Packing, forwarding, freight, insurance, **Agency commission** and commissioning charges, if any extra may be quoted separately in Commercial Bid.

In case of INR bids the price criteria should be on F.O.R., IOP, Bhubaneswar. Govt. Levies like central excise duty, sales tax, octroi, WCT etc., if any, shall be paid at actual rates applicable on the date of delivery. Rates should be quoted accordingly giving the basic price, Central Excise

Duty, VAT/ Central Sales Tax etc., if any. Please note that IOP is exempted from payment of Excise duty vide Govt. Notification No.10/97-Central Excise dated 1st March, 1997.

Please provide TIN no. of the firm along with the CST/WCT No. allotted by the concerned authorities in your quotation.

In case of Foreign Currency bid : - Price criteria should be CIP Kolkata airport detail break up of Price, FCA cost, **Agency Commission**, Insurance, Freight up to Kolkata Airport is required.

**Indian Agents-Offices of foreign supplier who are quoting on behalf of their suppliers has to arrange the clearance of Goods from the Kolkata Airport after paying duty (Exempted duty) and other taxes, which will be reimbursed after submission of original receipt of Bill of Entry, Exchange Control Copy, TR6 Challan & Entry Tax.**

#### **19. Pre-installation:**

Pre-installation facilities required for installation may please be intimated in the technical bid. Subsequently, before the consignment lands in IOP, Bhubaneswar the bidder shall confirm

that the pre-installation requirements are sufficient for installation of the equipments. In other words the bidder should continuously monitor the pre-installation requirements and see that everything is ready before the consignment is taken to the site for installation.

#### **20. Installation**

Bidder shall be responsible for installation / demonstration wherever applicable and for after sales service during the warranty and thereafter.

#### **21. Warranty / Support**

**The items covered by the schedule of requirement shall carry minimum three years of comprehensive warranty from the date of acceptance of the equipments by IOP.** Warranty shall include free maintenance of the whole equipment supplied including free replacement of parts. The defects, if any, shall be attended to on immediate basis but in no case any defect should prolong for more than 24 hours. The comprehensive warranty includes onsite warranty with parts.

The defects, if any, during the guarantee/warranty period are to be rectified free of charge by arranging free replacement wherever necessary. This includes cost, insurance, freight, custom duty, octroi, local taxes if any should be borne by the beneficiary or his agent. A clear confirmation should be given for this item.

The bidder shall assure the supply of spare parts after warranty is over for maintenance of the equipment supplied if and when required for a period of 10 years from the date of supply of equipment on payment on approved price list basis.

The equipment must be supported by a Service Centre manned by the principal vendor's technical support engineers. The support through this Centre must be available 24 hours in a day, seven days a week and 365 days a year. Also it should be possible to contract the Principal's vendor support Centre on a toll free number/web/mail.

The vendor will have to arrange for all the testing equipment & tools required for installation, testing & maintenance etc.

The vendor will have to arrange for all the testing equipment & tools required for installation, testing & maintenance etc.



**22. Indemnity**

The vendor shall indemnify, protect and save IOP against all claims, losses, costs, damages, expenses, action suits and other proceeding, resulting from infringement of any law pertaining to patent, trademarks, copyrights etc. or such other statutory infringements in respect of all the equipment's supplied by him.

The successful will be fully responsible for payment of wages and other dues as prescribed and compliance of various Labour Laws.

The successful tender should give an undertaking that the staff deployed at the centre in terms of this contract at all time will be employees of the agency exclusively and they shall not be entitled to any claim of employment or permanency of job with IOP.

IOP reserves the right to forfeit whole or part of the security money towards any damage/lose caused due to the negligence on the part of the agency engaged.

**23. Insurance**

The equipment's to be supplied will be insured by the vendor against all risks of loss or damage from the date of shipment till such time it is delivered at IOP site in case of Rupee/Foreign currency transaction.

**24. Penalty for delayed Services / LD**

As time is the essence of the contract, Delivery period mentioned in the Purchase Order should be strictly adhered to. Otherwise EMD/SD of the bidder will forfeited and also LD clause will be applicable /enforced.

If the supplier fails to Supply, Install and Commission the equipment as per specifications mentioned in the order within the due date, the Supplier is liable to pay liquidated damages of 1% of order value per every week of delay subject to a maximum of 10% beyond the due date. Such money will be deducted from any amount due or which may become due to the supplier.

IOP reserves the right to cancel the order in case the delay is more than 60 days Penalties, if any, will be deducted from the Security Deposit.

**25.** If a dispute arises out of or in connection with the contract, or in respect of any defined legal relationship associated therewith or derived there from, the parties agree to submit that dispute to arbitration under the ICADR Arbitration Rules, 1996. The authority to appoint the arbitrator(S) shall be the International Centre for alternative dispute resolution. The International Centre for Alternative Dispute Resolution will provide administrative services in accordance with the ICADR arbitration Rules, 1996.

**26. Jurisdiction**

The disputes, legal matters, court matters, if any, shall be subject to Bhubaneswar Jurisdiction only.

Director  
Institute of Physics,  
Bhubaneswar

### **DECLARATION BY THE VENDOR**

It is hereby declared that I/We the undersigned, have read and examined all the terms and conditions etc. of the tender document for which I/We have signed and submitted the tender under proper lawful Power of Attorney. It is also certified that all the terms and conditions of the tender document are fully acceptable to me/us and I/We will abide by the conditions from serial no. 1 to 26. This is also certified that I/We/our principal manufacturing firm have no objection in signing the purchase contract if the opportunity for the supply of the items against this tender is given to me/us.

Date:

Signature:

Address:

Name:

1.	Name of the Company	
2.	Full address of company alongwith  Telephone no. Fax no. E-mail address :	
3.	Local address of company for communication, if any	
4.	Are you a manufacturer or dealer/reseller	
5.(a)	Annual turnover in last 3 financial years in Rs. Crores.  (i) year 2009-2010 (ii) year 2010-2011 (iii) year 2011-2012	
5.(b)	<b>Supply &amp; Installation of</b> <b>1. HIGH VACUUM COATING UNIT</b>  <b>2. HIGH TEMPERATURE</b> <b>EFFUSION CELL WITH</b> <b>MOUNTING FLANGE AND</b> <b>ACCESSORIES</b> <b>last 3 financial years in State</b> <b>Government or Govt. of India</b> <b>Department(s) /Reputed</b> <b>Organisation(s) (in Nos. and</b> <b>Value)</b> <b>(Please attach list of clients)</b> <b>(i) year 2009-2010</b> <b>(ii) year 2010-2011</b> <b>(iii) Year 2011-2012</b>	
5.(c)	Trade Tax / Sales Tax Registration no. with Place	
5.(d)	Income Tax Registration no. with place	

## TECHNICAL SPECIFICATIONS

S. No.	Item Specification	Qty.	Offered specification with Make & Model No. please specify any deviation if any. Please attach separate sheet if required
01	<p><b><u>High Vacuum Coating Unit</u></b></p> <p>Compact High Vacuum Coating Unit having following specification</p> <p><b>1. VACUUM CHAMBER</b></p> <ul style="list-style-type: none"> <li>• Compact stainless Steel Vacuum chamber, having front sample loading facility. The front door to be provided with two 100 mm view port with glass.</li> <li>• High vacuum chamber, vacuum better than <math>2 \times 10^{-6}</math> mbar.</li> <li>• Diffusion Pump based pumping system with appropriate pumping speed with suitable oil free (dry) rotary pump, this constitutes basic unit and LN2 trap.</li> </ul> <p><i>(Optional: Upgrade to Turbo Molecular Pump based Pumping system with appropriate pumping speed with suitable oil free (dry) rotary pump should be possible and TMP based system needed to be quoted as optional pricing; There should be a provision to exchange DP to TMP easily, the flanges need to be compatible. Quotation for this need to be given as an optional item and this must include in the quote.)</i></p> <ul style="list-style-type: none"> <li>• Vacuum chamber should accommodate minimum 3 Nos. of (low tension) LT sources.</li> <li>• Automatic vacuum control system. Vacuum measurement is by Penning gauge head and Pirani gauge heads.</li> <li>• Chamber inner surface should be treated appropriately for low out gassing rate.</li> <li>• All sub assemblies and final unit should be leak tested using helium</li> </ul>	01 unit	

mass spectrometer leak detector to an individual leak rate better than  $5 \times 10^{-9}$  mbar ltrs /sec

**2. SUBSTRATE HOLDER WITH ROTATION:**

- Adjustable substrate holder having a separation of 10-30 cm from the source.
- Substrate shutter and source shutter (adjustable height) to be operated from outside of the chamber.
- Substrate holder size of minimum 50 mm dia. is to be provided.
- DC motor with drive mechanism is to be provided to achieve substrate rotation with variable speed of 1 – 5 rpm.

**3. SUBSTRATE HEATER:**

- Suitable substrate heater for heating the substrates to a maximum temperature of 800° C during deposition.
- Temperature measurement and control to be by means of digital PID controller of reputed make.
- Feed through for direct heating (Passing current through the sample) of substrate

**4. L.T SOURCE & POWER SUPPLY:**

- Three evaporation sources with digital display and independent controls with appropriate power supply for the resistive heaters. (These sources are used to deposit materials like Au, Ag, Ge, Si, Cr, Co etc. Two of the LT sources would be used for low melting materials (upto 1200 deg C) and another one is meant for high melting point materials/powders). The capability of each source need to be mentioned specifically.
- Co-evaporation for at least two sources.
- One HT electrical feed through to carry power for Glow

	<p>Discharge/Ion cleaning with power supply.</p> <ul style="list-style-type: none"> <li>• Thermal evaporation source (boat/basket) # 25 nos. extra each</li> </ul> <p><b>5. GAS DISTRIBUTION SYSTEM:</b></p> <ul style="list-style-type: none"> <li>• A manually operated fine control needle valve is to be provided for gas injection near the substrate holder. Provision to put the gas near the substrate through internal tubing inside the chamber.</li> </ul> <p><b>6. Spares</b></p> <p>Spares (2 sets of O-rings all types, vacuum grease, spare for rotary pump , spare for TMP and extra S.S bellows and flanges, other spares for running equipment for three years)</p> <p><b>7. Film thickness measurement and control</b> Advanced quartz crystal film thickness monitor with the following features:- Two crystal inputs standard (up to six optional) Selectable resolution of 0.01 or 0.001nm/sec (0.1 or 0.01 Å/Sec) .</p> <p><b>8. Chiller Unit</b></p> <p><b>Reputed</b> make water chiller unit of suitable capacity with circulation pump, valves, piping etc. is to be provided to circulate the chilled water for coating unit.</p> <p><b>9. Compressor unit</b></p> <p>To be supplied if needed for running of the unit.</p>		
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02	<p><b>HIGH TEMPERATURE EFFUSION CELL WITH MOUNTING FLANGE AND ACCESSORIES</b></p> <p>High temperature Effusion cell with mounting flange DN40CF  Free standing W- heating filament ,  Integrated water colling shord –water cooling connections . Maximum temperature 1900 ° C.,  Type C WRe 5%/26% thermocouple,  Electrical data:350W/14A,  Dimention under UHV : O.D.-36mm, length-283.5mm</p> <p><b>It should compatible with main growth chamber (MBE system) supplied by M/s Omicron Nanotechnology, Germany. The details of the main growth chamber can be obtained from Dr. P. V. Satyam, Associate Professor, IOP (0674-2306413)</b></p> <p>Integrated manual rotary shutter  O.D.&lt;40mm  Shutter rod Molybdenum shutter plate Ta</p> <p>Soft acting Rotary Shutter Module with control unit. Opening angle 90 deg, standard CCW rotation shutter speed 0.2s per action.  Input voltage-230v.</p> <p>AL<sub>2</sub>O<sub>3</sub> crucible of 1.5cc  BeO crucible of 1.5cc  Pyrolytic graphite crucible 1.5cc  Cable set for Effusion cell up to 25A 6mt TC type. Bakeable up to 300C, Appropriate power cable (min 6 m).</p> <p><b>Optional:</b> DC power supply 800W and PID controller DC power supply, necessary tools for operating high temperature cell.</p>	<p>01 unit (integrated)</p> <p>(2 nos) (2 nos) (2 nos)</p>	
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**Note: - Parties must mention make & model no. of the Equipment, with detail specification (on separate sheet). Otherwise their tender will not be accepted.**

**PART-2  
COMMERCIAL BID**

Sl. No.	Systems	Approx. Qty.	Unit Price FOB in Foreign currency	Unit Price including all taxes, freight and Insurance (delivered at IOP, Bhubaneswar service charges, installation and warranty charges in INR
(1)	(2)	(3)	(4)	(5)
01	<b>1.HIGH VACUUM COATING UNIT</b>  <b>2.HIGH TEMPERATURE EFFUSION CELL WITH MOUNTING FLANGE AND ACCESSORIES</b> As per specification mentioned in the technical bid	01Unit  01 unit		
02	<b>Above item should carry three years onsite comprehensive warranty. In case the tendered provide warranty less than 3 years then he has to give justification for lesser period of warranty. without justification his tender is liable to be rejected.</b>			
3.	Agency Commission to be paid to Indian Agent (will be paid in INR only after successful installation)	_____ . _____ % of basic price		
4	FCA Charges Included/Excluded in the quoted price	Amount		
5	CIP Kolkata Charges Included/Excluded in the quoted price	Amount		
6	Excise Duty Included/Excluded in the quoted price	_____ . _____ % of basic price ( <b>Excise duty exemption certificate will be issued</b> )		
7	Custom Duty Included/Excluded in quoted price	_____ . _____ % of basic price ( <b>Custom Duty exemption certificate will be issued</b> )		
8	Clearing Charges from Airport and delivered to IOP Bhubaneswar <b>Included/Excluded in the quoted prices.</b>	Amount		
9	Any other charges Included/Excluded in the quoted price (i) Trade tax/Sales tax (Institute will not issue any Sales Tax concession form) (ii) Any other levies	_____ . _____ % of (basic price + excise duty) _____ . _____ %		
10	Additional 02 years Warranty Charges	Amount		
11	AMC charges	_____ . _____ %		

**ALL ABOVE ITEMS ON 3 YEARS & ADDITIONAL 2 YEARS ONSITE FULL COMPREHENSIVE FREE WARRANTY.**

Date:  
Address:

Signature:  
Name: