



राष्ट्रीय विज्ञान शिक्षा एवं अनुसंधान संस्थान, भुवनेश्वर

(परमाणु उर्जा विभाग, भारत सरकार का एक स्वयं शासित संस्थान)

**NATIONAL INSTITUTE OF SCIENCE EDUCATION AND RESEARCH**

(AN AUTONOMOUS INSTITUTE UNDER DEPT. OF ATOMIC ENERGY, GOVT. OF INDIA)

**Notice Inviting Tender No.NIT-07/2017  
(2 Part Tender)**

**Chemical Vapour Deposition System**

**Cost of Tender is 1500.00 (Non Refundable)**

## Paper Notice



**NATIONAL INSTITUTE OF SCIENCE EDUCATION & RESEARCH**  
**JATNI CAMPUS, P.O. - JATNI**  
**KHURDA – 752050, ODISHA, INDIA**  
**Public Tender Notice No.NIT-07/2017**  
**(2 Part Tender)**

Sealed Tenders are invited on behalf of the Director, National Institute of Science Education and Research, Jatni from the manufacturers (Indian or Foreign) and their authorised reseller/Indian agent only for supply & installation of the following items:-

<b>Sl. No.</b>	<b>Name of the Items</b>	<b>Tender No.</b>	<b>Name of Department</b>	<b>Indent No.</b>	<b>Qty.</b>	<b>EMD in INR</b>
01-A	<b>Chemical Vapour Deposition System</b>	NIT-07/2017	School of Chemical Science	NC-000731-12-R&D-NIS-5.03-01-16-17	01 No.	120000.00
01-B	<b>Air and Gas Analysers for CVD</b>				01 No.	9400.00
01-C	<b>Gas Cylinders for CVD System85</b>				02 Nos.	600.00

(PARTY MAY QUOTE FOR ALL OR ANY OF THE REQUIRED ITEM)

For all other details including Modification/Corrigendum/Addendum please visit the NISER web-site address: [www.niser.ac.in](http://www.niser.ac.in) directly.

Stores & Purchase Officer



**NATIONAL INSTITUTE OF SCIENCE EDUCATION & RESEARCH**  
**JATNI CAMPUS, P.O. –BHIMPUR-PADANPUR, VIA-JATNI**  
**KHURDA – 752050, ODISHA, INDIA**  
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**(PARTY MAY QUOTE FOR ALL OR ANY OF THE REQUIRED ITEM)**

**NB: PARTIES REGISTERED WITH SSI/DGS&D/DAE(For Required Item)AND FOREIGN PARTIES QUOTING DIRECTLY ARE EXEMPTED FROM PAYING EMD ONLY. THERE IS NO EXEMPTION IN TENDER FEE.**

Interested parties may collect the Tender Documents from the Dy. Controller of Accounts, NISER, on payment of Rs.1500/-(Non Refundable). Tender document can be downloaded from NISER website upto 3<sup>rd</sup> Feb. 2017. The Tender, complete in all respects should be submitted by 5.30p.m. on or before 6<sup>th</sup> Feb. 2017. along with prescribed Earnest Money Deposit.

Bidders who submit the form downloaded from the web site must attach Demand Draft of requisite amount Rs.1500/- (cost of tender document) prepared in favour of the FINANCE OFFICER, NATIONAL INSTITUTE OF SCIENCE EDUCATION & RESEARCH with their bids.

NISER reserves the right to accept or reject any or all the Tenders without assigning any reason.

**Stores & Purchase Officer**

**NATIONAL INSTITUTE OF SCIENCE EDUCATION AND RESEARCH**  
**NIT OPEN DOCUMENT (2 PART BID)**  
**SUPPLY & INSTALLATION OF**  
**Chemical Vapour Deposition System**

National Institute of Science Education & Research (NISER), Jatni is an Autonomous Institute under Dept of Atomic Energy. NISER 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: Chemical Vapour Deposition System**

• **Tender Enquiry No: NIT-07/2017**

• **Last date of sale of Tender document: 3<sup>rd</sup> Feb. 2017 Upto 05.30PM**

• **Last date of submission of bid: 6<sup>th</sup> Feb. 2017 Upto 05.30PM**

• **Opening of Technical Bids: 7<sup>th</sup> Feb. 2017 AT 02.30 PM**

• **Date and Time of Pre-bid meeting (Technical discussion only) 23<sup>rd</sup> Jan. 2017, At-12.30P.M** in conference hall of school of Chemical sciences.

Sealed tenders are invited for supply and installation of **Chemical Vapour Deposition System** in the National Institute of Science Education & Research, Jatni. The tender document consists of the following two parts.

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

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

The sealed envelope containing "Terms & Conditions", "Technical Bid" and "Financial Bid" on prescribed tender document should reach to the Stores & Purchase Officer, National Institute of Science Education & Research, Jatni on or before **6<sup>th</sup> Feb. 2017 upto 5:30 p.m.** 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 **7<sup>th</sup> Feb. 2017 at 02:30 p.m.** One representative of each vendor may participate at the time of opening the bids (The representative must have the valid authorisation from their respective company for attending the tender opening meeting). The Part -2 "Financial Bid" of only those parties who qualify in Part -1 will be opened on a later date. The date of opening will be informed to each qualified party separately.

**(Deepak Srivastava)**  
**Stores & Purchase Officer**

**The Institute can provide following documents.**

- 1. Custom Duty / Excise duty exemption certificate. (As Custom duty exemption is given to NISER hence exempted Custom Duty @5.15% will be paid if applicable)**
- 2. Road permit for entering in Orissa, Party must pay Entry Tax**

**The Institute can't provide following documents.**

- 1. Form D for Central Sales tax/IIID for Orissa commercial Taxes.**

**COST OF TENDER IS RS.1500/- (NON-REFUNDABLE).**

**This is payable in cash or Demand Draft of a scheduled Bank in favour of Finance Officer, National Institute of Science Education and Research, Jatni.**



**PART - 1**  
**TERMS & CONDITIONS**  
**FOR SUPPLY AND INSTALLATION OF**  
**Chemical Vapour Deposition System**  
**FOR**  
**NATIONAL INSTITUTE OF SCIENCE EDUCATION AND RESEARCH, JATNI**

1. Director, National Institute of Science Education & Research, Jatni (NISER) invite sealed tenders for **Chemical Vapour Deposition System** from the Manufacturer and their authorised reseller only 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 of required item for any of the following:

**a) Government/Autonomous Institutions**

**b) Government Research Centres**

**c) Universities**

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

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

2. The Bidders are requested to give detailed tender in the prescribed forms in two Bids  
i.e. Part - I Technical Bid.

Part - II Commercial Bid.

**3. Contact for information:** (Only E-mail enquiries will be entertained)

**For Technical Information**

Dr. Sudip Barman

School of Chemical Sciences, NISER.

E-Mail – sbarman@niser.ac.in

**For Information regarding Commercial & all other Terms & Conditions:**

Mr. Deepak Srivastava

Stores & Purchase Officer

National Institute of Science Education & Research, Jatni

E-Mail- spo@niser.ac.in

**4. Supply means:**

“Supply, Installation, 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.

**5. Submission of Bids:**

(a) Place: Office of Stores & Purchase Officer, NISER, Jatni.

(b) Time and Date of Submission: up to **05.30 PM on 6<sup>th</sup> Feb. 2017**

(c) Time and Date of opening Technical Bid: At **02.30 P.M on 7<sup>th</sup> Feb. 2017**

NISER will not be responsible, for submission / delivery of quotation at wrong places other than the Office of Stores & Purchase Officer, NISER, Jatni.

## **6. Two Bid System:-**

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 for each quoted equipment 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-07/2017** due on **7<sup>th</sup> Feb. 2017 with name of the equipment& department** and to be submitted to the address given below to reach on or before **05.30 PM on 6<sup>th</sup> Feb. 2017. Separate envelope should be used for each item super scribing name of the indent.**

Stores & Purchase Officer,  
National Institute of Science Education & Research,  
Jatni Campus, PO-Bhimpur-Padanpur, Via-Jatni, Khurda - 752050

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

- Tender Reference Number
- Name of the Equipment
- Name of the Department
- 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 financial bid 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 National Institute of Science Education & Research, Jatni.**

### **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 NISER. The opinion of Technical Committee shall be the guiding factor for technical short listing.
- d) The earnest money deposit as indicated against the item 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/ Jatni in favour of **“Finance Officer, National Institute of Science Education & Research, Jatni,** 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 NISER 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 Performance Bank Guarantee (if applicable). However, if the return of EMD is delayed for any reason, no interest /penalty shall be payable to the bidders.

#### **EMD EXEMPTION:**

**PARTIES REGISTERED WITH SSI/DGS&D/DAE(For Required Item) AND FOREIGN PARTIES QUOTING DIRECTLY ARE EXEMPTED FROM PAYING EMD. FOREIGN PARTIES QUOTING DIRECTLY UNDER ORIGINAL SEAL AND SIGNATURE (NOT SCANNED) WILL GET THE EXEMPTION.**

#### **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 Performance Bank Guarantee (if applicable).

e) Undertaking that the successful bidder agrees to give a Performance Bank Guaranty of 10% of the purchase order value in favour of “Director, National Institute of Science Education & Research, Jatni 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, National Institute of Science Education & Research, Jatni valid till completion of 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.

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 equipment and may attach the satisfactory performance report of the equipment 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.**
- d) **Printed conditions of the vendor submitted with the tender will not be binding on NATIONAL INSTITUTE OF SCIENCE EDUCATION AND RESEARCH.**

## **7. Date of opening the Technical Bids.**

Technical Bids will be opened on **7<sup>th</sup> Feb. 2017 at 02.30 P.M** at office of the Stores & Purchase Officer, National Institute of Science Education & Research, Jatni.

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.

## **8. Opening of Commercial Bids**

NISER 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 (NISER 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 NISER 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.

**9. The Director NISER reserves the right to accept the offer in full or in parts or reject summarily or partly.**

## **10. 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 NISER's plans of completing the project within the time frame.

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

The Laboratory Equipment's covered by this document is required to be supplied and installed at School of Chemical Sciences of NISER, Jatni.

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

The Purchase Order and payment shall be processed by –

**Stores & Purchase Officer  
National Institute of Science Education & Research,  
Jatni Campus, P.O. – Bhimpur-Padanpur, Via-Jatni,  
Khurda – 752050, Odisha, INDIA**



Payment for the items to be supplied by the vendor against the purchase order shall be made by National Institute of Science Education & Research 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 NISER 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 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.**

**13. NISER** 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.

**14. 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.

**15. Period of validity of bids**

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

NISER 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.

**16. AWARD OF CONTRACT**

NISER 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, NISER 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:** NISER 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.

**17. Corrupt or Fraudulent Practices**

NISER requires that the bidders who wish to bid for this project have highest standards of ethics. NISER 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. NISER 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.

**18. 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, NISER's interpretation of the clauses shall be final and binding on all parties.

## **19.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., NISER, Jatni. 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 NISER 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 FOB nearest airport detail break up of Price, FCA cost, **Agency Commission**, Insurance, Freight up to Kolkata Airport is required.

## **20.Pre-installation:**

Pre-installation facilities required for installation may please be intimated in the technical bid. Subsequently, before the consignment lands in NISER, Jatni the bidder shall confirm that the pre-installation requirements are sufficient for installation of the equipment's. 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.

## **21.Installation, Warranty & Support**

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

The items covered by the schedule of requirement shall carry minimum three years' comprehensive warranty from the date of acceptance of the equipment's by NISER. 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.

## **22.Indemnity**

The vendor shall indemnify, protect and save NISER 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 NISER.

NISER 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 NISER 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 the bidder will forfeit EMD/SD and also LD clause will be applicable /enforced.

If the supplier fails to Supply, Install and Commission the equipment as perspecifications 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.

NISER reserves the right to cancel the order in case the delay is more than 30 days Penalties, if any, will be deducted from the EMD.

### **25. Jurisdiction**

If a dispute arises out of or in connection with the contract, or in respect of any defined legal relationship associated therewith or derived therefrom, 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.

**Stores & Purchase Officer  
NISER, Jatni**

## **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 25 and we have not given any printed conditions beyond the scope of this tender. 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:

(Company Seal)

Designation:

On behalf of:



**PART - 1**  
**FOR SUPPLY AND INSTALLATION OF**  
**Chemical Vapour Deposition System**  
**FOR**  
**NATIONAL INSTITUTE OF SCIENCE EDUCATION AND RESEARCH, JATNI**  
**General Information**

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 2013-2014 (ii) Year 2014-2015 (iii) Year 2015-2016	
5.(b)	Supply & Installation of <b>Chemical Vapour Deposition System</b> equivalent to our tendered of last 3 financial years in State Government or Govt. of India Department(s) /Reputed Organisation(s) (in Nos. and Value) (Please attach list of clients) (i) Year 2013-2014 (ii) Year 2014-2015 (iii) Year 2015-2016	
5.(c)	Trade Tax / Sales Tax Registration no. with Place	
5.(d)	Income Tax Registration no. with place	



**SUPPLY AND INSTALLATION  
OF  
Chemical Vapour Deposition System**

**FOR**

**NATIONAL INSTITUTE OF SCIENCE EDUCATION AND RESEARCH, JATNI  
TECHNICAL SPECIFICATION**

<b>S. No.</b>	<b>Item Specification</b>	<b>Offered specification with Make &amp; Model No. please specify any deviation if any. Please attach separate sheet if required</b>
(1)	(2)	(3)
<b>01</b>	<b>Part A. Chemical Vapour Deposition System Part B. Air and Gas Analysers for CVD Part C. Gas Cylinders for CVD System</b>	
	Please find the detailed specification attached in <b>Annexure-I</b>	

**Note: - Parties must mention make & model no. of the equipment offered by them, with detailed specification (on separate sheet). Otherwise their tender will not be accepted.**

## **PART- A**

### **I. TECHNICAL SPECIFICATIONS**

#### **Chemical Vapor Deposition system for synthesis of graphene, metal oxide nanostructures and thin film deposition.**

#### **II. Name and Quantity Required**

Name: Chemical Vapor Deposition (CVD)

#### **III. Scope of Supply:**

Supply, installation, commissioning, performance demonstration and operators' training in respect of the CVD- consisting of the main instrument, related accessories, and all software's pertaining to the instrument and its subsystems.

### **Part A: Chemical Vapor Deposition system**

#### **1200°C Dual Quartz Tubes & Three Zones CVD Tube Furnace upto 1200°C for Graphene**

The tube furnace must have dual processing tube (hermitically arranged one inside the other) and three Heating zones each with maximum working temperature of 1200°C. The Furnace should be suitable for growing Thin films on metallic foil by CVD Process, It should be used for synthesis of high quality graphene and flexible electrode for solar or battery electrode.

#### **Features:**

- Dual quartz tube: 130 mm dia (5") outside tube suspended by 101 mm dia (4") tube inside. Metallic foil will be wrapped inside tube surface for CVD reaction
- Vacuum sealing flanges for dual tubes, which allow reactive gas go through between two tubes (20mm space) for reaction, and Forced air can go through centre tube for fast cooling.
- Max. Working Temperature: 1200°C
- Valve and vacuum gauge should be included

#### **SPECIFICATIONS:**

##### **Furnace Structure**

- Three heating zones: (900mm, 36" in total)

Zone 1: 229mm (9")

Zone 2: 457mm (18.0")

Zone 3: 229 mm (9")

Max. 25" (625 mm) long with +/- 1°C accuracy if set three zones at the same temperature.

- Three precision temperature controllers with 30segment programmable and +/-1° C accuracy.
- Max. Working Temperature: 1200°C
- Continuous Working temperature: 1100°C
- Heating Rate: <= 20°C /min

##### **Power**

- AC 208-240V Single Phase, 50/60 Hz
- 7 KW Max.

## Processing Tubes

High purity Fused Quartz Tubes included

Outside tube: 130mm O.D. x 122 mm I.D. x 1480 mm

Inside tube: 102mm O.D. x 94 mm I.D. x 1540 mm

## Vacuum sealed Flanged

- Suitable Gas Purging Port on the Vacuum sealing flanges for dual tube, must allow reactive gas go through between two tube ( at least 15 mm space) for reaction, and Forced air can go through the centre tube for fast cooling.
- There must be provision for faster cooling of the inner Tube by purging Inert Gas.
- One pair of flanges made of SS304, must seal tightly between tubes by two high temperature O-rings
- Suitable Gas Purging Port on the Vacuum sealing flanges for dual tube, must allow reactive gas go through between two tube ( at least 15 mm space) for reaction, and there must be provision for faster cooling of the inner Tube by purging Inert Gas.
- The flange must have built in water cooling jacket arrangement for use under high temperature operation.
- There must be a KF 25 Fitting Vacuum Port to connect a vacuum pump through Stainless Steel Bellow.
- One stainless steel needle valve is installed on right flange
- Vacuum Level required: ( $10^{-2}$  mbar by the mechanical roughing pump and 10-5 mbar by the molecular pump).

## Compliance

- CE Certified
- Temperature controller must be MET and CE Certified

## Optional Items

- 1 set of Outside tube: 130mm O.D. x 122 mm I.D. x 1480 mm and Inside tube: 102mm O.D. x 94 mm I.D. x 1540 mm.

## **Three Zone Alumina Tube CVD Furnace with Vacuum Flanges (60mm OD. 1700C Max.) for metal oxide and chalcogenide**

### DESCRIPTION

The Tube Furnace must have three heating zones by three precision 30 segments digital temperature controllers independently and the total length of Hot Zone must be at least 24". The centre hot zone must have Super-1800 MoSi<sub>2</sub> Heating elements for operations up to 1700°C, and the other two zones must have SiC Heating elements for operations up to 1400°C. The tube furnace must be suitable to create thermal gradient by adjusting three zones temperature. It must be suitable to prepare functional materials under thermal gradient, and also can be used for epitaxial film growth by CVD.

### SPECIFICATIONS

#### Furnace Structure

- Double layer steel case with two cooling fans, which ensure low surface temperature.
- High purity fibrous alumina insulation for energy saving

**Power:** 10-12 KW



**Voltage:** AC 220-240 Single Phase, 50/60 Hz

**Max. Temperature of Hot Zones**

Zone one: 1400 °C (1500 °C<1hour),

Zone two: 1700 °C

Zone Three: 1400°C (1500 °C<1hour)

**Thermal Block Placement**

- Two thermal blacks must be included to block the thermal radiation to protect the O-Rings.

**Heating Zone Length**

- Three zones: total 25" (630 mm) heating zone (must two refractory separators)

**Zone 1:** Approx. 7.5" (190 mm) heated by 4 pcs U type SiC(30x300 mm)

Working temperature 800 - 1400°C (1500 °C<1hour)

Heating rate: 10°C/min

**Zone 2:** Approx. 10" (250 mm) heated by 6 pcs U type MoSi<sub>2</sub>(30x300 mm) working temperature 800 -

1700°C Max. Heating rate: 5°C/min

**Zone 3:** Approx. 7.5" (190 mm) heated by 4 pcs U type SiC(30x300 mm)

Working temperature 800 -1400°C (1500 °C<1hour)

Max. Heating rate: 10°C/min

- Constant Temperature Zone Length (3 controller at same temperature): 200mm with+/- 1C)

**Tube Size and Flange**

- Alumina Tube 99.8% purity
- 2-3/8" (60mm) O.D.x 2-1/8" I.D. (54mm) x 48" (1200mm) Length
- 60 mm stainless steel vacuum sealing flange with valve and Vacuum Gauge must be included
- Two porous ceramic blocks must be included for protecting flange from heating radiation
- Vacuum pressure must reach to 10<sup>-4</sup>torror more with turbo vacuum pump

**Fitting Ports**

- KF25 Vacuum Port on one Flange for quicker vacuum
- Gas Purging Port on the other side Flange,
- Three digital PID controllers with microprocessor-based PID control and self-tuning

**Temperature**

- Each must have 30-segments programmable with protection for overheated and broken thermocouple Controllers
- Temperature Accuracy: +/- 1°C

**Thermal Couple**

- One B type(210mm long TC for central zone), two S type (210mm long TC for side zones)
- Power Cable & Plug
- 10 feet length 8-3 AWG heavy duty UL approved power cable is required

**Compliance**

CE Certified

Temperature controller must be MET and CE Certified

Transformer must be UL Certified

**Optional Items**

2set of 2-3/8" (60mm) O.D.x 2-1/8" I.D. (54mm) x 48" (1200mm) Length

## Vacuum Pump

### DESCRIPTION:

Double Stage Rotary Vane Vacuum Pump with Exhaust Filter. The vacuum pump must achieve vacuum pressure up to 10<sup>-3</sup> torr.

### SPECIFICATIONS

**Voltage / Frequency:** 220 V / 50-60 Hz

**Pumping Speed (m<sup>3</sup>/h):** 180-250 liters / M or 8-12 CFM

**Maximum Base Pressure:** 5.0E<sup>-4</sup> mbar

**Ultimate total pressure:** 2x10<sup>-3</sup> mbar

**Power (HP):** ¾ HP 550W

**Oil Charge Capacity:** 500 -1000 mL

**Working Temperature:** -5 ~ 60°C

### **Two Stage Exhaust System**

- **Stage 1:** Oil Mist Eliminator
  - oEliminates Pump Oil Fumes
  - oReturns Used Oil to Vacuum Pump
  - oTraps Particles to 0.3 microns
  - o Replaceable Coalescing Element
- **Stage 2:**Charcoal Filter
  - oTraps Organic Chemicals
  - oReplaceable Charcoal Element

### **Vacuum port fitting**

ALL required fitting accessories for connection of CVD systems and pump.

KF25D vacuum pipe adapter,

Stainless Steel Vacuum Pipe with KF-D25 Adaptor – 1 Meter

Quick Clamp with Rubber O-Ring for KF-D25 Vacuum adaptor

**Certificated:** CE approval

## 1100°C Hydrogen Gas Tube CVD Furnace with 60mm Superalloy Tube with Hydrogen DetectorSystem

**DESCRIPTION:**The tube furnace should be safe hydrogen tube furnace. The processing tube should made of high quality Ni-based super-alloy which never cracks and broken at flowing Hydrogen gas. One 3M hydrogen detector should be included which will shut down Hydrogen gas generator and gas inlet valve immediately once detecting hydrogen gas leaking. The tube furnace is designed for processing material under hydrogen gas up to 1100°C safely. Also, the furnace can be used for all kind of inert gasses and oxygen gas. The precision temperature controller is 30 segments programmable.

## **SPECIFICATIONS:**

- Double layer steel casing with air cooling should be present to keep furnace surface temperature lower than 60°C.
- High purity fibrous alumina insulation for Max. energy saving.
- Hydrogen detector and solenoid valve should be included for safe operation

**Power:** 3.0 KW Max. (20A breaker required)

**Voltage:** AC 208-240 Single Phase, 50/60 Hz.

**Max. Temperature:** 1100°C ( < 1 hour ) Continuous Temperature 1000°C Max.

**Heating Rate:** ≤ 15-20°C /min.

### **Processing Tube:**

- Material: Nickel based super-alloy seamless tube with max. 1200°C working temperature
- Tube Size: OD 60 x ID 52 x Length 1000 (mm).

**Heating Zone length:** 440 mm (single zone) Constant temperature zone 150 mm (+/-1°C)

### **Temperature controller:**

- PID automatic control with 30 segments programmable
- Automatic over-temperature and thermal broken protection
- RS485 Communications Port.

**Temperature Accuracy:** +/- 1°C

### **Flanges and Gas Inlet:**

- Two sets of CF-63 flanges are welding on two ends of the tube which allow high vacuum up to 10E-5 torr and 30 PSI positive pressure.
- One solenoid valve is installed on the left of the flange for Hydrogen gas inlet. It connects with hydrogen detector. Once hydrogen gas leak is detected ( 10% below hydrogen explode point ), gas inlet valve will be shut down immediately
- One pressure gauge is installed on the end of gas inlet. Hydrogen gas pressure must be controlled under 5 PSI, which can be adjust by a stainless steel needle valve

### **Hydrogen Detector System :**

- One Honeywell UL Approved Sensepoint Gas Detector is Integrated into the system.
- Working Temperature Range: 40°F to +149°F (-40°C to +65°C)
- Alarm Point: H2 Limited Explosive Line 10% (10% LEL). Once detecting H2 gas beyond the point, it will shut off the inlet valve to the H2 automatically.

### **Gas-outlet Flow-meter:**

- One 1000 ml/min floating meter is installed on gas-outlet end for adjusting gas flow rate
- 1/4" Dia stainless steel tube is installed for burning hydrogen gas during gas flowing
- One long lighter is included in the standard package for igniting hydrogen gas manually.
- One 6" long neck flexes safe lighter is included for lighting hydrogen gas

**Heating Element:** Fe-Cr-Al Alloy doped by Mo

**PC Connection:** connection port should be there for PC connection. PC control module and software are included for computerized temperature control.

### **Compliance**

- CE Certified
- UL / MET / CSA Certification
- Temperature controller is MET and CE Certified

**Warranty:** One year for electrical and mechanical parts.

**Optional Items:** a. one branded (HP, Lenovo, Dell, Asus, Aesar) all in one desktop or laptop equipped with i5 processor, 4-6 GB RAM, 1 GB graphics, windows 10, mouse, keyboard, 30 min ups backup.

b. One Nickel based super-alloy seamless tube with tube Size: OD 60 x ID 52 x Length 1000 (mm).

## Digital Mass flow Controllers

**Required gases with flow rate: Methane (10-500 sccm), Hydrogen (10-500 sccm), Nitrogen (20-1000 sccm), Ammonia (10-500 sccm), oxygen (20-1000 sccm)**

**Fittings (compatible with): All mass flow controllers should be fitting compatible to 1/4" Swagelok. Required amount of steel or nylon pipe should be supplied along with the mass flow controller.**

### Performance

**Maximum Inlet Pressure:** 150 psig (cannot exceed pressure differential requirement across MFC)

**Control Range:** 2% to 100% of F.S. (range on mech.)

**Typical Accuracy (with N<sub>2</sub> calibration gas):** ± (0.5% of reading +0.2% of F.S.) or equivalent.

**Measurement (Dynamic) Range:** 1% to 100% of F.S.

**Repeatability** ±0.2% of F.S

**Resolution** 0.1% of F.S

**Temperature Coefficients:** Zero < 0.05% of F.S./°C

Span < 0.10% of Rdg./°C

**Inlet Pressure Coefficient** < 0.02% of Rdg./psi

**Typical Controller Settling Time** < 850 msec

**Warm-up Time** < 20 min

**Operating Temperature Range (Ambient)** 10°C to 40°C

### **Mechanical**

#### **Leak Integrity**

External (scc/sec He) < 1 x 10<sup>-09</sup>

Through closed control valve : < 1 x 10<sup>-5</sup> mbar l/sec (He) at 1.7 bar (g) inlet to atmosphere

#### **Wetted Materials**

1.4301 S.S. (V2A, ANSI 304), Nickel

Seals and Valve Seat: Viton, Buna-N, or Kalrez

Surface Finish 6.3µm Rz

Weight less than 1 Kg

#### **Electrical (Analog I/O):**

Input Voltage Required ±15 VDC or +24 VDC (20.0 to 31.5 VDC)

Maximum Supply Current 300mA @ +24VDC

Analog Set Point Command Signal : 0 to 5 VDC

Zero: 0 to 2 VDC

Full Scale: 5 to 10VDC

Analog Output Signal : 0 to 5 VDC

Zero: 0 to 2 VDC

Full Scale: 5 to 10 VDC

**Multigas / multi-range Compatibility:** The MFC should have PC Connectivity Port (Ethernet or USB) for online configuration and diagnostic. Also It should be convenient to the Operator to change the Active Gas for the MFC from a list of SEMI Gas Database stored in a Non-volatile Memory within the MFC from the Computer.

**Electromagnetic Compatibility** Fully CE Compliant to EMC Directive 2004/108/336/EC when used with an overall metal braided shielded cable properly grounded at both ends

### **Six port Digital Readout Control Box**

#### **Display**

TFT LCD with back lighting. Simultaneous displays for flow in all the MFCs through all the connected channels. Display indicators for unit of measure, calibration functions, user calibration, set points, PID control status. Six MFCs should be connected at a time.

Flow Units sccm and slm

**Operating Temperature** 5° to 40° C

**Storage Temperature** 10° to 55°C

Relative Humidity 80% max for temperatures less than 31°C, decreasing linearly to 50% maximum at 40°C

Size ½ rack, 2U High, 13" Deep

**Power Requirement and Consumption:** 150 watts maximum 100 - 240 VAC 50/60 Hz

Gas Flow Ratio Control: Control of Gas Flow through Various Channels in user selected Ratio

**Set Point Relays:** Twelve pressure dependent set points (4 per card slot); SPST relays, contact rating 2 amps @ 30 VAC

**Output:** Buffered, log linear and linear output for each channel and log linear for combined channels

**Front Panel Controls:** Power on-off switch, setup and operational commands can be accessed via the keypad

**Insulation Coordination:** Over voltage Category II, Pollution Degree 2

**CE Certification w/Appropriate Sensors:**

Dimensions Half 19" Rack, 2U, 3.47" x 9.47" x 13.00"

Controller Weight < 4 kg

### **Vacuum Pumping System**

#### **Turbo pumping system bench top configuration**

**Configuration:** Table-Top Portable Configuration of Integrated High Vacuum Pumping System;

**Pumping Speed:**

**Turbo Pumping Station (with inlet screen):** N<sub>2</sub>: 160 l/s or better

**Backing Pump:** Suitable Dry Vacuum Pump (Pumping Speed: 5 m<sup>3</sup>/h or better)

**Ultimate Vacuum:** 1.0 x 10<sup>-7</sup> mbar at the inlet of the Turbo Pump

**Compression Ratio:** > 1 x 10<sup>11</sup> (N<sub>2</sub>), >1 x 10<sup>11</sup> (Ar), >1 x 10<sup>8</sup> (He), >1 x 10<sup>6</sup> (H<sub>2</sub>),

**Inlet Port for TMP:** CFF 6" Flange;

**Start-up time:** less than 3 minutes

**Maximum Rotational Speed of TMP at Base Pressure:**

**Vacuum Gauge:** Wide Range Vacuum Measurement Gauge: 1 x 10<sup>-8</sup> mbar to Atmospheric, Fitting suitable for NW25KF, (Vacuum Gauge compatible to read the pressure from the integrated TMP Controller would be preferable)

**The Turbo Molecular Pumping System should include all the recommended accessories for the convenience of operation:**

Power Cable

Inlet Screen

Vent Valve

Cooling Fans for TMP

Interface cables

Any other consumable or spare part of the TMP or dry backing pump required for long operational life of the Turbo Pumping System should be quoted separately

**Certifications:** CE, UL/CUL, CSA

**Accessories:**

Other accessories required to connect the Turbo Pumping System to Vacuum Port of KF25NW Fitting in Tube Furnaces/Vacuum Chambers

Vacuum Isolation Valve: KF25 Hand Operated Right-angle Vacuum Isolation Valve (Body: Stainless Steel or Aluminium)

Suitable Conical Reducer from CFF 6" to KF25 Vacuum Connection,  
KF25 Vacuum Tee Connector,

Stainless Steel Bellow-KF25-1 Meter long,

**Optional Items**

**1200°C Dual Zone Split Tube Furnace with 100 mm Quartz Tube**

**Furnace structure**

Double layer steel case with two cooling fans, which ensure low surface temperature

Energy saving high purity fibrous alumina liner and insulation

High purity Al<sub>2</sub>O<sub>3</sub> coating which provides a longer service life

**Power:** 3 KW (20A Breaker)

**Voltage:** AC 208-240V Single Phase, 50/60 Hz, power cord is included without the plug.

**Temperature range** 100~1100° C (Continuous); 1200° C (<1 hour)

**Max. Heating Rate** ≤ 20° C /min

**Tube Accessories**

One fused quartz tube with 1000mm

Two fibrous ceramic tube blocks are included for blocking heat radiation from inside tube. Quartz block for higher vacuum and flange support.

**Heating Zone Length**

Two zones: each zone length 8" (200 mm)

Total 16" (400 mm) heating zone

**Constant Temp. Zone:** 150mm (+/-1°C) for each heating zone

**Temperature Controllers**

2 MET certified digital controllers with 30 programmable segments for precise control of heating rate, cooling rate and dwell time.

Built in PID Auto-Tune function with overheating & broken thermocouple protection.

Over temperature protection and alarm allows for operation without attendant(s).

+/- 1 °C temperature accuracy.

Two K-type thermocouples (one for each zone).

RS485 Communications Port.

**Heating Element** Fe-Cr-Al Alloy doped by Mo

**Vacuum Flange & Fitting Ports**

One pair of SS 304 vacuum flange with double high-temperature silicone O-rings.

One Vacuum pressure gauge.

The flange set consist two 1/4" Bard fittings, two needle valve, one set of KF25 quick clamp, one blank flange fitting, 1/4" tube feedthrough port (for 1/4" O.D thermocouple insert) and a KF25 vacuum port

**Accessories**

One digital vacuum gauge

Hinged Vacuum Sealing Assembly with Flange Support for 100 mm Dia Tube Furnace.

Suitable PC, control module, software.

## **Part B: Air and Gas analysers for CVD:**

### **Specification for Spectrometer - In-Situ oxygen monitoring system**

Principle	Photoluminescence quenching using a ruthenium compound: sensor measures O <sub>2</sub> partial pressure
Parameters measured	Luminescence phase shift, AC luminescence intensity temperature (via optional external thermistor) and pressure (via onboard pressure transducer)
Sensor coating formulations	High-sensitivity
Media	Gases and liquids
Communications	USB, analog out
External Power Supply Voltage	4.5 – 5.5 V
Power Consumption	2.5 W
Data Logging Rate, Maximum	10 Hz
4-20 mA Output Accuracy at 25 °C	± 160 µA
0-5 V Output Accuracy at 25 °C	± 50 mV
Electronics Operating Temperature	0 – 55 °C

#### **Software**

user-friendly application software for oxygen measurement. Compatible with 32- and 64-bit Windows

#### **Accessories**

Probe and assemblies:

General purpose 1.587 mm (1/16") (Outer dia) stainless steel oxygen probe and fiber assemblies for connecting the probe & detector.

Fiber core diameter: 1000µm

Length: 152mm

Connector: SMA905

Temperature Probe:

Used for real-time temperature compensation of oxygen readings.

Outer diameter: 3.5 mm

Length: 76 mm

Thermistor resistance: 10,000 Ω at 25°C

Temperature range: 0 to 70°C

#### **Optional Item:**

##### **Probe:**

Non-metallic 18 cm probe with FOSPOR high-sensitivity oxygen sensor coating. This polyimide-coated probe is a good solution for environments that are hostile to metallic probes. Narrow in diameter, it is also good for applications requiring fine spatial resolution.

##### **Computer:**

Latest Computer compatible with instrument software.

System configuration: I3 Processor, 4GB RAM, 1TB Hard Drive, 19" LED Monitor, DVD Writer, Keyboard, Mouse .

### **Part C: GAS CYLLINDERS for CVD Systems**

Argon gas cylinder with steel body gas regulator and methane gas cylinder with steel body gas regulator.

### **General Terms & Conditions**

1. The suppliers shall quote the price of each and every component individually.
2. The suppliers can also quote any one of the part A, part B and part C.
3. The equipment shall work on  $220V \pm 10\%$ ,  $50Hz \pm 2\%$  single phase supply.
4. The Indian Agents should have service facility at India.
5. The complete equipment & all accessories shall be guaranteed for satisfactory performance for a period of 12 months from the date of commissioning and handing over.
6. Complete pre installation requirement should be provided along with Bid.





**FINANCIAL BID  
FOR SUPPLY AND INSTALLATION  
OF  
Chemical Vapour Deposition System  
FOR  
NATIONAL INSTITUTE OF SCIENCE EDUCATION AND RESEARCH,  
JATNI**

Sl. No.	Systems	Approx. Qty.	Unit Price FOB in Foreign currency	Unit Price including all taxes, freight, Insurance, entry tax (delivered at NISER, Jatni) service charges, installation and warranty charges in INR
(1)	(2)	(3)	(4)	(5)
01-A	<b>Chemical Vapour Deposition System</b> (Detailed Specification As Per Our Technical Bid)	<b>01 Unit</b>		
01-B	<b>Air and Gas Analysers for CVD</b> (Detailed Specification As Per Our Technical Bid)	<b>01 Unit</b>		
01-C	<b>Gas Cylinders for CVD System</b> (Detailed Specification As Per Our Technical Bid)	<b>02 Nos.</b>		
2.	<b>Above item should carry three years onsite comprehensive warranty. In case the party provide warranty less than 03 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)	Included/Excluded _____% of basic price		
5	CIP Kolkata Charges	Amount		
6	Excise Duty Included/Excluded in the quoted price	_____ . _____% of basic price (Excise duty exemption certificate will be issued)		
7	Custom Duty Included/Excluded in quoted price	_____ . _____% of basic price (Custom Duty exemption certificate will be issued)		
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	AMC Charges after expiry of warranty	Amount in INR		

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

Date:  
Address:

(Company Seal)

Signature:  
Name:  
Designation:  
On behalf of:

(Please take the printout on your letter head along with all details)

**To,**  
The Finance Officer  
NISER, Jatni Campus  
P.O. – Jatni, Khurda - 752050  
Odisha, INDIA

Ref: Tender Ref. No.: \_\_\_\_\_ Dated. \_\_\_\_\_

Sub: Refund of EMD

Dear Sir,

We have deposited EMD of Rs. \_\_\_\_\_/- vide D/D No. \_\_\_\_\_ dated.  
\_\_\_\_\_ of \_\_\_\_\_ **(Name of Bank)** against  
above mentioned tender. Since our tender has not being qualified, we request to release our  
EMD.

Yours faithfully,

Signature of the Authorised Signatory  
(with company seal)

Our addressed is verified as below:

M/s. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Pin Code: \_\_\_\_\_

Phone No.: \_\_\_\_\_



**NATIONAL INSTITUTE OF SCIENCE EDUCATION & RESEARCH**  
**JATNI CAMPUS, P.O. –BHIMPUR-PADANPUR, VIA-JATNI**  
**KHURDA – 752050, ODISHA, INDIA**  
**Tender Notice No. NIT-07/2017**

**CHECK LIST**

Your bid should accompany with following documents. Please enclose the required document and put (√) mark in the check list where ever applicable.

<b>Sl. No.</b>	<b>Description of Documents</b>	<b>Enclosure</b>
1.	EMD to be attached with Technical bid only	Yes / No
2.	Part I of Tender Documents with Declaration by the Vendor	Yes / No
3.	Duly filled EMD refundable sheet (if EMD is there)	Yes / No
4.	General Information Sheet	
	Annual turnover in last 3 financial years in Rs. Crores (i) Year 2013-2014 (ii) Year 2014-2015 (iii) Year 2015-2016	Yes / No
	Supply & Installation of equivalent to our tendered for the required item from last 3 financial years in State Government or Govt. of India Department(s) /Reputed Organisation(s) (in Nos. and Value) (Please attach list of clients) (i) Year 2013-2014 (ii) Year 2014-2015 (iii) Year 2015-2016	Yes / No
	Trade Tax / Sales Tax Registration no. with Place	Yes / No
	Income Tax Registration no. with place	Yes / No
5.	Detailed technical description of the item	Yes / No
6.	Detailed filled Financial Bid	Yes / No
7.	Authorisation letter in letter head duly signed by the authorised signatory for allowing your representative to attend the tender opening meeting.	Yes / No

Signature of the Authorised Signatory with Date  
(with Company Seal)