

**Bid Document/ बिड दस्तावेज़**

Bid Details/बिड विवरण	
Bid End Date/Time/बिड बंद होने की तारीख/समय	07-02-2024 15:00:00
Bid Opening Date/Time/बिड खुलने की तारीख/समय	07-02-2024 15:30:00
Bid Offer Validity (From End Date)/बिड पेशकश वैधता (बंद होने की तारीख से)	180 (Days)
Ministry/State Name/मंत्रालय/राज्य का नाम	Ministry Of Education
Department Name/विभाग का नाम	Department Of Higher Education
Organisation Name/संगठन का नाम	Indian Institute Of Technology (IIT)
Office Name/कार्यालय का नाम	Indore
Total Quantity/कुल मात्रा	1
Item Category/मद कैटेगरी	Reactive DC Magnetron Sputtering Unit (Q3)
Minimum Average Annual Turnover of the bidder (For 3 Years)/बिडर का न्यूनतम औसत वार्षिक टर्नओवर (3 वर्षों का)	24 Lakh (s)
OEM Average Turnover (Last 3 Years)/मूल उपकरण निर्माता का औसत टर्नओवर (गत 3 वर्षों का)	48 Lakh (s)
Years of Past Experience Required for same/similar service/उन्हीं/समान सेवाओं के लिए अपेक्षित विगत अनुभव के वर्ष	3 Year (s)
MSE Exemption for Years Of Experience/अनुभव के वर्षों से एमएसई छूट/ and Turnover/टर्नओवर के लिए एमएसई को छूट प्राप्त है	Yes
Startup Exemption for Years Of Experience/अनुभव के वर्षों से स्टार्टअप छूट/ and Turnover/ टर्नओवर के लिए स्टार्टअप को छूट प्राप्त है	Yes

### Bid Details/बिड विवरण

<b>Document required from seller/विक्रेता से मांगे गए दस्तावेज</b>	Experience Criteria,Past Performance,Bidder Turnover,Certificate (Requested in ATC),OEM Authorization Certificate,OEM Annual Turnover,Additional Doc 1 (Requested in ATC),Additional Doc 2 (Requested in ATC),Additional Doc 3 (Requested in ATC),Additional Doc 4 (Requested in ATC),Compliance of BoQ specification and supporting document *In case any bidder is seeking exemption from Experience / Turnover Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer
<b>Past Performance/विगत प्रदर्शन</b>	20 %
<b>Bid to RA enabled/बिड से रिवर्स नीलामी सक्रिय किया</b>	No
<b>Type of Bid/बिड का प्रकार</b>	Two Packet Bid
<b>Time allowed for Technical Clarifications during technical evaluation/तकनीकी मूल्यांकन के दौरान तकनीकी स्पष्टीकरण हेतु अनुमत समय</b>	2 Days
<b>Inspection Required (By Empanelled Inspection Authority / Agencies pre-registered with GeM)</b>	No
<b>Evaluation Method/मूल्यांकन पद्धति</b>	Total value wise evaluation
<b>Financial Document Required/वित्तीय दस्तावेज की आवश्यकता है।</b>	Yes

### EMD Detail/ईएमडी विवरण

Advisory Bank/एडवाइजरी बैंक	State Bank of India
EMD Amount/ईएमडी राशि	24000

### ePBG Detail/ईपीबीजी विवरण

Advisory Bank/एडवाइजरी बैंक	State Bank of India
ePBG Percentage(%) / ईपीबीजी प्रतिशत (%)	10.00
Duration of ePBG required (Months)/ईपीबीजी की अपेक्षित अवधि (महीने).	14

(a). EMD EXEMPTION: The bidder seeking EMD exemption, must submit the valid supporting document for the relevant category as per GeM GTC with the bid. Under MSE category, only manufacturers for goods and Service Providers for Services are eligible for exemption from EMD. Traders are excluded from the purview of this Policy./जेम की शर्तों के अनुसार ईएमडी छूट के इच्छुक बिडर को संबंधित कैटेगरी के लिए बिड के साथ वैध समर्थित दस्तावेज प्रस्तुत करने हैं। एमएसई कैटेगरी के अंतर्गत केवल वस्तुओं के लिए विनिर्माता तथा सेवाओं के लिए सेवा प्रदाता ईएमडी से छूट के पात्र हैं। व्यापारियों को इस नीति के दायरे से बाहर रखा गया है।



(b). EMD & Performance security should be in favour of Beneficiary, wherever it is applicable./ईएमडी और संपादन जमानत शर्त, जहां यह लागू होती है, लाभार्थी के पक्ष में होनी चाहिए।

**Beneficiary/लाभार्थी :**

Registrar

Indore, Department of Higher Education, Indian Institute of Technology (IIT), Ministry of Education  
(Registrar IIT Indore)

**Splitting/विभाजन**

Bid splitting not applied/बोली विभाजन लागू नहीं किया गया.

**MII Purchase Preference/एमआईआई खरीद वरीयता**

MII Purchase Preference/एमआईआई खरीद वरीयता	Yes
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**MSE Purchase Preference/एमएसई खरीद वरीयता**

MSE Purchase Preference/एमएसई खरीद वरीयता	Yes
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1. If the bidder is a Micro or Small Enterprise as per latest definitions under MSME rules, the bidder shall be exempted from the requirement of "Bidder Turnover" criteria and "Experience Criteria" subject to meeting of quality and technical specifications. If the bidder is OEM of the offered products, it would be exempted from the "OEM Average Turnover" criteria also subject to meeting of quality and technical specifications. In case any bidder is seeking exemption from Turnover / Experience Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer.
2. If the bidder is a Startup, the bidder shall be exempted from the requirement of "Bidder Turnover" criteria and "Experience Criteria" subject to their meeting of quality and technical specifications. If the bidder is OEM of the offered products, it would be exempted from the "OEM Average Turnover" criteria also subject to meeting of quality and technical specifications. In case any bidder is seeking exemption from Turnover / Experience Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer.
3. The minimum average annual financial turnover of the bidder during the last three years, ending on 31st March of the previous financial year, should be as indicated above in the bid document. Documentary evidence in the form of certified Audited Balance Sheets of relevant periods or a certificate from the Chartered Accountant / Cost Accountant indicating the turnover details for the relevant period shall be uploaded with the bid. In case the date of constitution / incorporation of the bidder is less than 3-year-old, the average turnover in respect of the completed financial years after the date of constitution shall be taken into account for this criteria.
4. Experience Criteria: In respect of the filter applied for experience criteria, the Bidder or its OEM {themselves or through reseller(s)} should have regularly, manufactured and supplied same or similar Category Products to any Central / State Govt Organization / PSU / Public Listed Company for number of Financial years as indicated above in the bid document before the bid opening date. Copies of relevant contracts to be submitted along with bid in support of having supplied some quantity during each of the Financial year. In case of bunch bids, the category of primary product having highest value should meet this criterion.
5. OEM Turn Over Criteria: The minimum average annual financial turnover of the OEM of the offered product during the last three years, ending on 31st March of the previous financial year, should be as indicated in the bid document. Documentary evidence in the form of certified Audited Balance Sheets of relevant periods or a certificate from the Chartered Accountant / Cost Accountant indicating the turnover details for the relevant period shall be uploaded with the bid. In case the date of constitution / incorporation of the OEM is less than 3 year old, the average turnover in respect of the completed financial years after the date of constitution shall be taken into account for this criteria.
6. Preference to Make In India products (For bids < 200 Crore): Preference shall be given to Class 1 local supplier as defined in public procurement (Preference to Make in India), Order 2017 as amended from time to time and its subsequent Orders/Notifications issued by concerned Nodal Ministry for specific Goods/Products. The minimum local content to qualify as a Class 1 local supplier is denoted in the bid document. If the bidder wants to avail the Purchase preference, the bidder must upload a certificate from the OEM regarding the percentage of the local

content and the details of locations at which the local value addition is made along with their bid, failing which no purchase preference shall be granted. In case the bid value is more than Rs 10 Crore, the declaration relating to percentage of local content shall be certified by the statutory auditor or cost auditor, if the OEM is a company and by a practicing cost accountant or a chartered accountant for OEMs other than companies as per the Public Procurement (preference to Make-in -India) order 2017 dated 04.06.2020. Only Class-I and Class-II Local suppliers as per MII order dated 4.6.2020 will be eligible to bid. Non - Local suppliers as per MII order dated 04.06.2020 are not eligible to participate. However, eligible micro and small enterprises will be allowed to participate .The buyers are advised to refer the OM No.F.1/4/2021-PPD dated 18.05.2023.

OM No.1 4 2021 PPD dated 18.05.2023 for compliance of Concurrent application of Public Procurement Policy for Micro and Small Enterprises Order, 2012 and Public Procurement (Preference to Make in India) Order, 2017.

7. Purchase preference to Micro and Small Enterprises (MSEs): Purchase preference will be given to MSEs as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail the Purchase preference, the bidder must be the manufacturer of the offered product in case of bid for supply of goods. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises. In respect of bid for Services, the bidder must be the Service provider of the offered Service. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product or service. If L-1 is not an MSE and MSE Seller (s) has/have quoted price within L-1+ 15% (Selected by Buyer)of margin of purchase preference /price band defined in relevant policy, such Seller shall be given opportunity to match L-1 price and contract will be awarded for 25%(selected by Buyer) percentage of total QUANTITY.The buyers are advised to refer the OM No.F.1/4/2021-PPD dated 18.05.2023

OM No.1 4 2021 PPD dated 18.05.2023 for compliance of Concurrent application of Public Procurement Policy for Micro and Small Enterprises Order, 2012 and Public Procurement (Preference to Make in India) Order, 2017.

8. Estimated Bid Value indicated above is being declared solely for the purpose of guidance on EMD amount and for determining the Eligibility Criteria related to Turn Over, Past Performance and Project / Past Experience etc. This has no relevance or bearing on the price to be quoted by the bidders and is also not going to have any impact on bid participation. Also this is not going to be used as a criteria in determining reasonableness of quoted prices which would be determined by the buyer based on its own assessment of reasonableness and based on competitive prices received in Bid / RA process.

9. Past Performance: The Bidder or its OEM {themselves or through re-seller(s)} should have supplied same or similar Category Products for 20% of bid quantity, in at least one of the last three Financial years before the bid opening date to any Central / State Govt Organization / PSU / Public Listed Company. Copies of relevant contracts (proving supply of cumulative order quantity in any one financial year) to be submitted along with bid in support of quantity supplied in the relevant Financial year. In case of bunch bids, the category related to primary product having highest bid value should meet this criterion.

### **Reactive DC Magnetron Sputtering Unit ( 1 box )**

**(Minimum 50% and 20% Local Content required for qualifying as Class 1 and Class 2 Local Supplier respectively/कमशः श्रेणी 1 और श्रेणी 2 के स्थानीय आपूर्तिकर्ता के रूप में अर्हता प्राप्त करने के लिए आवश्यक)**

#### **Technical Specifications/तकनीकी विशिष्टियाँ**

Buyer Specification Document/क्रेता विशिष्टि दस्तावेज़	<a href="#">Download</a>
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#### **Installation Commissioning and Testing (ICT) details for the above item:**

% of Product Cost Payable on Product Delivery	80%
Min Cost Allocation for ICT as a % of product cost	20%
Number of days allowed for ICT after site readiness communication to seller	15 Days/दिन



**Consignees/Reporting Officer/परेषिती/रिपोर्टिंग अधिकारी and/ तथा Quantity/मात्रा**

S.No./क्र. सं.	Consignee Reporting/Officer/ परेषिती/रिपोर्टिंग अधिकारी	Address/पता	Quantity/मात्रा	Delivery Days/डिलीवरी के दिन
1	Prashant Sahu	453552,IIT Indore, Khandwa Road, Simrol, Indore	1	85

**Buyer Added Bid Specific Terms and Conditions/क्रेता द्वारा जोड़ी गई बिड की विशेष शर्तें****1. Generic**

**OPTION CLAUSE:** The Purchaser reserves the right to increase or decrease the quantity to be ordered up to 25 percent of bid quantity at the time of placement of contract. The purchaser also reserves the right to increase the ordered quantity by up to 25% of the contracted quantity during the currency of the contract at the contracted rates. Bidders are bound to accept the orders accordingly.

**2. Generic**

Actual delivery (and Installation & Commissioning (if covered in scope of supply)) is to be done at following address

PoD Building  
IIT Indore  
Simrol  
Indore  
IITI Indore  
.

**3. Generic**

**Bidder financial standing:** The bidder should not be under liquidation, court receivership or similar proceedings, should not be bankrupt. Bidder to upload undertaking to this effect with bid.

**4. Generic**

Bidders shall quote only those products (Part of Service delivery) in the bid which are not obsolete in the market and has at least 5 years residual market life i.e. the offered product shall not be declared end-of-life by the OEM before this period.

**5. Generic**

Bidders are advised to check applicable GST on their own before quoting. Buyer will not take any responsibility in this regards. GST reimbursement will be as per actuals or as per applicable rates (whichever is lower), subject to the maximum of quoted GST %.

**6. Generic**

**Consortium:** In case of Contracts, wherein the seller alone does not have necessary expertise, the seller can form consortium with other sellers for submission of the bid, with one of the consortium company as leader. However, each and every member of the consortium shall be equally responsible for the complete execution of the project contract. An undertaking to this effect is to be uploaded with bid.

7. **Generic**

Data Sheet of the product(s) offered in the bid, are to be uploaded along with the bid documents. Buyers can match and verify the Data Sheet with the product specifications offered. In case of any unexplained mismatch of technical parameters, the bid is liable for rejection.

8. **Generic**

**End User Certificate:** Wherever Bidders are insisting for End User Certificate from the Buyer, same shall be provided in Buyer's standard format only.

9. **Generic**

For hazardous chemical/item, all precautionary measure as per regulation from the point of transportation/ handling/ storage/ safety/ health/ environment to be undertaken/ specified before dispatch. During dispatch, proper symbol for the hazard/ MSDS/ Batch No./ date of manufacturing/ Gross Weight/ Net Weight/ shelf Life etc are to be written/ printed/ pasted on the body of the packing.

10. **Generic**

Installation, Commissioning, Testing, Configuration, Training (if any - which ever is applicable as per scope of supply) is to be carried out by OEM / OEM Certified resource or OEM authorised Reseller.

11. **Generic**

IT equipment shall be IPv6 ready from day one.

12. **Generic**

Malicious Code Certificate:

The seller should upload following certificate in the bid:-

(a) This is to certify that the Hardware and the Software being offered, as part of the contract, does not contain Embedded Malicious code that would activate procedures to :-

- (i) Inhibit the desires and designed function of the equipment.
- (ii) Cause physical damage to the user or equipment during the exploitation.
- (iii) Tap information resident or transient in the equipment/network.

(b) The firm will be considered to be in breach of the procurement contract, in case physical damage, loss of information or infringements related to copyright and Intellectual Property Right (IPRs) are caused due to activation of any such malicious code in embedded software.

13. **Generic**

Scope of supply includes Training: Number of employees to be trained

4

, Place for Training

IITI indore

and Duration of training

2

days.

14. **Generic**

Supplier shall ensure that the Invoice is raised in the name of Consignee with GSTIN of Consignee only.

15. **Generic**

1. The Seller shall not assign the Contract in whole or part without obtaining the prior written consent of buyer.

2. The Seller shall not sub-contract the Contract in whole or part to any entity without obtaining the prior written consent of buyer.

3. The Seller shall, notwithstanding the consent and assignment/sub-contract, remain jointly and severally liable and responsible to buyer together with the assignee/ sub-contractor, for and in respect of the due performance of the Contract and the Sellers obligations there under.

**16. Generic**

The seller is required to print logo as per buyer's requirement.

**17. Generic**

Without prejudice to Buyer's right to price adjustment by way of discount or any other right or remedy available to Buyer, Buyer may terminate the Contract or any part thereof by a written notice to the Seller, if:

- i) The Seller fails to comply with any material term of the Contract.
- ii) The Seller informs Buyer of its inability to deliver the Material(s) or any part thereof within the stipulated Delivery Period or such inability otherwise becomes apparent.
- iii) The Seller fails to deliver the Material(s) or any part thereof within the stipulated Delivery Period and/or to replace/rectify any rejected or defective Material(s) promptly.
- iv) The Seller becomes bankrupt or goes into liquidation.
- v) The Seller makes a general assignment for the benefit of creditors.
- vi) A receiver is appointed for any substantial property owned by the Seller.
- vii) The Seller has misrepresented to Buyer, acting on which misrepresentation Buyer has placed the Purchase Order on the Seller.

**18. Generic**

While generating invoice in GeM portal, the seller must upload scanned copy of GST invoice and the screenshot of GST portal confirming payment of GST.

**19. OEM**

**IMPORTED PRODUCTS:** In case of imported products, OEM or Authorized Seller of OEM should have a registered office in India to provide after sales service support in India. The certificate to this effect should be submitted.

**20. Forms of EMD and PBG**

Bidders can also submit the EMD with Account Payee Demand Draft in favour of

Registrar  
payable at  
Registrar IIT Indore

Bidder has to upload scanned copy / proof of the DD along with bid and has to ensure delivery of hardcopy to the Buyer within 5 days of Bid End date / Bid Opening date.

**21. Forms of EMD and PBG**

Bidders can also submit the EMD with Payment online through RTGS / internet banking in Beneficiary name

Indian Institute of Technology Indore  
Account No.  
1476101027440  
IFSC Code  
CNRB0006223  
Bank Name  
canara Bank  
Branch address  
Simrol IIT Branch Simrol, Indore

Bidder to indicate bid number and name of bidding entity in the transaction details field at the time of on-line transfer. Bidder has to upload scanned copy / proof of the Online Payment Transfer along with bid.



## 22. Forms of EMD and PBG

Successful Bidder can submit the Performance Security in the form of Account Payee Demand Draft also (besides PBG which is allowed as per GeM GTC). DD should be made in favour of

Registrar  
payable at  
Registrar IIT Indore

. After award of contract, Successful Bidder can upload scanned copy of the DD in place of PBG and has to ensure delivery of hard copy to the original DD to the Buyer within 15 days of award of contract.

## 23. Forms of EMD and PBG

Successful Bidder can submit the Performance Security in the form of Fixed Deposit Receipt also (besides PBG which is allowed as per GeM GTC). FDR should be made out or pledged in the name of

Registrar IIT Indore

A/C (Name of the Seller). The bank should certify on it that the deposit can be withdrawn only on the demand or with the sanction of the pledgee. For release of Security Deposit, the FDR will be released in favour of bidder by the Buyer after making endorsement on the back of the FDR duly signed and stamped along with covering letter. Successful Bidder has to upload scanned copy of the FDR document in place of PBG and has to ensure delivery of hard copy of Original FDR to the Buyer within 15 days of award of contract.

## 24. Forms of EMD and PBG

Successful Bidder can submit the Performance Security in the form of Payment online through RTGS / internet banking also (besides PBG which is allowed as per GeM GTC). On-line payment shall be in Beneficiary name

Indian Institute of Indore  
Account No.  
1476101027440  
IFSC Code  
CNRB00062236  
Bank Name  
Canara Bank  
Branch address  
Simrol IIT Branch, Simrol Indore

. Successful Bidder to indicate Contract number and name of Seller entity in the transaction details field at the time of on-line transfer. Bidder has to upload scanned copy / proof of the Online Payment Transfer in place of PBG within 15 days of award of contract.

## 25. Financial Criteria

**NET WORTH:** Net Worth of the OEM should be positive as per the last audited financial statement.

## 26. Scope of Supply

Scope of supply (Bid price to include all cost components) : Supply Installation Testing Commissioning of Goods and Training of operators and providing Statutory Clearances required (if any)

## 27. Turnover

Bidder Turn Over Criteria: The minimum average annual financial turnover of the bidder during the last three years, ending on 31st March of the previous financial year, should be as indicated in the bid document. Documentary evidence in the form of certified Audited Balance Sheets of relevant periods or a certificate from the Chartered Accountant / Cost Accountant indicating the turnover details for the relevant period shall be uploaded with the bid. In case the date of constitution / incorporation of the bidder is less than 3 year old, the average turnover in respect of the completed financial years after the date of constitution shall be taken into account for this criteria.

## 28. Turnover



OEM Turn Over Criteria: The minimum average annual financial turnover of the OEM of the offered product during the last three years, ending on 31st March of the previous financial year, should be as indicated in the bid document. Documentary evidence in the form of certified Audited Balance Sheets of relevant periods or a certificate from the Chartered Accountant / Cost Accountant indicating the turnover details for the relevant period shall be uploaded with the bid. In case the date of constitution / incorporation of the OEM is less than 3 year old, the average turnover in respect of the completed financial years after the date of constitution shall be taken into account for this criteria. In case of bunch bids, the OEM of CATEGORY RELATED TO primary product having highest bid value should meet this criterion.

**29. Buyer Added Bid Specific ATC**

Buyer uploaded ATC document [Click here to view the file.](#)

**30. Service & Support**

Availability of Service Centres: Bidder/OEM must have a Functional Service Centre in the State of each Consignee's Location in case of carry-in warranty. (Not applicable in case of goods having on-site warranty). If service center is not already there at the time of bidding, successful bidder / OEM shall have to establish one within 30 days of award of contract. Payment shall be released only after submission of documentary evidence of having Functional Service Centre.

**31. Service & Support**

Dedicated /toll Free Telephone No. for Service Support : BIDDER/OEM must have Dedicated/toll Free Telephone No. for Service Support.

**32. Service & Support**

Escalation Matrix For Service Support : Bidder/OEM must provide Escalation Matrix of Telephone Numbers for Service Support.

**33. Warranty**

Warranty period of the supplied products shall be 1 years from the date of final acceptance of goods or after completion of installation, commissioning & testing of goods (if included in the scope of supply), at consignee location. OEM Warranty certificates must be submitted by Successful Bidder at the time of delivery of Goods. The seller should guarantee the rectification of goods in case of any break down during the guarantee period. Seller should have well established Installation, Commissioning, Training, Troubleshooting and Maintenance Service group in INDIA for attending the after sales service. Details of Service Centres near consignee destinations are to be uploaded along with the bid.

**34. Warranty**

Successful bidder will have to ensure that adequate number of dedicated technical service personals / engineers are designated / deployed for attending to the Service Request in a time bound manner and for ensuring Timely Servicing / rectification of defects during warranty period, as per Service level agreement indicated in the relevant clause of the bid.

**35. Warranty**

Timely Servicing / rectification of defects during warranty period: After having been notified of the defects / service requirement during warranty period, Seller has to complete the required Service / Rectification within 7 days time limit. If the Seller fails to complete service / rectification with defined time limit, a penalty of 0.5% of Unit Price of the product shall be charged as penalty for each week of delay from the seller. Seller can deposit the penalty with the Buyer directly else the Buyer shall have a right to recover all such penalty amount from the Performance Security (PBG). Cumulative Penalty cannot exceed more than 10% of the total contract value after which the Buyer shall have the right to get the service / rectification done from alternate sources at the risk and cost of the Seller besides forfeiture of PBG. Seller shall be liable to re-imburse the cost of such service / rectification to the Buyer.

The additional terms and conditions have been incorporated by the Buyer after approval of the Competent Authority in Buyer Organization, whereby Buyer organization is solely responsible for the impact of these clauses on the bidding process, its outcome, and consequences thereof including any eccentricity / restriction arising in the bidding process due to these ATCs and due to modification of technical specifications and / or terms and conditions governing the bid. Any clause(s) incorporated by the Buyer regarding following shall be treated as null and void and would not be considered as part of bid:-

1. Definition of Class I and Class II suppliers in the bid not in line with the extant Order / Office Memorandum issued by DPIIT in this regard.
2. Seeking EMD submission from bidder(s), including via Additional Terms & Conditions, in contravention to exemption provided to such sellers under GeM GTC.
3. Publishing Custom / BOQ bids for items for which regular GeM categories are available without any Category item bunched with it.
4. Creating BoQ bid for single item.
5. Mentioning specific Brand or Make or Model or Manufacturer or Dealer name.
6. Mandating submission of documents in physical form as a pre-requisite to qualify bidders.
7. Floating / creation of work contracts as Custom Bids in Services.
8. Seeking sample with bid or approval of samples during bid evaluation process.
9. Mandating foreign / international certifications even in case of existence of Indian Standards without specifying equivalent Indian Certification / standards.
10. Seeking experience from specific organization / department / institute only or from foreign / export experience.
11. Creating bid for items from irrelevant categories.
12. Incorporating any clause against the MSME policy and Preference to Make in India Policy.
13. Reference of conditions published on any external site or reference to external documents/clauses.
14. Asking for any Tender fee / Bid Participation fee / Auction fee in case of Bids / Forward Auction, as the case may be.

Further, if any seller has any objection/grievance against these additional clauses or otherwise on any aspect of this bid, they can raise their representation against the same by using the Representation window provided in the bid details field in Seller dashboard after logging in as a seller within 4 days of bid publication on GeM. Buyer is duty bound to reply to all such representations and would not be allowed to open bids if he fails to reply to such representations.

This Bid is also governed by the General Terms and Conditions/ यह बिड सामान्य शर्तों के अंतर्गत भी शासित है

In terms of GeM GTC clause 26 regarding Restrictions on procurement from a bidder of a country which shares a land border with India, any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. While participating in bid, Bidder has to undertake compliance of this and any false declaration and non-compliance of this would be a ground for immediate termination of the contract and further legal action

in accordance with the laws./जेम की सामान्य शर्तों के खंड 26 के संदर्भ में भारत के साथ भूमि सीमा साझा करने वाले देश के बिडर से खरीद पर प्रतिबंध के संबंध में भारत के साथ भूमि सीमा साझा करने वाले देश का कोई भी बिडर इस निविदा में बिड देने के लिए तभी पात्र होगा जब वह बिड देने वाला सक्षम प्राधिकारी के पास पंजीकृत हो। बिड में भाग लेते समय बिडर को इसका अनुपालन करना होगा और कोई भी गलत घोषणा किए जाने व इसका अनुपालन न करने पर अनुबंध को तत्काल समाप्त करने और कानून के अनुसार आगे की कानूनी कार्यवाई का आधार होगा।

**---Thank You/धन्यवाद---**





भारतीय प्रौद्योगिकी संस्थान इंदौर  
सिमरोल, खंडवा रोड, इंदौर, पिन- 453552

Indian Institute of Technology Indore  
Simrol, Khandwa Road, Indore- 453552

**GeM Bidding Document**

**For**  
**Supply and Installation of Reactive DC Magnetron**  
**Sputtering Unit**



**GeM**  
Government  
e Marketplace

Document to be submitted online on GeM  
for  
(Technical & Financial Bid as per Schedule of requirement)

अनुभाग-1 /SECTION - I

विशेष नियम एवं शर्तें / SPECIAL TERMS AND CONDITIONS

1. Any bidder from a country sharing a land order with India will be eligible to bid in this tender only if the bidder is registered with the Department for Promotion of Industry and Internal Trade (DPIIT) as per vide Ministry of finance OM No. 6/18/2019-PPD dated 23<sup>rd</sup> July 2020.
2. Benefits to Micro and Small (MSEs)/Start-Up will be applicable under PP Policy 2012 for MSEs as per MSE guidelines issued by MoMSME.
3. The Public Procurement (Preference to Make in India) will be applicable under Order 2017, DIPP, MoCI Order no. P-45021/2/2017-B.E.II dated 15<sup>th</sup> June 2017 and its subsequent amendments.
4. **Payment: No advance payment will be made in any case.** Payment will be released through wire transfer/bank RTGS transfer after Supply, installation testing, inspection & commissioning of the item(s) and if found satisfactory with regard to quality, quantity and specifications ordered. The payment will be released after statutory deductions within 30 days. For the payment, the firm has to submit Supplier's Invoice indicating, inter alia description and specification of the goods, quantity, unit price, total value; challans(s), Manufacturer's guarantee certificate; bank details/cancelled cheque, installation report, performance bank guarantee (if asked) etc. to the Assistant Registrar MM Section, IIT Indore.
  - a) **In case of indigenous, the payment term may be**
    - (i) 80% of the unit cost will be paid against delivery of the goods received in good conditions at IIT Indore and accepted by the user department.
    - (ii) 20% of the balance of each unit cost will be paid after satisfactory Installation, Commissioning, Testing & Training of the IIT employees and submission of performance bank guarantee.
5. **PREDISPATCH-** The firm should arrange the pre-dispatch inspection prior to packing & dispatching of the item if asked by the IIT Indore. The firm should share the entire details of the quoted items with original images, catalog and schematic diagrams before packing. Virtual/Online or physical inspection may be done by the IIT Indore technical committee.
6. Items should be delivered only on Working Days (Monday to Friday) during office Hours only i.e. between 10.00 am to 04.00 pm.
7. **PRE- INSTALLATION:** Please also mention the pre-installation requirements for the equipment like ambient temperature, humidity, civil work, weather specifications, power specifications, etc. When items are provided full performance satisfaction should be demonstrated.
8. **INSTALLATION & COMMISSIONING:** BIDDER shall be responsible for installation / demonstration wherever applicable and for after sales service during the warranty period and thereafter as mentioned in the contract. Installation demonstration to be arranged by the supplier free of cost and the same is to be done within **15 days** of the arrival of the equipment at site. **For delayed in delivery or in satisfactory, installation, commissioning, testing & training the liquidated damages will be imposed @ 0.5% (Half Percent) per week subject to a maximum of 10% of the total value of supply order & beyond 10% subject to approval of IIT Indore.**
9. **Liquidated Damages:** -As Time is the essence of an order, the date of delivery should be strictly adhered to, otherwise the delivery in full or in part may not be accepted and penalty for late delivery will be imposed @ 0.5% (Half Percent) per week subject to a maximum of 10% of



**TENDER No.: IITI(MM)/CH(PRJ)/1/1A/353/PD/2023-24**

the total value of supply order & beyond 10% subject to approval of IIT Indore. In case of delay in satisfactory Installation Commissioning, Testing, Training, Inspection, Certification etc. also the same rate of penalty shall be leviable. Non- Delivery of material/service may lead to forfeiture of PBG and debarment of the supplier.

10. **Delivery: Free delivery at IIT Indore in case of indigenous orders.**
11. In case the equipment offered requires maintenance after the expiry of the warranty, please indicate the approximate cost of comprehensive and on-call basis maintenance and also the availability of local support or otherwise.
12. Please note clearly that the Bids sent through FAX, E-mail, by hand and/or by any post/courier shall not be accepted/ processed, in any case.
13. All other General Terms & Conditions will as per GeM GTC 4.0 v1.12.
14. IIT Indore **reserves the right to modify/alter/insertion or deletion on any part of the tender document to ensure fulfillment of its material & service requirement at any stage.**
15. **Format for Price Breakup (FORM-X) must be uploaded at the time of Price bid submission.**

**Non-Compliance of the above condition at point no. 15 by the bidders will amount to non-eligibility for which tender has been floated and its bid shall be liable to be rejected summarily.**

  
**Assistant Registrar (MM)**

**अनुभाग-2 / SECTION- II****पूर्व योग्यता मानदंड/Pre- Qualification Criteria****भाग – 1 /PART - I****LIST OF DOCUMENTS TO BE UPLOADED WITH TECHNICAL BID**

Sl. No	Details	Supporting Document Should be Submitted
1.	The Bidder should be OEM/Authorized/Distributors/Dealers/Firms etc. and should have the existence of firm for a minimum period of 5 Years.	For OEM: - Valid Certificate of Incorporation/Registration Certificate of the firms.
2.	Bidder should submit a valid Manufacturers Authorization Form specific to this tender.	The authorization letter should be on the Letterhead of the concerned OEM. In case of Authorized/distributor, dealer/agent Copy of the valid authorization, the certificate shall be enclosed. <b>Offer submitted without proper authorization shall be liable to be rejected summarily.</b>
3.	The firm should have a strong technical support team available in India to rectify the technical issues related to the <b>Reactive DC Magnetron Sputtering Unit</b> supply within 24 Hrs.	Bidder should enclose the details of service support (Escalation Matrix details).
4.	<b>Udyam Certificate if bidder claim MSEs should be as per GeM_GTC Clause 04, Point no (xiii), m, (i)</b>	Self-certified copies of documents.
5.	<b>Startup Certificate if bidder claim as a startup</b>	Self-certified copies of documents.
6.	<p>WORK EXPERIENCE: The Vendors / Bidders should have work experience as per the following parameters.</p> <p>Three similar completed work costing not less than Rs. <b>1,80,000/- (Rupees One Lakhs Eighty Thousand only)</b> in last 3 (Three) years for any Govt./Semi Govt./Centrally Funded Technical Institutes (CFTI) which includes IITs, IISERs, IIMs, NITs, IIITs, IISc and IEST), CSIR Institutes, Central Universities and /or DAE Institutes (NISER, TIFR) where they have completed the similar works.</p> <p style="text-align: center;">OR</p> <p>Two similar completed work costing not less than Rs. <b>2,40,000/- (Rupees Two Lakh Forty Thousand only)</b> in last 3 (Three) for any Govt./Semi Govt./Centrally Funded Technical Institutes (CFTI) which includes IITs, IISERs, IIMs, NITs, IIITs, IISc and IEST), CSIR Institutes, Central Universities and /or DAE Institutes (NISER, TIFR) where they have completed the similar</p>	<p>Work orders and satisfactory completion valid certificates issued by respective buyer organization of the above order in support of experience to be enclosed. <b>Without submission of completion certificate the experience will not be considered.</b></p> <p><b>The valid certificate should be in Letter Head of the concerned government organization with authorized signatory.</b></p>



**TENDER No.: IITI(MM)/CH(PRJ)/1/1A/353/PD/2023-24**

	One similar completed work costing not less than Rs. <b>4,20,000/-</b> (Rupees <b>Four Lakh Twenty Thousand Nine Hundred Eighty</b> only) in last 3 (Three) years for any Govt./Semi Govt./Centrally Funded Technical Institutes (CFTI) which includes IITs, IISERs, IIMs, NITs, IIITs, IISc and IEST), CSIR Institutes, Central Universities and /or DAE Institutes (NISER, TIFR) where they have completed the similar works. <b>Note: Similar work means Supply of Reactive DC Magnetron Sputtering Unit.</b>	
7.	Bidder Information	<b>As per enclosed FORM - V</b>
8.	List of other Govt. Departments, Public Sector units and Central Autonomous Bodies for which the bidder is supplying material or having the similar type of contracts and a valid certificate regarding the satisfactory performance of the contract.	<b>As per enclosed FORM VI</b>
9.	Bidder Acceptance of Tender Document	<b>As per enclosed FORM VII</b>
10.	The bidder should not have been blacklisted by any Government / Semi Government / Board /Corporations /Autonomous Body/ PSU. An undertaking/declaration in this regard should be closed. If any such matter i.e. of blacklisting /suspension is subjudice, even then the concerned firm shall be technically disqualified.	<b>As per enclosed FORM IV</b>
11.	The quoted products should not be under end of sales or end of support in next 05 (five) years from the date of submission.	(Declaration from OEM/ Authorized Distributors/Dealers/firms should be submitted)
12.	Make In India- Class-I or Class-II Local Supplier.	A Self-Declaration Certificate regarding "Class-I or Class-II Supplier" for the tendered item as per the Annexure- is to be submitted.
13.	<b>FINANCIAL TURNOVER:</b> The Bidder Annual Financial Turnover should more than Rs. <b>24 Lakhs</b> during the past three financial years namely 2019-20, 2020-21 and 2021-22. And In case of OEM, the Average Annual Turn Over of OEM should be Rs. <b>48 Lakhs</b> during the past three financial years namely 2019-20, 2020-21 and 2021-22. The Vendors / Bidders should not have incurred any loss during the last 3 (Three) years (as of 31st March, 2022). Profit after Tax should be positive for the above-mentioned period.	<b>As per enclosed FORM VIII</b> and Attach a separate neatly typed sheet on the letter head of Registered Chartered Accountant OR enclose copies of audited Balance Sheet and Profit & Loss Statement for the previous 3 financial year as specified in bid document and further details if required may be asked from the contractor after opening of technical bids. There is no need to upload entire voluminous balance sheet.

**Note: Non-Compliance with any of the above conditions by the bidders will amount to non-eligibility for which tender has been floated and its bid shall be liable to be rejected summarily.**

**Signature & Seal of Bidder**

**अनुभाग-2 / SECTION- II****तकनीकी विशिष्टता / Technical Specification****भाग – 2 /PART - II**

(Bidder should submit compliance matrix along with Technical Bid)

**Item details and technical specifications as mentioned below: Supply and Installation of Reactive DC Magnetron Sputtering Unit.**

S. N.	Feature	Description/ Specification	Qty.	Compliance Yes/No	Deviation if any
1.	Reactive DC Magnetron Sputtering Unit (Specifications as below)		01		
1	<b>Pulsed DC Power Supply 1KW-1no</b>	<ul style="list-style-type: none"> <li>❖ 1000W, 300kHz Frequency</li> <li>Unipolar Pulse DC power supply and 1500W DC Power Supply; RS232 or RS 485 interface, 1000V output voltage</li> </ul>			
2	<b>DC Power Supply- 1nos</b>	<ul style="list-style-type: none"> <li>❖ Input Voltage:230V,50Hz</li> <li>❖ Power Rating : 1000 Watts</li> <li>❖ Output Voltage : -50 to -1000V DC</li> <li>❖ Current:0 to 1A</li> <li>❖ Control for adjusting output voltage</li> <li>❖ Digital display: two individual displays for output voltage and output current</li> <li>❖ Protection against output over load and short circuit</li> <li>❖ High voltage cable with N type connector.</li> </ul>			
3	<b>Mass Flow controllers- 2nos</b>	<ul style="list-style-type: none"> <li>❖ <b>Gases : Argon -1no, Oxygen -1no</b></li> <li>-Maximum flow ): 100 Sccm</li> <li>- Seals: Viton</li> <li>- Fittings: 1/4" compression gas fittings</li> <li>- 15-pin 'D' connector</li> <li>- LCD flow display</li> <li>- Power: 12 Vdc</li> <li>- Input/output signal: Local: 0 - 5 Vdc</li> <li>- local flow adjust potentiometer</li> <li>- Accuracy: 1.5% of full scale</li> <li>- optimum inlet pressure: 1.4 Bar</li> <li>- optimum differential pressure: 3.4 Bar</li> <li>- normally closed solenoid control valve</li> <li>- calibrated for Argon</li> <li>- Range: 0-100Sccm</li> <li>❖ The mass flow controller for the system integration.</li> <li>❖ A mass flow controller with shut off valve is used for feeding gas.</li> <li>❖ The gas feeding line is provided.</li> <li>❖ Gases will be fed to the chamber through MFC with isolation valve for sputtering purposes. The Digital Pressure Controller Gauge will be included and flushed on front panel, so that the user can be able to operate or replicate the deposition process to get the repeated performance.</li> </ul>			
4	<b>Vacuum Chamber</b>	<ul style="list-style-type: none"> <li>❖ The Vacuum chamber would be made out of non magnetic Stainless Steel grade, AISI 304</li> <li>❖ D Shaped chamber with water cooling having dimension 380mm (W) x 380 mm(D) x 400mm(H) approx.</li> <li>❖ A front door opening quick access door will be provided for loading &amp; unloading of the substrates. The front will be made up aluminium.</li> <li>❖ One high vacuum compatible, toughened glass view port would be provided on the front door</li> <li>❖ Chamber would be provided with ports to connect diffusion pump, rotary pump and vacuum gauges.</li> <li>❖ Chamber shall also will be provided with ports for evacuation, vacuum measuring gauge heads, gas feedings etc.</li> <li>❖ Chamber base plate will be provided with necessary feed through ports for mounting magnetron source, shutters etc.</li> </ul>			



**TENDER No.: IITI(MM)/CH(PRJ)/1/1A/353/PD/2023-24**

		The chamber, all stainless steel components & sub-assemblies will be electro-polished.		
5	<b>Chamber Gadgetry</b>	<p><b>a. Sputtering Cathodes -2nos</b></p> <ul style="list-style-type: none"> <li>❖ One no of 2" indirectly water cooled flex mount magnetrons with con-focal arrangement manual shutters will be provided..</li> <li>❖ Magnetrons have capability of accommodating 1-6mm thick targets approx.</li> <li>❖ Flex mount magnetron would have a manual height adjustment facility to vary the distance between target &amp; substrate and to manually tilt facility for focusing plasma.</li> <li>❖ Form: Circular</li> <li>❖ Vacuum: Ultra High Vacuum (UHV)</li> <li>❖ Back out Temperature: Standard 180 Degrees C</li> <li>❖ Magnets: Standard Nd FeB</li> <li>❖ Stem Tube: 19 mm O.D. X 205mm</li> <li>❖ One manually operated source shutter with rotary shaft seal to cover the sputter source would be incorporated in the chamber.</li> </ul> <p><b>b. Substrate Heater</b></p> <ul style="list-style-type: none"> <li>❖ Suitable substrate heater to heat the substrate up to a temperature of 800 oC and would be provided with PID controller with digital display , using feedback from K Type Thermocouple.</li> </ul>		
6	<b>Vacuum Pumping System</b>	<p><b>a. Two Stage Rotary Vane Vacuum Pump: 1no</b></p> <ul style="list-style-type: none"> <li>❖ Direct Drive Rotary Pump 250 LPM is having the special quiet &amp; Vibration free positive anti- suck back within built, compact &amp; Light weight, effective gas ballast, low oil charge, air cooled &amp; high water vapour handling capacity with free air displacement.</li> <li>• Capacity (LPM) : 250</li> <li>• Meter Cube per hour : 15</li> <li>• Ultimate vacuum when measure on a Mcleod Gauge with Gas ballast closed (mbar) : <math>&gt;1 \times 10^{-3}</math></li> <li>• opened (mbar) : <math>&gt;5 \times 10^{-2}</math></li> <li>• Inlet Connection : KF 25</li> </ul> <p>Motor (HP) Single Phase: ½</p> <p><b>b. Diffusion Pump: 1no</b></p> <p>Size: 4"</p> <p>Pumping Speed : 280lit/sec</p> <p>Ultimate Vacuum : <math>1 \times 10^{-6}</math> mbar</p> <p>Critical Backing Pressure:0.1mbar</p> <p>Backing Pump Capacity : 250lit/min</p> <p>Type: Diffstack</p> <p>Oil Quantity &amp; Grade : 100ml, DC-704</p> <p>Inlet/Outlet Connection: KF-25</p> <p>Cooling : Water</p> <p>Warm Up time: 30min</p> <p>Heater Power : 500W</p> <p>Material : SS 304</p> <p><b>c. Liquid Nitrogen Trap: 1no</b></p> <ul style="list-style-type: none"> <li>❖ LN<sub>2</sub> Trap shall be mounted above the diffusion pump, it will be double walled container. With the use of LN2 trap Ultimate Vacuum is <math>2 \times 10^{-6}</math> mbar</li> </ul> <p><b>d. HIGH VACUUM VALVE</b></p> <ul style="list-style-type: none"> <li>❖ A high vacuum valve of 4 " size is provided to achieve maximum through put from the pump. This also facilitates the isolation of the diffusion pump from exposing it to atmosphere when the load is exposed to atmosphere. The valve is manually operated and placed for easy operation.</li> <li>❖ The quarter swing butterfly valve of 4" size Model QSV-4 is fitted above the liquid nitrogen trap. This will help to isolate the diffusion pump when the roughing operation is going on.</li> </ul> <p><b>e. COLLAR</b></p> <ul style="list-style-type: none"> <li>❖ A 4" collar is made out of SS304 material, finely ground and electro-chemically polished. Ports are provided for connecting the vacuum gauges. One number of fine controlled needle valve (0-3000cc/min) for controlled admittance of inert gas and one number of air admittance</li> </ul>		

		valve is provided for venting the job is provided in the collar. f. <b>PLUMBING LINES</b> ❖ Plumbing lines are made of SS304 material of 1" NB that will incorporate 02 Nos of Butterfly valves for roughing and backing operation would be provided g. <b>Vacuum Measuring Gauges.</b> ❖ Stabilized Digital pirani gauge with two pirani gauge heads is provided to independently monitor the roughing and backing pressure. Vacuum in the job or pipe line can be seen on the gauge display using a selector switch. This pirani gauge can measure vacuum level from atm to 0.001m.bar. ❖ Stabilized Digital Penning gauge with one gauge head is provided to monitor high vacuum on a separate Penning meter in two ranges, from $1 \times 10^{-3}$ to $1 \times 10^{-6}$ m.bar.		
7	<b>Mounting:</b>	❖ All the above components are compactly and aesthetically housed in a state of the art frame made out of M.S material. The frame is powdered coated for dust-free operation. The front panel is provided for mounting vacuum gauge, Rotary pump is mounted inside the cabinet on a suitable supports. The pump is connected to the main unit through a vibration damping flexible corrugated bellow (SS304) of convenient length. The pump exhaust is terminated at the back of the unit so that it can be connected to a point outside the room if necessary. Anti vibration mounts for rotary vacuum pump are provided for the reducing the vibrations. The water connections are terminated at the back of the unit for the convenient connection.		
8	<b>Electrical Supply:</b>	Mains Supply : 230 VAC, 50Hz. Single Phase		
9	<b>Target Materials</b>	Size 2" x 3mm thick 1. Copper-1no 2. Tin : 1no 3. Nickel: 1no 4. Titanium : 1no 5. Zinc : 1no		

**Note:**

- A. The bidder should submit his acceptance against each column as YES/NO and if No, the bidder should specify the deviation.
- B. Valid proof of the document in support of the claim to be enclosed with the technical bid.
- C. The Quantity mentioned above is also indicative and might change in the final order.
- D. Prospective bidders can quote Rate as per Unit and the institute will decide on the final order quantity.

(Signature of the Bidder, with Official Seal)



अनुभाग-2 / SECTION- II

अमूल्यंकित तकनीकी बोली / UNPRICED TECHNICAL BID

भाग – 3 /PART - III

(Bidder should provide the following details on Letter head)

TENDER NO.:

Date:

Name of the Bidder \_\_\_\_\_

Sr. No.	Item Description	Quantity	Make	Model	HSN Code	GST %	Country of Origin
1							
2							
3							
n							

**Other Terms & Conditions**

1.	Payment terms	:
2.	Delivery Period from the date of Purchase Order	:
3.	Installation within 15 days of delivery	:
4.	Warranty	:
5.	Two days training for 3-4 persons	:
6.	Specify any other terms & conditions:	:

प्रपत्र -1 / FORM-I

निर्माता का अनुज्ञा और वारंटी समर्थन पत्र

**MANUFACTURER'S AUTHORIZATION & WARRANTY SUPPORT DECLARATION**  
(ON OEMs Letter head)

Date: \_\_\_\_\_

Tender No / GeM bid no:

To  
The Registrar  
Indian Institute of Technology Indore

We, \_\_\_\_\_ [name of Manufacturer], who are official manufacturers of [Insert type of goods manufactured] having factories at [insert full address of Manufacturer's factories], do hereby authorize [insert complete name of Bidder] to submit a bid the purpose of which is to provide the following goods, manufactured by us [insert name and or brief description of the goods], and to subsequently negotiate and sign the contract.

We hereby extend our full guarantee, warranty, availability of spare parts and AMC support in accordance with the Terms and Conditions of Contract with respect to the Goods offered by the above firm.

Authorized representative of the Manufacturer      Authorized representative Bidder

Signature:

Signature:

Name:

Name:

Address:

Address:

Mobile No:

Mobile No:

Email ID:

Email ID:



प्रपत्र -2 / FORM-II

स्थानीय सामग्री के लिए घोषणा

Declaration for Local Content (on OEM's Letter Head)

(To be given on Company Letter Head - For tender value below Rs.10 Crores)  
(To be given by Statutory Auditor/Cost Auditor/Cost Accountant/CA for tender value above Rs.10 Crores)

Date: \_\_\_\_\_

To  
The Registrar  
Indian Institute of Technology Indore

**Sub: Declaration of Local content**

Tender No: \_\_\_\_\_

Name \_\_\_\_\_ of \_\_\_\_\_ Goods \_\_\_\_\_ & \_\_\_\_\_ Services: \_\_\_\_\_

1. Country of Origin of Goods being offered: \_\_\_\_\_

2. We hereby declare that items offered has \_\_\_\_\_% local content **(Please provide exact %).**

3. Details of location at which local value addition will be made / made: (Complete address to be mentioned)

\_\_\_\_\_  
\_\_\_\_\_

*"Local Content" means the amount of value added in India which shall, be the total value of the item being offered minus the value of the imported content in the item (including all customs duties) as a proportion of the total value, in percent.*

***"False declaration will be in breach of Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law."***

Yours Faithfully,  
(Signature of the Bidder/OEM, with Official Seal)

प्रपत्र -3 / FORM-III

डीपीआईआईटी पंजीकरण के लिए घोषणा पत्र

Declaration for DPIIT Registration (on OEM's Letter Head)

**CERTIFICATE BY BIDDER- DPIIT REGISTRATION**

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, / if from such a country, has been registered with the Competent Authority (copy of the Registration Certificate enclosed).

I hereby certify that his bidder fulfils all requirements in this regard and is eligible to be considered.

Signature with Date and Stamp

Of the Bidder



प्रपत्र -4 / FORM-IV

स्वच्छ छवि/कोई कानूनी कार्रवाई नहीं होने के संबंध में घोषणा पत्र

**DECLARATION REGARDING CLEAN TRACK/NO LEGAL ACTION**

(to be provided on letter head of the firm)

I hereby certify that the above firm namely \_\_\_\_\_ is neither blacklisted by any Central/State Government/Public Undertaking/Institute nor any criminal case registered / pending against the firm or its owner/ partners anywhere in India preceding three years from the date of publishing of tender.

I also certify that the above information is true and correct in any every respect and in any case at a later date it is found that any details provided above are incorrect, any contract given to the above firm may be summarily terminated and the firm blacklisted.

Date:

Authorized Signatory

Name:

Place:

Designation:

Contact No.:

प्रपत्र -5 / FORM-Vबोलीदाता सूचना प्रपत्र**BIDDER INFORMATION FORM**

Company Name	
Registration Number	
Manufacturer /Distributor for the quoted product	
Registered Address	
Name of Partners /Director	
City /Postal Code	
Company's Establishment Year	
Company's Legal Status (tick on appropriate option)	1) Limited Company 2) Undertaking 3) Joint Venture 4) Partnership 5) Others (In case of Others please specify)
Company Category	1) Micro Unit as per MSME 2) Small Unit as per MSME 3) Medium Unit as per MSME 4) Ancillary Unit 5) SSI 6) Others (In case of Others please specify)
Contact Name Email Id MOBILE NO.	
<b>BANK DETAILS</b>	Name of Beneficiary : A/c. No. CC/CD/SB/OD: Name of Bank : IFSC NO. (Bank) : Branch Address and Branch Code:
Vendor's PAN No. (Should be attached)	
Vendor's GST No. (Should be attached)	



प्रपत्र -6 / FORM-VI

पिछली आपूर्ति आदेश सूची प्रारूप

PREVIOUS SUPPLY ORDER LIST FORMAT

Order placed by {Full address of Purchaser}	Order No. and Date	Description and quantity of ordered equipment	Value of order	Contact Person along with Telephone no., Fax no. and e- mail address.

Note: Technical Committee may seek additional information from the existing users at IIT Indore or from other Institutes, these feedbacks will be considered for technical evaluation.

Signature and Seal of the Manufacturer/ bidder .....

Place:

Date:

प्रपत्र -7 / FORM-VII

निविदा शर्तों की स्वीकृति हेतु  
ACCEPTANCE OF TENDER TERMS

(To be given on Company Letter Head)

Date: DD/MM/YYYY

To,

The Registrar

Indian Institute of Technology Indore

**Sub: Acceptance of Terms & Conditions of Tender.** \_\_\_\_\_"

**Dear Sir,**

1. I/ We have downloaded / obtained the tender document(s) for the above mentioned 'Tender/Work' from the web site(s) namely: \_\_\_\_\_ as per your advertisement, given in the above mentioned website(s).
2. I / We hereby certify that I / we have read the entire terms and conditions of the tender documents from Page No. \_\_\_\_\_ to \_\_\_\_\_ (including all documents like annexure(s), schedule(s), etc), which form part of the contract agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein and I have no objection for any of the content of the bid document. The rates quoted by me/us are valid and binding on me/us for acceptance till the validity of bid.
3. I / We hereby unconditionally accept the tender conditions of above-mentioned tender document(s) / corrigendum(s) in its totality / entirety.
4. I / We do hereby declare that our Firm has not been blacklisted/ debarred by any Govt. Department/Public sector undertaking.
5. I / We do hereby declare that we have quoted our firm rates inclusive of taxes if not mentioned extra.
6. I/We agree to hold this offer open until **180 days** and shall be bound to supply/commission/install/test the equipment and dispatch the same within the specified period.
7. **I/We agree that in case if we fail to deliver the goods/complete the work/supply within the stipulated time, then institute has full power to compound the liquidity damages or forfeit the Bid Security/Security Deposit or any necessary action as deemed fit can be taken by the IIT Indore.**
8. The articles shall be of the best quality and of the kind as per the requirement of the institution. The decision of the IIT Indore, India (herein after called the said officer) as regard to the quality and kind of article shall be final and binding on me. Should the said officer deem it necessary to change any article on being found of inferior quality, it shall be replaced by me/us free of cost in time to prevent inconvenience.
9. I/We declare that no legal/financial irregularities are pending against the proprietor/partner of the bidding firm or manufacturer.
10. I/We undertake that the items supplied are as per Demonstration/Catalogue/technical literature description.



11. I/We undertake that the quoted rates are not higher than that approved in any other Govt. institutions in India for the same items during the current Financial Year.
12. I/we do hereby confirm that the prices/rates quoted are fixed and are at par with the prices quoted by me/us to any other Govt. of State/Central/Institute/Department/PSUs. I/we also offer to supply the Equipment/stores at the prices and rates not exceeding those mentioned in the price bid.
13. I/We do hereby confirm that I/we aware about the provisions of "Make in India"/startup initiatives and directives regarding Price Preference Policy to Make in India Registered Bidders and I/We undertake for following the same as per directions of IIT Indore in respect of this E-Bid Enquiry.
14. I/we have necessary infrastructure for the maintenance of the equipment and will provide all accessories/spares as and when required.
15. I/we also declare that in case of change of Indian Agent or for any other change. Merger, dissolution solvency etc. in the organization of our foreign principles, we would take care of the Guarantee/Warranty/Maintenance of the machinery/equipment and have provided written confirmation for the same.
16. I/we undertake to get the equipment repaired/replace within 48 hours of the receiving of the complaint from the institute failing which a penalty of @ 1% of the cost may be recovered from the Bank Guarantee before releasing the same to us after completion period.
17. I/we undertake, If as a result of post payment audit any over payment is deducted in respect of any Supply/work done by our Agency or alleged to have been done by our Agency under this bid, it shall be recovered by the IIT Indore from our Agency.
18. I/we undertake, If any under payment is discovered, the amount shall be duly paid to our Agency by the IIT Indore.
19. I/we undertake that we shall liable to provide all the relevant records copies during the concurrency period of Contract or otherwise even after the Contract is over, whenever required by IIT Indore.

Yours Faithfully,

(Signature of the Bidder, with Official Seal)

प्रपत्र -8 / FORM-VIII

वार्षिक कारोबार की घोषणा और

इनकम टैक्स रिटर्न

**DECLARATION OF ANNUAL TURNOVER AND  
INCOME TAX RETURN**

(To be submitted on Firm/Company Letterhead)

To,  
The Registrar  
Indian Institute of Technology Indore

Date :

**Sub: NIT No.** \_\_\_\_\_

Dear Sir,

I/we hereby declare that, our firm's Annual Turnover as follows, and I/we have also supported an Audited Accounts for your references:

F.Y 2020-21	F.Y 2021-22	F.Y 2022-23

And,

I/we hereby declare that, our firm had filed Income Tax Returns for last 3 years i.e. F.Y. 2020-21, 2021-22, & F.Y. 2022-23. Supported by copy of ITR of three years.

\_\_\_\_\_  
(Signature of the Tenderer)

Company Seal:

Date:



प्रपत्र -9 / FORM-IX

परफॉरमेंस सिक्योरिटी प्रारूप  
PERFORMANCE SECURITY FORMAT

To,

.....  
**WHEREAS** ..... (name and address of the supplier)  
(hereinafter called "the supplier") has undertaken, in pursuance of contract no. .... Dated  
.....to supply (description of goods and services) (hereinafter called "the contract").

**AND WHEREAS** it has been stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognized by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

**AND WHEREAS** we have agreed to give the supplier such a bank guarantee:

**NOW THEREFORE** we hereby affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total of ..... (amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We further undertake to pay the Purchaser any money so demanded notwithstanding any dispute or disputes raised by the supplier(s)/vendor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the supplier(s)/vendor(s) shall have no claim against us for making such payment.

We hereby waive the necessity of your demanding the said debt from the supplier before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed there under or of any of the contract documents which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until the ..... day of ....., 20.....

(Signature of the authorized officer of the Bank)

Name and designation of the officer

Seal:

Name & address of the Bank

Address of the Branch:

Phone No.:

E-mail ID:.

**प्रपत्र -10 / FORM-X****Format for Price Breakup/Financial Document****for****Supply and Installation of Reactive DC Magnetron Sputtering Unit****Name of the Bidder/ Bidding Firm / Company:**

Sr. No.	Item	Qty.	Unit Price in INR (₹)	GST in INR (₹)	Total Price in INR (₹)
1.	<b>Supply and Installation of Reactive DC Magnetron Sputtering Unit</b>	<b>01 Nos.</b>			
	<b>Pulsed DC Power Supply 1KW-1no</b>	❖ 1000W, 300kHz Frequency Unipolar Pulse DC power supply and 1500W DC Power Supply; RS232 or RS 485 interface, 1000V output voltage			
	<b>DC Power Supply-1nos</b>	❖ Input Voltage:230V,50Hz ❖ Power Rating : 1000 Watts ❖ Output Voltage : -50 to -1000V DC ❖ Current:0 to 1A ❖ Control for adjusting output voltage ❖ Digital display: two individual displays for output voltage and output current ❖ Protection against output over load and short circuit ❖ High voltage cable with N type connector.			
	<b>Mass Flow controllers-2nos</b>	❖ <b>Gases : Argon -1no, Oxygen -1no</b> -Maximum flow ): 100 Sccm - Seals: Viton - Fittings: ¼" compression gas fittings - 15-pin 'D' connector - LCD flow display - Power: 12 Vdc - Input/output signal: Local: 0 - 5 Vdc - local flow adjust potentiometer - Accuracy: 1.5% of full scale - optimum inlet pressure: 1.4 Bar - optimum differential pressure: 3.4 Bar - normally closed solenoid control valve - calibrated for Argon - Range: 0-100Sccm ❖ The mass flow controller for the system integration. ❖ A mass flow controller with shut off valve is used for feeding gas. ❖ The gas feeding line is provided. ❖ Gases will be fed to the chamber through MFC with isolation valve for sputtering purposes. The Digital Pressure Controller Gauge will be included and flushed on front panel, so that the user can be able to operate or replicate the deposition process to get the repeated performance.			
	<b>Vacuum Chamber</b>	❖ The Vacuum chamber would be made out of non magnetic Stainless Steel grade, AISI 304 ❖ D Shaped chamber with water cooling having dimension 380mm (W) x 380 mm(D) x 400mm(H) approx. ❖ A front door opening quick access door will be provided for loading & unloading of the substrates. The front will be made up aluminium. ❖ One high vacuum compatible, toughened glass view port would be provided on the front door ❖ Chamber would be provided with ports to connect diffusion pump, rotary pump and vacuum gauges.			



		<ul style="list-style-type: none"> <li>❖ Chamber shall also will be provided with ports for evacuation, vacuum measuring gauge heads, gas feedings etc.</li> <li>❖ Chamber base plate will be provided with necessary feed through ports for mounting magnetron source, shutters etc.</li> <li>❖ The chamber, all stainless steel components &amp; sub-assemblies will be electro-polished.</li> </ul>
Chamber Gadgetry		<p><b>c. Sputtering Cathodes -2nos</b></p> <ul style="list-style-type: none"> <li>❖ One no of 2" indirectly water cooled flex mount magnetrons with con-focal arrangement manual shutters will be provided..</li> <li>❖ Magnetrons have capability of accommodating 1-6mm thick targets approx.</li> <li>❖ Flex mount magnetron would have a manual height adjustment facility to vary the distance between target &amp; substrate and to manually tilt facility for focusing plasma.</li> <li>❖ Form: Circular</li> <li>❖ Vacuum: Ultra High Vacuum (UHV)</li> <li>❖ Back out Temperature: Standard 180 Degrees C</li> <li>❖ Magnets: Standard Nd FeB</li> <li>❖ Stem Tube: 19 mm O.D. X 205mm</li> <li>❖ One manually operated source shutter with rotary shaft seal to cover the sputter source would be incorporated in the chamber.</li> </ul> <p><b>d. Substrate Heater</b></p> <ul style="list-style-type: none"> <li>❖ Suitable substrate heater to heat the substrate up to a temperature of 800 oC and would be provided with PID controller with digital display , using feedback from K Type Thermocouple.</li> </ul>
Vacuum Pumping System		<p><b>h. Two Stage Rotary Vane Vacuum Pump: 1no</b></p> <ul style="list-style-type: none"> <li>❖ Direct Drive Rotary Pump 250 LPM is having the special quiet &amp; Vibration free positive anti- suck back within built, compact &amp; Light weight, effective gas ballast, low oil charge, air cooled &amp; high water vapour handling capacity with free air displacement. <ul style="list-style-type: none"> <li>• Capacity (LPM) : 250</li> <li>• Meter Cube per hour : 15</li> <li>• Ultimate vacuum when measure on a Mcleod Gauge with Gas ballast closed (mbar) : <math>&gt;1 \times 10^{-3}</math></li> <li>• opened (mbar) : <math>&gt;5 \times 10^{-2}</math></li> <li>• Inlet Connection : KF 25</li> <li>• Motor (HP) Single Phase: <math>\frac{1}{2}</math></li> </ul> </li> </ul>
		<p><b>i. Diffusion Pump: 1no</b></p> <p>Size: 4"</p> <p>Pumping Speed : 280lit/sec</p> <p>Ultimate Vacuum : <math>1 \times 10^{-6}</math> mbar</p> <p>Critical Backing Pressure:0.1mbar</p> <p>Backing Pump Capacity : 250lit/min</p> <p>Type: Diffstack</p> <p>Oil Quantity &amp; Grade : 100ml, DC-704</p> <p>Inlet/Outlet Connection: KF-25</p> <p>Cooling : Water</p> <p>Warm Up time: 30min</p> <p>Heater Power : 500W</p> <p>Material : SS 304</p> <p><b>j. Liquid Nitrogen Trap: 1no</b></p> <ul style="list-style-type: none"> <li>❖ LN<sub>2</sub> Trap shall be mounted above the diffusion pump, it will be double walled container. With the use of LN2 trap Ultimate Vacuum is <math>2 \times 10^{-6}</math> mbar</li> </ul> <p><b>k. HIGH VACUUM VALVE</b></p> <ul style="list-style-type: none"> <li>❖ A high vacuum valve of 4 " size is provided to achieve maximum through put from the pump. This also facilitates the isolation of the diffusion pump from exposing it to atmosphere when the load is exposed to atmosphere. The valve is manually operated and placed for easy operation.</li> <li>❖ The quarter swing butterfly valve of 4" size Model QSV-4 is fitted above the liquid nitrogen trap. This will help to isolate the diffusion pump when the roughing operation is going on.</li> </ul> <p><b>l. COLLAR</b></p> <ul style="list-style-type: none"> <li>❖ A 4" collar is made out of SS304 material, finely ground and electro-chemically polished. Ports are provided for connecting the vacuum gauges. One number of fine controlled needle valve (0-3000cc/min) for controlled admittance of inert gas</li> </ul>

**TENDER No.: IITI(MM)/CH(PRJ)/1/1A/353/PD/2023-24**

		and one number of air admittance valve is provided for venting the job is provided in the collar.
		<b>m. PLUMBING LINES</b>
		❖ Plumbing lines are made of SS304 material of 1" NB that will incorporate 02 Nos of Butterfly valves for roughing and backing operation would be provided
		<b>n. Vacuum Measuring Gauges.</b>
		❖ Stabilized Digital pirani gauge with two pirani gauge heads is provided to independently monitor the roughing and backing pressure. Vacuum in the job or pipe line can be seen on the gauge display using a selector switch. This pirani gauge can measure vacuum level from atm to 0.001m.bar.
		Stabilized Digital Penning gauge with one gauge head is provided to monitor high vacuum on a separate Penning meter in two ranges, from $1 \times 10^{-3}$ to $1 \times 10^{-6}$ m.bar.
	<b>Mounting:</b>	❖ All the above components are compactly and aesthetically housed in a state of the art frame made out of M.S material. The frame is powdered coated for dust-free operation. The front panel is provided for mounting vacuum gauge, Rotary pump is mounted inside the cabinet on a suitable supports. The pump is connected to the main unit through a vibration damping flexible corrugated bellow (SS304) of convenient length. The pump exhaust is terminated at the back of the unit so that it can be connected to a point outside the room if necessary. Anti vibration mounts for rotary vacuum pump are provided for the reducing the vibrations. The water connections are terminated at the back of the unit for the convenient connection.
	<b>Electrical Supply:</b>	Mains Supply : 230 VAC, 50Hz. Single Phase
	<b>Target Materials</b>	Size 2" x 3mm thick 1. Copper-1no 2. Tin : 1no 3. Nickel: 1no 4. Titanium : 1no 5. Zinc : 1no
	<b>Leak Testing</b>	❖ All individual components as well as total system is leak tested using Helium Mass Spectrometer leak detector to an individual leak rate better than $1 \times 10^{-9}$ std.cc/sec
	<b>Ultimate Vacuum</b>	❖ An ultimate vacuum range of $5 \times 10^{-6}$ m.bar, when the chamber is clean, cool degassed with liquid nitrogen in back filling & diffusion pump is supplied with water at 20-22 deg. C, 24 PSI Pressure & Flow rate of 1-2 lit/min

**Note:**

1. All Terms & Conditions will be as per NIT Document uploaded on GeM.
2. **Format for Price Breakup (FORM-X) must be uploaded at the time of Price bid submission.**

**Non-Compliance of the above condition by the bidders will amount to non-eligibility for which tender has been floated and its bid shall be liable to be rejected summarily.**

(Signature of the Tenderer)

Company Seal

Date:



# Specification

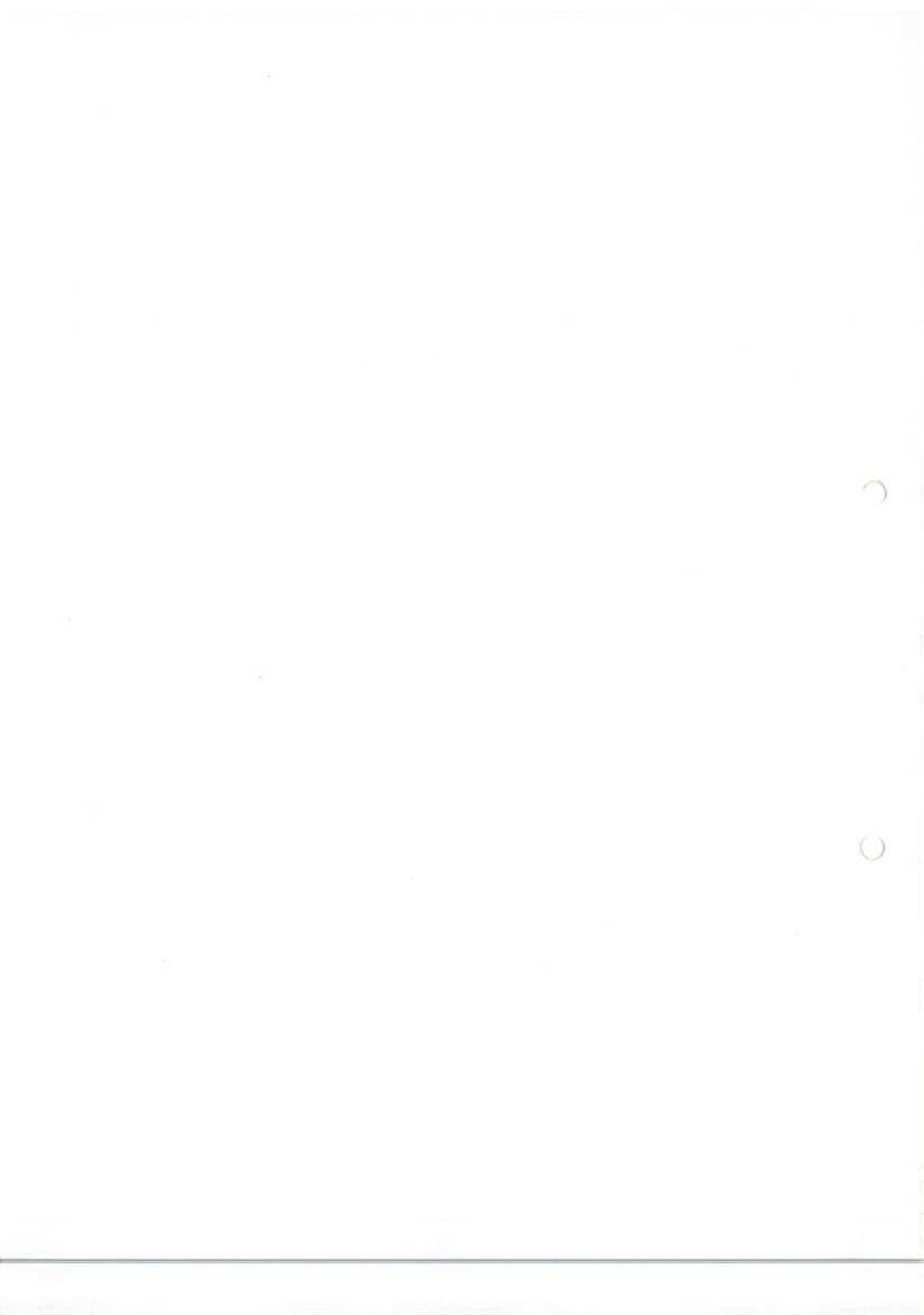
## Reactive DC Magnetron Sputtering Unit Specifications

S. No	Description	Specifications
1.	<b>Pulsed DC Power Supply 1KW-1no</b>	<ul style="list-style-type: none"> <li>❖ 1000W, 300kHz Frequency</li> <li>❖ Unipolar Pulse DC power supply and 1500W DC Power Supply; RS232 or RS 485 interface, 1000V output voltage</li> </ul>
2.	<b>DC Power Supply-1nos</b>	<ul style="list-style-type: none"> <li>❖ Input Voltage: 230V, 50Hz</li> <li>❖ Power Rating : 1000 Watts</li> <li>❖ Output Voltage : -50 to -1000V DC</li> <li>❖ Current: 0 to 1A</li> <li>❖ Control for adjusting output voltage</li> <li>❖ Digital display: two individual displays for output voltage and output current</li> <li>❖ Protection against output over load and short circuit</li> <li>❖ High voltage cable with N type connector.</li> </ul>
3.	<b>Mass Flow controller s-2nos</b>	<ul style="list-style-type: none"> <li>❖ <b>Gases : Argon -1no, Oxygen -1no</b> <ul style="list-style-type: none"> <li>- Maximum flow : 100 Sccm</li> <li>- Seals: Viton</li> <li>- Fittings: 1/4" compression gas fittings</li> <li>- 15-pin 'D' connector</li> <li>- LCD flow display</li> <li>- Power: 12 Vdc</li> <li>- Input/output signal: Local: 0 - 5 Vdc</li> <li>- local flow adjust potentiometer</li> <li>- Accuracy: 1.5% of full scale</li> <li>- optimum inlet pressure: 1.4 Bar</li> <li>- optimum differential pressure: 3.4 Bar</li> <li>- normally closed solenoid control valve</li> <li>- calibrated for Argon</li> <li>- Range: 0-100Sccm</li> </ul> </li> <li>❖ The mass flow controller for the system integration.</li> <li>❖ A mass flow controller with shut off valve is used for feeding gas.</li> <li>❖ The gas feeding line is provided.</li> <li>❖ Gases will be fed to the chamber through MFC with isolation valve for sputtering purposes. The Digital Pressure Controller Gauge will be included and flushed on front panel, so that the user can be able to operate or replicate the deposition process to get the repeated performance.</li> </ul>
4.	<b>Vacuum Chamber</b>	<ul style="list-style-type: none"> <li>❖ The Vacuum chamber would be made out of non magnetic Stainless Steel grade, AISI 304</li> <li>❖ D Shaped chamber with water cooling having dimension 380mm (W) x 380 mm(D) x 400mm(H) approx.</li> <li>❖ A front door opening quick access door will be provided for loading &amp; unloading of the substrates. The front will be made up aluminium.</li> <li>❖ One high vacuum compatible, toughened glass view port would be provided on the front door</li> <li>❖ Chamber would be provided with ports to connect diffusion pump, rotary pump and vacuum gauges.</li> <li>❖ Chamber shall also will be provided with ports for evacuation, vacuum measuring gauge heads, gas feedings etc.</li> <li>❖ Chamber base plate will be provided with necessary feed through ports for mounting magnetron source, shutters etc.</li> <li>❖ The chamber, all stainless steel components &amp; sub-assemblies will be electro-polished.</li> </ul>
5.	<b>Chamber Gadgets</b>	<p><b>a. Sputtering Cathodes -2nos</b></p> <ul style="list-style-type: none"> <li>❖ One no of 2" indirectly water cooled flex mount magnetrons with con-focal arrangement manual shutters will be provided..</li> <li>❖ Magnetrons have capability of accommodating 1-6mm thick targets approx.</li> <li>❖ Flex mount magnetron would have a manual height adjustment facility to vary the distance between target &amp; substrate and to manually tilt facility for focusing plasma.</li> <li>❖ Form: Circular</li> <li>❖ Vacuum: Ultra High Vacuum (UHV)</li> <li>❖ Back out Temperature: Standard 180 Degrees C</li> <li>❖ Magnets: Standard Nd FeB</li> <li>❖ Stem Tube: 19 mm O.D. X 205mm</li> </ul>

		<ul style="list-style-type: none"> <li>❖ One manually operated source shutter with rotary shaft seal to cover the sputter source would be incorporated in the chamber.</li> </ul> <p><b>b. Substrate Heater</b></p> <ul style="list-style-type: none"> <li>❖ Suitable substrate heater to heat the substrate up to a temperature of 800 °C and would be provided with PID controller with digital display , using feedback from K Type Thermocouple.</li> </ul>
6.	<b>Vacuum Pumping System</b>	<p><b>a. Two Stage Rotary Vane Vacuum Pump: 1no</b></p> <ul style="list-style-type: none"> <li>❖ Direct Drive Rotary Pump 250 LPM is having the special quiet &amp; Vibration free positive anti- suck back within built, compact &amp; Light weight, effective gas ballast, low oil charge, air cooled &amp; high water vapour handling capacity with free air displacement. <ul style="list-style-type: none"> <li>• Capacity (LPM) : 250</li> <li>• Meter Cube per hour : 15</li> <li>• Ultimate vacuum when measure on a Mcleod Gauge with Gas ballast closed (mbar) : <math>&gt;1 \times 10^{-3}</math></li> <li>• opened (mbar) : <math>&gt;5 \times 10^{-2}</math></li> <li>• Inlet Connection : KF 25</li> <li>• Motor (HP) Single Phase: <math>\frac{1}{2}</math></li> </ul> </li> </ul>
		<p><b>b. Diffusion Pump: 1no</b>  Size: 4"  Pumping Speed : 280lit/sec  Ultimate Vacuum : <math>1 \times 10^{-6}</math> mbar  Critical Backing Pressure:0.1mbar  Backing Pump Capacity : 250lit/min  Type: Diffstack  Oil Quantity &amp; Grade : 100ml, DC-704  Inlet/Outlet Connection: KF-25  Cooling : Water  Warm Up time: 30min  Heater Power : 500W  Material : SS 304</p> <p><b>c. Liquid Nitrogen Trap: 1no</b></p> <ul style="list-style-type: none"> <li>❖ LN<sub>2</sub> Trap shall be mounted above the diffusion pump, it will be double walled container. With the use of LN2 trap Ultimate Vacuum is <math>2 \times 10^{-6}</math> mbar</li> </ul> <p><b>d. HIGH VACUUM VALVE</b></p> <ul style="list-style-type: none"> <li>❖ A high vacuum valve of 4 " size is provided to achieve maximum through put from the pump. This also facilitates the isolation of the diffusion pump from exposing it to atmosphere when the load is exposed to atmosphere. The valve is manually operated and placed for easy operation.</li> <li>❖ The quarter swing butterfly valve of 4" size Model QSV-4 is fitted above the liquid nitrogen trap. This will help to isolate the diffusion pump when the roughing operation is going on.</li> </ul> <p><b>e. COLLAR</b></p> <ul style="list-style-type: none"> <li>❖ A 4" collar is made out of SS304 material, finely ground and electro-chemically polished Ports are provided for connecting the vacuum gauges. One number of fine controlled needle valve (0-3000cc/min) for controlled admittance of inert gas and one number of air admittance valve is provided for venting the job is provided in the collar.</li> </ul> <p><b>f. PLUMBING LINES</b></p> <ul style="list-style-type: none"> <li>❖ Plumbing lines are made of SS304 material of 1" NB that will incorporate 02 Nos of Butterfly valvesfor roughing and backing operation would be provided</li> </ul> <p><b>g. Vacuum Measuring Gauges.</b></p> <ul style="list-style-type: none"> <li>❖ Stabilized Digital pirani gauge with two pirani gauge heads is provided to independently monitor the roughing and backing pressure. Vacuum in the job or pipe line can be seen on the gauge display using a selector switch. This pirani gauge can measure vacuum level from atm to 0.001m.bar.</li> <li>❖ Stabilized Digital Penning gauge with one gauge head is provided to monitor high vacuum on a separate Penning meter in two ranges, from <math>1 \times 10^{-3}</math> to <math>1 \times 10^{-6}</math>m.bar.</li> </ul>
7.	<b>Mounting:</b>	<ul style="list-style-type: none"> <li>❖ All the above components are compactly and aesthetically housed in a state of the art frame made out of M.S material. The frame is powdered coated for dust-free operation. The front panel is provided for mounting vacuum gauge, Rotary pump is mounted inside the cabinet on a suitable supports. The pump is connected to the main unit through a vibration damping flexible corrugated bellow (SS304) of convenient length. The pump exhaust is terminated at the back of the unit so that it can be connected to a point outside the room if necessary. Anti vibration mounts for rotary vacuum pump are provided for the reducing the vibrations.</li> </ul>

		❖ The water connections are terminated at the back of the unit for the convenient connection.
8.	<b>Electrical Supply:</b>	Mains Supply : 230 VAC, 50Hz. Single Phase
9.	<b>Target Materials</b>	Size 2" x 3mm thick 1. Copper-1no 2. Tin : 1no 3. Nickel: 1no 4. Titanium : 1no 5. Zinc : 1no
10.	<b>Leak Testing</b>	❖ All individual components as well as total system is leak tested using Helium Mass Spectrometer leak detector to an individual leak rate better than $1 \times 10^{-9}$ std.cc/sec
11.	<b>Ultimate Vacuum</b>	❖ An ultimate vacuum range of $5 \times 10^{-8}$ m.bar, when the chamber is clean, cool degassed with liquid nitrogen in back filling & diffusion pump is supplied with water at 20-22 deg. C, 24 PSI Pressure & Flow rate of 1-2 lit/min





Prashant K Sahu

Pre-bid

**From:** Pravarthana Dhanapal <dpravarthana@iiti.ac.in> on behalf of Pravarthana Dhanapal  
**Sent:** 17 January 2024 15:00  
**To:** Prashant K Sahu  
**Cc:** Assistant Registrar MMS; Chemistry Office  
**Subject:** Regarding Pre-bid for Indent No. 353, Procurement of Reactive DC Magnetron Sputtering Unit

Dear Prashant,

There is no need for a Pre-bid for Indent No. 353, Procurement of Reactive DC Magnetron Sputtering Unit.

Thanks and regards,

D. Pravarthana

-----  
Assistant Professor,  
Department of Chemistry,  
Indian Institute of Technology-Indore,  
Khandwa Rd, Simrol, Madhya Pradesh 453552  
Office: HUB building, Room No. 211 (c)

