

# Prabhat Kumar College, Contai

Re-accredited by NAAC with Grade B (CGPA - 2.76)

Post - Contai  
Dist. - Purba Medinipur  
West Bengal, India, 721401  
Phone : -Principal - (03220) 288275  
Office - (03220) 255020  
Tele Fax - (03220) 288275



E-mail : [pkcollege.contai@gmail.com](mailto:pkcollege.contai@gmail.com).  
Website : [www.pkcollegecontai.ac.in](http://www.pkcollegecontai.ac.in)

## Notice Inviting E-Tender ([wbenders.gov.in](http://wbenders.gov.in))

E-Tender No- PKC/SERB/Equip./21-22/01 Date: 06.09.2021

Organization Chain: DEPARTMENT OF HIGHER EDUCATION | PRABHAT KUMAR COLLEGE  
Tender Reference Number: PKC/SERB/EQUIP/21-22/01

Tender ID - 2021\_DHE\_342718\_1

Tenders for supply of **PURCHASE OF LABORATORY EQUIPMENT UNDER SERB** are hereby invited from the vendors by PRABHAT KUMAR COLLEGE, CONTAI through the e-tendering process using the website <http://wbenders.gov.in/>. The tender documents can be downloaded from Website: <http://wbenders.gov.in/> and the notice can be downloaded from [www.pkcollegecontai.ac.in](http://www.pkcollegecontai.ac.in)

The tenders have to be submitted as per Terms & Conditions mentioned at Annexure-'A'. Format of Technical Bid mentioned at Annexure-'B', format of financial bid mentioned at Annexure-'C' and detailed specification, estimated quantity are mentioned at "Annexure-D".

The tender document containing "Technical bid" and financial bid", complete in all respect should be uploaded on <http://wbenders.gov.in/> on or before **22.09.2021** which will be opened in the meeting of beneficiary committee of the College on **24.09.2021**.

Failure to furnish all information required as mentioned in the tender documents or submission of a proposal not substantially responsive to the tender documents in every respect will be at the vendor's risk and may result in rejection of the proposal and forfeiture of the bid.

The tender fees shall not be refunded even if the bid is not submitted. The vendors are required to be registered with <http://wbenders.gov.in/>. The vendor must have valid digital signature to submit the bid.

The interested vendors fulfilling the terms and conditions should quote their minimum rates along with earnest money deposit as mentioned in the tender document.

The College Authority reserves the right to reject all or any of the tenders without assigning any reason thereof. The tender, which is conditional/ incomplete/ belated/ without earnest money, processing fees, tender fees etc will not be entertained at all.



# Prabhat Kumar College, Contai

Re-accredited by NAAC with Grade B (CGPA - 2.76)

Post - Contai  
Dist. - Purba Medinipur  
West Bengal, India, 721401  
Phone : -Principal - (03220) 288275  
Office - (03220) 255020  
Tele Fax - (03220) 288275



E-mail : [pkcollege.contai@gmail.com](mailto:pkcollege.contai@gmail.com).  
Website : [www.pkcollegecontai.ac.ir](http://www.pkcollegecontai.ac.ir)

## TENDER DOCUMENT

T.No.- <u>PKC/SERB/Equip./21-22/01</u>	Date: <u>06.09.2021</u>
Name and address of the Authority	PRINCIPAL, Prabhat Kumar College, Contai, Karkuli, Contai, PurbaMedinipur, 721404- West Bengal, India
Tender Document for	<b><u>PURCHASE OF LABORATORY EQUIPMENT UNDER SERB</u></b>
Earnest Money	Rs. 50,000/- (for ITEM- 1 (DC Sputtering)) Rs. 20,000/- (for ITEM- 2 (Spectral Response))
Cost of tender	Rs. 2,000/-
Cost of tender processing	NIL
Last date for submission of tender	22/09/2021 at 01-00 P.M.
Last date for submission of hard copy of Technical BID in sealed envelop	23/02/2021 within 01-00 p.m. (office hour only)
Technical Bid to be opened on	On 24/09/2021 at 01-00 P.M.
Financial Bid to be opened on	On 24/09/2021 at 03-00 P.M.
Last date for submission of written queries for clarifications	16/09/2021 within 02-00 p.m.
Contact person for queries	e-mail- (ID- <a href="mailto:guchhait.asim@gmail.com">guchhait.asim@gmail.com</a> ), Mob.- +91 9007818596 Dr. Asim Guchhait, Assistant Professor, Department of Physics, P.K. College, Contai





# Prabhat Kumar College, Contai

Re-accredited by NAAC with Grade B (CGPA - 2.76)

Post - Contai  
Dist. - Purba Medinipur  
West Bengal, India, 721401  
Phone : -Principal - (03220) 288275  
Office - (03220) 255020  
Tele Fax - (03220) 288275



E-mail : pkcollege.contai@gmail.com.  
Website : www.pkcollegecontai.ac.in

## ANNEXURE-'A'-(TERMS AND CONDITIONS)

1	Tender documents should be downloaded from website <a href="http://wbtenders.gov.in/">http://wbtenders.gov.in/</a> as per the dates mentioned in the Tender Document.
2	The vendor should use the electronic mode of tendering using the website <a href="http://wbtenders.gov.in/">http://wbtenders.gov.in/</a> to submit his best possible quotes for the items given therein.
3	Late submission will not be entertained and will not be permitted by the e-Tendering System.
4	Last minute submission should be avoided. As such the authority will not be responsible for any failures in submission of bids.
5	Incomplete or conditional bids will be summarily rejected.
6	The vendors are expected to examine all instructions, forms, terms and other information in the tender documents.
7	Tender shall be uploaded separately through the e-Tendering System under Two Bid System viz Technical bid & Financial bid, as per the prescribed formats only. Failure to comply with these requirements may result in the bid being rejected.
8	The tender fees shall not be refunded even if the bid is not submitted.
9	The tender should be uploaded by <b>22/09/2021 at 01:00 P.M.</b> , along the scanned copy of NEFT/RTGS/OTC/debit card/credit card facility/net banking challan. The tenders without the mentioned challans will not be entertained.
10	The Technical Bid and the Financial bid as per Annexure -B and Annexure-C to be strictly uploaded to the e-tendering website mentioned.
11	If any vendor does not qualify in technical evaluation, the Financial/Commercial Proposal of the vendor shall not be opened.
12	The price should not be mentioned in the Technical bid in any form or manner. In case the prices are mentioned in the technical bid, the offer will be liable for rejection.
13	The technical bid and financial bid will be opened on same date (on 24/09/2021).
14	The financial bid will be opened in respect of only those vendors whose documents are found in order and whose items qualify technically. The price comparisons in deciding lowest quotation for the complete value of all the items shall be made only over the rates quoted inclusive of all taxes and comprehensive on-site warranty support as required. The lowest evaluated valid quotation will be selected.
15	Technical Documents to be scanned and uploaded to the e-tendering website.
16	The vendor shall submit bank guarantee equal to 20% of the total cost of the goods. The College Authority shall be at liberty to enforce such bank guarantee in case the vendor fails to provide warranty of supplied goods/materials during warranty period or any other defaults in the execution of the order.
17	The vendor must take the responsibility to deliver the equipment to the college campus.
18	The selected/qualified vendor shall supply the prescribed goods/materials within <b>30 days</b> from the issue of purchaseorder (P.O.).
19	The EMD of successful vendor will be converted into security till the complete supply is made and will be refunded without any interest. The EMD of unsuccessful vendors will be returned after completion of tender process.
20	The payment will be released within <b>15 days</b> on complete installation of supplied goods/material/equipment based on duly certified installation reports after installations





# Prabhat Kumar College, Contai

Re-accredited by NAAC with Grade B (CGPA - 2.76)

Post - Contai  
Dist. - Purba Medinipur  
West Bengal, India, 721401  
Phone : -Principal - (03220) 288275  
Office - (03220) 255020  
Tele Fax - (03220) 288275



E-mail : pkcollege.contai@gmail.com.  
Website : www.pkcollegecontai.ac.in

	are done.									
20	If the tenders opening day happens to be holiday, the same will be accepted and opened on the next working day.									
21	The make / brand of the quoted materials/goods/equipments must be mentioned clearly.									
22	The person signing the tender form (or any other document forming part of the contract) on behalf of another, shall be deemed to warranty that he has the authority to sign such documents and if, on inquiry it appears that the person so signing had no authority to do so, the purchaser, may without prejudice to other civil and criminal remedies against the contract, holds the signatory liable for all costs and damages and forfeiture of the earnest money.									
23	The attempt on the part of the vendor, to negotiate directly or indirectly, with the authority to whom the tender is being submitted or with the tender accepting authority, before the finalization of tenders, will make vendor liable for exclusion from the consideration of his/her tender at present or at future.									
24	The College authority reserves the right to reject all or any tender without assigning any reason(s) whatsoever.									
25	The approximate quantity to be purchased along with minimum hardware configuration& specifications/ Lab equipments/Glass goods/Reagents/Specimen required have been mentioned at Annexure "D". However, the College authority reserves the right to modify the quantity as per requirement of the College.									
26	The warranty shall cover the following: <ul style="list-style-type: none"><li>• If any parts needs to be replaced, then the same shall be done within 48 Hrs including date of transfer and completion of complaints in totality.</li><li>• In case of failure for installing operating System (under computer &amp; equipments purchasing)/breakage of Glass equipments/Lab equipments; it should be completely liable to replace the specified vender to reinstall within specified time, failing which the payment will be withheld.</li></ul>									
27	Hard Copy of the Technical bid only along with the challan mentioned at point 1 of the Annexure - B has to be submitted at P.K. College, Contai on or before 23/09/2021 within 01-00 P.M. <b>No Hard Copy of Financial Bid is to be submitted.</b> Financial bid has to be strictly uploaded on the <a href="http://wbtenders.gov.in/">http://wbtenders.gov.in/</a> , Any bid received with the Hard Copy of Financial Bid will be rejected summarily.									
28	<b>Penalty</b> User of the Lab Equipments/ Desktop and Printers and all other supplied peripherals may make a complaint about the said items through letter, fax email, phone SMS or any other means as the user thinks fit or convenient to the service center of vendor. Vendor shall provide contact numbers/ e-mail IDs clearly on stickers to be displayed on the provided item: On receiving complaint the Vendor shall respond/ repair/ resolve or provide required services within the period as stated below. <table border="1"><thead><tr><th>Location</th><th>Response Period</th><th>Resolution period</th></tr></thead><tbody><tr><td>Anywhere in West Bengal</td><td>12 hours</td><td>24 - 72 hours</td></tr><tr><td>Anywhere outside of WB</td><td>2 days</td><td>7 days</td></tr></tbody></table> Public holidays shall be excluded from above down time calculation Penalty shall be applicable if the call is not responded within 12 hours/2 days. If any parts need to be replaced, then the same shall be done within 72 hours/7 days including data transfer and completion of complaints in totality.	Location	Response Period	Resolution period	Anywhere in West Bengal	12 hours	24 - 72 hours	Anywhere outside of WB	2 days	7 days
Location	Response Period	Resolution period								
Anywhere in West Bengal	12 hours	24 - 72 hours								
Anywhere outside of WB	2 days	7 days								





# Prabhat Kumar College, Contai

Re-accredited by NAAC with Grade B (CGPA - 2.76)

Post - Contai  
Dist. - Purba Medinipur  
West Bengal, India, 721401  
Phone : -Principal - (03220) 288275  
Office - (03220) 255020  
Tele Fax - (03220) 288275



E-mail : pkcollege.contai@gmail.com.  
Website : www.pkcollegecontai.ac.in

29	Any dispute, arising out of this contract will be under the jurisdiction of Sub-Divisional Court at Contai, Purba Medinipur.
30	<p><b>SECURITY DEPOSIT</b></p> <ul style="list-style-type: none"><li>The vendor whose hardware is being supplied shall deposit an amount of Rs. 50,000/- (for ITEM- 1 (DC Sputtering)) Rs. 20,000/- (for ITEM- 2 (Spectral Response)) of their accepted tender as security deposit in the form of demand draft or <del>bank guarantee</del> drawn on any Nationalized Bank in favour of Prabhat Kumar College, Contai payable at contai at the time of BID submission. The EMD will be return back to the successful vendor (i.e. L1) and it will be refund without interest after the warranty period and the EMD of unsuccessful Bidder will be returned within 15 day from the date of opening of the BID. The <del>Bank Guarantee</del> / DD will be returned on successful supply and completion of the warranty period to the satisfaction of P.K. College, Contai. If, the successful vendor fails to supply the goods as per the Purchase Order within the defined time-frame, the E.M.D furnished/Security Deposit shall be forfeited and the order will be cancelled. Agreement will be signed only on fulfilment of the above conditions by the vendor. However, the P.K. College, Contai, may at its discretion, sign the agreement even in the absence of the vendor providing the Security Deposit but in such a case, 10% of the amount payable to the vendor shall be deducted and withheld from the payment(s) due to the vendor until such time as the vendor provides the Security Deposit.</li><li>If the successful vendor fails to sign the contract or after signing the contract fails to perform any contractual obligations, his/her EMD / Security Deposit mentioned above will be forfeited in favor of P K College, Contai and order shall be treated as cancelled. Further, the College authority reserves the right to cancel the contract or take any such action as it deems fit whatsoever.</li><li>Failure to supply as per schedule will be construed as failure to perform contractual obligation and the action as contemplated above will be initiated.</li></ul>





# Prabhat Kumar College, Contai

Re-accredited by NAAC with Grade B (CGPA - 2.76)

Post - Contai  
Dist. - Purba Medinipur  
West Bengal, India, 721401  
Phone : -Principal - (03220) 288275  
Office - (03220) 255020  
Tele Fax - (03220) 288275



E-mail : pkcollege.contai@gmail.com.  
Website : www.pkcollegecontai.ac.in

## ANNEXURE 'B' (TECHNICAL BID FORMAT)

The technical bid should contain the following documents which must be attached with the technical bid:-

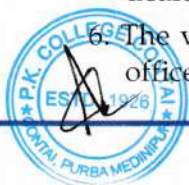
1. The vendor should submit the tender payments in the e-Payment mode towards Cost of the Tender Document, EMD &-Tender Processing Fee of Rs. 2,000.00 To be paid through Demand Draft in favour of - **Prabhat Kumar College, Contai** payable at **Contai**,

The following amount have to be paid:

Sr.	Tender No.	Name of Work	Tender Fees	EMD (if any)	Period of delivery
4	<b>PKC/SERB/Equip./21-22/01</b> Dated : 06.09.2021	PURCHASE OF LABORATORY EQUIPMENT UNDER SERB	2000/-	Rs. 50,000/- (for ITEM-1 (DC Sputtering))  Rs. 20,000/- (for ITEM-2 (Spectral Response))	To be Delivered within 30 days from the PO

All the challans towards same has to be scanned and uploaded to the e-tendering website within the period of tender application submission. The payment challan along with the Hard Copy of the Technical Bid Only (Hard copy of the Financial Bid is not to be submitted. Financial bid to be uploaded only to the website mentioned) shall be placed in single envelope superscripted as "Technical Bid towards Tender No. **PKC/SERB/Equip./21-22/01** for **PURCHASE OF LABORATORY EQUIPMENT UNDER SERB** and the due date of opening of the bid mentioned and to be deposited in the College office on or before 23/09/2021.

2. The person signing the tender shall be deemed that he has the authority to sign the tender on behalf of the said company.
3. Proof of Income Tax, GST Registration number (As applicable) Trade License etc: Self attested copies to be attached.
4. The product profile of the company along with last 3 years' turnover, not less than Rs. 2 Lakh per year. Audited Balance Sheet and Profit and Loss account (amount in Rupees) for last three years should be submitted.
5. The vendor shall be Original Equipment Manufacturer (OEM) of Desktop computers and peripherals or the Authorised System Integrator/ Partners / Dealer of OEM. In case the vendor is offering Desktop computers and peripherals from more than one OEM, he shall be authorised System Integrator/Channel Partner/Dealer for the Desktop computers and peripherals offered by him. Proof of the above shall be submitted in the form of authorization of dealership/SI/Partnership issued by the respective OEM.
6. The vendor should have a presence, to provide quality service support. Undertaking mentioning office address and No of Employees with qualification to be enclosed.



# Prabhat Kumar College, Contai

Re-accredited by NAAC with Grade B (CGPA - 2.76)

Post - Contai  
Dist. - Purba Medinipur  
West Bengal, India, 721401  
Phone : -Principal - (03220) 288275  
Office - (03220) 255020  
Tele Fax - (03220) 288275



E-mail : pkcollege.contai@gmail.com.  
Website : www.pkcollegecontai.ac.in

7. Vendors should have executed at least one order towards supply of Equipments/ Specimens/ Hardware of value of Rs. 5 Lakh or above in the last 2 years. The company has to provide proof of satisfactory completion and Purchase Order of the executed works/ supplies.
8. The vendor should have successfully supplied goods/materials/equipments amounting to Rs. 2 Lakh to at least one customer in Government Department or Public Undertaking in West Bengal in the last 2 years. Purchase Order and proof of satisfactory service from the customer shall be attached.
9. The company/firm should be in existence and should have been in operation for a period of at least 3 years. The Company/Firm has to produce Certificate of Incorporation/Registration with Shops and Establishments/ GST Registration for the last 2 Years.
10. PAN No. of the company/firm, TIN No. (As applicable): Self attested copies to be attached.
11. The bidder should not have any of their contracts terminated or blacklisted in the last three years by any State or Central Government / PSU/ BFSI/ Private Sector. (Affidavit duly notarized to be submitted).





# Prabhat Kumar College, Contai

Re-accredited by NAAC with Grade B (CGPA - 2.76)

Post - Contai  
Dist. - Purba Medinipur  
West Bengal, India, 721401  
Phone : -Principal - (03220) 288275  
Office - (03220) 255020  
Tele Fax - (03220) 288275



E-mail : pkcollege.contai@gmail.com.  
Website : www.pkcollegecontai.ac.in

## ANNEXURE-'C'- (FINANCIAL BID FORMAT)

### QUOTATIONS FOR PURCHASE OF COMPUTER HARDWARE AND OTHER PERIPHERALS

#### Financial Terms and Conditions:

- 1 The vendors must use only the format provided in the e-tender website for submitting the financials. Any other formats/ forms will not be accepted and such tenders will be rejected.
- 2 The vendor must provide the Commercial Proposal strictly in e-tender mode only. Hardcopies of the Commercial proposals are not to be submitted.
- 3 The rates should be quoted in figures as well as in words, on the form attached at Annexure-'C' and duly signed and stamped by the authorized person as per specified equipments.
- 4 Rates mentioned above are inclusive of all taxes, F.O.S. destination and installation charges and all other charges. No charges of whatsoever nature would be paid additional to the cost mentioned above.
- 5 The College Authority reserves the right to alter the quantity of the computers/Equipments/Materials/Goods and peripherals etc..





# Prabhat Kumar College, Contai

Re-accredited by NAAC with Grade B (CGPA - 2.76)

Post - Contai  
Dist. - Purba Medinipur  
West Bengal, India, 721401  
Phone : -Principal - (03220) 288275  
Office - (03220) 255020  
Tele Fax - (03220) 288275



E-mail : pkcollege.contai@gmail.com.  
Website : www.pkcollegecontai.ac.in

## ANNEXURE-'D' - (SPECIFICATIONS AND CONFIGURATIONS)

### ITEM NO.-1 DC SPUTTERING UNIT

**Description:** Supply, installation, integration and initial demonstration of DC Magnetron Sputtering Unit. The magnetron-sputtering unit is comprised of a 2" magnetron. Technical specifications in details are given below. Quantity: one

S.NO.	Items	Specifications
1.	<b>MAGNETRON SPUTTERING CHAMBER</b>	(A) <b>VACUUM CHAMBER:</b> <ul style="list-style-type: none"><li>➤ Chamber size : Approximately 350 to 400 mm (W) X 350 to 400 mm (D) X 400 to 500 mm (H) [minimum requirement]</li><li>➤ Material of Construction (MOC): SS 304 grade non-magnetic stainless steel /Better;</li><li>➤ Chamber has to be designed for sputter up mode with appropriate dimensions based on the given specifications to achieve vacuum level of order of <math>10^{-6}</math> mbar</li><li>➤ Must be electro polished for better surface finish</li><li>➤ Necessary ports required for pumping, Magnetron Cathode, Two Gas Inlet, Vent, gauge, etc.</li><li>➤ Fine control needle valve for two gas input should be provided</li><li>➤ View Ports: At least one view ports with toughened glass (2 inch/ higher size), HV compatible to view substrate assembly, target assembly and plasma viewing</li></ul>
		(B) <b>MAGNETRON:</b> <ul style="list-style-type: none"><li>➤ A 2" Dia. indirectly water cooled circular magnetron cathode with bellows for flexibility</li><li>➤ Con focal, Sputter up Arrangement</li><li>➤ An Electro pneumatically operated source shutter to be provided.</li></ul>
		(C) <b>DC POWER SUPPLY:</b> <p>1 KW DC Power or greater (operating power) Supply of good quality with necessary cables and connectors for magnetron sputtering. Voltage 25-1000 V or better (operating). Current 1A or better (operating). Frequency (0 – 50 KHz) or more. Remote indication of Voltage, current, Frequency and duty cycle. Should be Protected against overload, short-circuit and arc.</p>
		(D) <b>SUBSTRATE HOLDER &amp; HEATER</b> <ul style="list-style-type: none"><li>➤ Substrate holder to handle up to 2-inch diameter substrate.</li></ul>



# Prabhat Kumar College, Contai

Re-accredited by NAAC with Grade B (CGPA - 2.76)

Post - Contai  
Dist. - Purba Medinipur  
West Bengal, India, 721401  
Phone : -Principal - (03220) 288275  
Office - (03220) 255020  
Tele Fax - (03220) 288275



E-mail : pkcollege.contai@gmail.com.  
Website : www.pkcollegecontai.ac.in

			<ul style="list-style-type: none"> <li>➤ Substrate heater of 200 deg.C/higher with PID controller.</li> <li>➤ The substrate heater should be oxygen compatible up to maximum temperature.</li> <li>➤ Temperature accuracy should be within <math>\pm 5</math> Deg.C</li> <li>➤ Substrate holder shall have provision for substrate rotation variable speed up to 20 RPM/higher.</li> </ul>
2.	<b>Vacuum Pumping System</b>	(A)	<p><b><u>High vacuum pump:</u></b></p> <ul style="list-style-type: none"> <li>➤ A Turbo Molecular Pump</li> <li>• Turbo molecular pump: <math>\geq 300</math> l/s from imported company with good track record on functioning and service.</li> <li>• Ultimate Pressure: <math>\leq 1 \times 10^{-6}</math> mbar to be achieved</li> </ul>
		(B)	<p><b><u>Rotary Pump:</u></b></p> <ul style="list-style-type: none"> <li>➤ Dual stage rotary pump (<math>10 \text{ m}^3</math> /hr or Higher) for roughing and backing operations.</li> </ul>
		(C)	<p><b><u>HIGH VACUUM VALVE:</u></b></p> <ul style="list-style-type: none"> <li>➤ Electro pneumatically operated Gate valve of suitable size to be mounted above the Turbo pump for high vacuum applications should be provided or better system.</li> </ul>
		(D)	<p><b><u>VACUUM VALVES:</u></b></p> <ul style="list-style-type: none"> <li>➤ Electro pneumatically operated right angle valves for roughing , backing and high vacuum applications should be provided</li> <li>➤ Electro magnetically operate Vent valve should be provided</li> </ul>
		(E)	<p><b><u>SS Plumbing line &amp; Collar</u></b></p> <ul style="list-style-type: none"> <li>➤ SS Plumbing line with flexible hoses &amp; KF connections wherever required with necessary interlocks to be provided;</li> </ul>
		(F)	<p><b><u>VACUUM GAUGES:</u></b></p> <ul style="list-style-type: none"> <li>➤ Digital Pirani and Penning Gauges with display to be provided.</li> </ul>
3.	<b>Mounting Frame / Support Stand</b>		<ul style="list-style-type: none"> <li>➤ Necessary pumping systems can be accommodated below the stand</li> <li>➤ Must have castor wheels for mobility with arresting pads.</li> </ul>
4.	<b>Water Chiller</b>		<ul style="list-style-type: none"> <li>➤ A 0.5-ton capacity chiller with controller, pump &amp; manifold and requisite flexible water lines are provided for closed loop water circulation to the system requirement.</li> </ul>
5.	<b>Digital Thickness Monitor</b>		<ul style="list-style-type: none"> <li>➤ 1 Set of Digital thickness monitor with oscillator, Crystal Holder and cable to measure thickness should be provided.</li> </ul>
6.	<b>Air compressor</b>		<ul style="list-style-type: none"> <li>➤ A small compressor, which is sufficient for this system. Filtered, less noise and oil free air</li> </ul>





# Prabhat Kumar College, Contai

Re-accredited by NAAC with Grade B (CGPA - 2.76)

Post - Contai  
Dist. - Purba Medinipur  
West Bengal, India, 721401  
Phone : -Principal - (03220) 288275  
Office - (03220) 255020  
Tele Fax - (03220) 288275



E-mail : [pkcollege.contai@gmail.com](mailto:pkcollege.contai@gmail.com).  
Website : [www.pkcollegecontai.ac.in](http://www.pkcollegecontai.ac.in)

			compressor is required for the operation of all pneumatic valves.
7.	<b>Spares &amp; Consumables</b>		<ul style="list-style-type: none"><li>➤ First Charge Rotary Pump oil will be supplied free of cost</li><li>➤ Rotary pump oil – 2 Liters</li><li>➤ Crystals for thickness monitor- 05 No's</li><li>➤ Set of O-ring and gasket – 1 full set</li><li>➤ ITO Target (In<sub>2</sub>O<sub>3</sub>/SnO<sub>2</sub> : 90/10 wt % ) of 2" diameter x 3 mm Thick x 3N purity with backing plate – 1 No</li></ul>
8.	<b>Warranty</b>		<ul style="list-style-type: none"><li>➤ Minimum <b>2 years</b> of complete warranty with additional 1 year of annual maintenance.</li></ul>
9.	<b>Special Criteria</b>		<ul style="list-style-type: none"><li>➤ The thickness uniformity should be <math>\pm 5\%</math> over 50mm (2 inch) diameter substrate. A measurement certificate of thickness uniformity of any metal (for example Al/Cu/Ag) on Si substrate of appropriate size should be provided with Technical Bid.</li><li>➤ The thickness should be measured using ellipsometry/profilometer showing variation of thickness along the radius of the Si substrate.</li><li>➤ The committee reserves the right to verify the certificate and thickness uniformity at the customer site/manufacturer site. If it is done at Manufacturer site, then Manufacturer has to arrange the necessary facilities for assessing uniformity.</li></ul>
10.	<b>Eligibility Criteria</b>		<ul style="list-style-type: none"><li>➤ Manufacturer or their Authorized Agent should have ISO or equivalent international standard certificate.</li><li>➤ Manufacturer or their Authorized Agent should have export experience for similar products</li><li>➤ Must have supplied minimum 10 nos. of similar equipments to Government labs / Govt. Institutions / Universities, etc.</li><li>➤ List of Organization names with user details to be submitted along with offer where similar type supplied earlier to above said institutions / Universities / etc.</li><li>➤ Original Warranty Certificate, Original Test certificate of OEM should be submitted for all</li></ul>



# Prabhat Kumar College, Contai

Re-accredited by NAAC with Grade B (CGPA - 2.76)

Post - Contai  
Dist. - Purba Medinipur  
West Bengal, India, 721401  
Phone : -Principal - (03220) 288275  
Office - (03220) 255020  
Tele Fax - (03220) 288275



E-mail : pkcollege.contai@gmail.com.  
Website : www.pkcollegecontai.ac.in

			<p>imported Items</p> <ul style="list-style-type: none"><li>➤ System Catalogue and all the spares catalogues should be produced with the Technical Bid</li><li>➤ Supplier will support the user with all the spares for a minimum period of 10 years.</li><li>➤ Bidder has to submit audited accounts of last three financial years.</li><li>➤ Audited statement must be signed and stamped by qualified chartered accounted.</li></ul>
11.	Utilities		<ul style="list-style-type: none"><li>➤ Details to be provided in the offer for space, power supply, gases, etc for system operation</li></ul>
12.	Manuals		<ul style="list-style-type: none"><li>➤ Operation Manual to be given after installation and acceptance of equipment</li></ul>
13.	User Training		<ul style="list-style-type: none"><li>➤ Training for 1-2 users should be provided to make them well familiar with the operation of various components and successful growth of the thin films using the given deposition unit.</li></ul>

## Additional Items (additional cost should be mentioned in price bid)

S. No.	Item name	Specification
1	Mass flow Controller	1 No. of Mass flow controllers calibrated for Ar gas from any imported company with a good record of accomplishment of servicing in nearest places. Necessary connection pipes lines should be provided.
2	Gas Cylinders with Regulators.	1 no. Argon gas filled cylinder with appropriate regulators should be provided along with gas pipe lines





# Prabhat Kumar College, Contai

Re-accredited by NAAC with Grade B (CGPA - 2.76)

Post - Contai  
Dist. - Purba Medinipur  
West Bengal, India, 721401  
Phone : -Principal - (03220) 288275  
Office - (03220) 255020  
Tele Fax - (03220) 288275



E-mail : pkcollege.contai@gmail.com.  
Website : www.pkcollegecontai.ac.in

## ITEM NO 2. SPECTRAL RESPONSE MEASUREMENT SETUP

**General description:** Supply, installation, integration and initial demonstration of spectral response measurement unit. Quantity: one. The spectral response measurement units comprised of 50W /higher Tungsten Halogen lamp/ Xenon lamp, Dispersion grating covering the wavelength range 300 nm to 1100 nm, photocurrent measurement facility, computer interfacing cables and PC software. Technical specifications in details are given below.

**Type of Solar Cells:** Spectral response measurement unit should be capable of measuring the spectral response of any kind of photovoltaic devices, such as single or multi junction solar cells or perovskite solar cells, quantum dot solar cells.

S. No.	Items	Details specification
1	Spectral Response Measurement Apparatus	Light Source: 50W or higher Tungsten Halogen lamp/Xenon lamp/LED lamp Monochromatic light: Wavelength range 350 nm to 1100 nm Dispersion grating: Holographic, 1200 l/mm / better Absolute diffraction efficiency: 45-65%/better Spot size: Minimum 5 mm <sup>2</sup> /better (Preferably with auto adjustable from 5- 30 mm <sup>2</sup> ) Resolution: 0.1nm (@546nm, 10μm slit width) or better Wavelength accuracy: ≤ 1nm / better Wavelength repeatability: ≤0.5nm /better Half-width of spectral line: ≤1nm @586nm/ better Measurement of photocurrent through the sample: Inbuilt unit will be there for measurement of the current. Voltage bias up to +/- 1 V or better should be there. User Interface: Front panel LCD and keyboard / PC software PC Interface: RS232 or USB (Using a USB to serial converter) PC software compatibility: Windows XP / 7/ 8 / 8.1 / 10



# Prabhat Kumar College, Contai

Re-accredited by NAAC with Grade B (CGPA - 2.76)

Post - Contai  
Dist. - Purba Medinipur  
West Bengal, India, 721401  
Phone : -Principal - (03220) 288275  
Office - (03220) 255020  
Tele Fax - (03220) 288275



E-mail : [pkcollege.contai@gmail.com](mailto:pkcollege.contai@gmail.com).  
Website : [www.pkcollegecontai.ac.in](http://www.pkcollegecontai.ac.in)

2	<b>Input Power supply:</b>	100-240 V, 50/60Hz
3	<b>Safety:</b>	Electrical Hazards and Optical Hazards should be minimized
4	<b>Warranty</b>	Minimum 2 years of complete warranty with additional 1 year of annual maintenance.
5	<b>Installation</b>	Vendor should offer complete installation and training of the system at site
6	<b>After sales support:</b>	Vendor should have infrastructure and manpower to support efficiently after installation. They should have stock of spare parts for the smooth running of the instrument if require after installation and must be available in Indian rupee. Equipment manufacturer should confirm in writing that spare parts will be available for the period of 10 years after installation of the instrument.
7	<b>User base:</b>	List of at least 5 users of similar equipment (preferably the quoted model) in India should be enclosed with this offer. Vendor should mention the details such as installation date, user address, email, phone/mobile numbers etc.
8	<b>User Manual:</b>	Vendor should a complete manual in English regarding the installation, safety and operation of the instrument.



*Abhaya 2021*  
Principal,

Prabhat Kumar College, Contai  
Purba Medinipur, 721404, W.B.