



भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद

धनबाद, झारखण्ड, भारत, पिन-826004

(मानव संसाधन एवं विकास मंत्रालय, भारत सरकार के अधीन एक राष्ट्रीय महत्व का संस्थान)

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

DHANBAD, JHARKHAND, INDIA, PIN-826004

(An Institute of National Importance under Ministry of H.R.D., Govt. of India)

STORES & PURCHASE SECTION Phone:(0326) 2235678 || Email : purchase@ismdhanbad.ac.in || Website : www.iitism.ac.in

NIT No. App Phy-PRJ-017-18-19

Date: 24.04.2018

NOTICE INVITING TENDER

Subject: Supply & Installation of Spectroscopic Ellipsometer – 01 No.

Indian Institute of Technology (Indian School of Mines),Dhanbad invites quotations for the following to be supplied and delivered in Applied Physics Department.

S No	Full Description of items/ store	Qty	Delivery
1	Supply & Installation of Spectroscopic Ellipsomete (Detailed Specification is given in Annexure – I)	01 No.	At the Earliest

S No	Items	Particulars
1.	Tender cost	Rs. 2,000.00
2.	Earnest money deposit	Rs. 40,000.00
3.	Last date and time for submission of tenders	24.05.2018 at 1:00 P.M.
4.	Date and time of opening of tenders	24.05.2018 at 3:00 P.M.

Tender document containing following document is available in our website www.iitism.ac.in/tender page, which may kindly be referred.

1. Technical specifications as per Annexure-I
2. General terms & condition as per Annexure-II
3. Acceptance of terms & conditions as per Annexure-III
4. Financial bid format–IV
5. Compliance Statement as per Annexure -V

Encl : As above

Deputy Registrar



भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद

धनबाद, झारखण्ड, भारत, पिन-826004

(मानव संसाधन एवं विकास मंत्रालय, भारत सरकार के अधीन एक राष्ट्रीय महत्व का संस्थान)

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

DHANBAD, JHARKHAND, INDIA, PIN-826004

(An Institute of National Importance under Ministry of H.R.D., Govt. of India)

STORES & PURCHASE SECTION Phone:(0326) 2235678 || Email : purchase@ismdhanbad.ac.in || Website : www.iitism.ac.in

NIT No. App Phy-PRJ-017-18-19

Date: 24.04.2018

Annexure-I

ANNEXURE- I

TECHNICAL SPECIFICATIONS FOR SPECTROSCOPIC ELLIPSOMETER

1. System

- Spectral Range : 380nm to 900nm or higher
- Spectral resolution: $\leq 0.01\text{eV}$
- Angles of Incidence: at least four different angles preferably 65° , 70° , 75° (off sample) and straight-through (90°)
- Pixel Resolution : $\leq 0.01\text{eV}$
- Data Acquisition Rate : 3-10sec or lesser
- Collimated Beam Diameter: $\leq 3\text{mm}$ (approx.)
- Typical thickness precision: 0.01nm or better
- Light Sources: Quartz-Tungsten Halogen lamp or Xenon lamp
- Sample stage: Vacuum chuck should be provided to firmly hold the sample

2. System Configuration

Detail system configuration must be provided (in order) i.e. Source, Polarizer, Compensator, Sample, Analyzer, Detector etc.

3. Detector:

CCD array to measure all wavelengths simultaneously for fast spectroscopic measurements. Measurement resolution of 0.01eV or better

4. Measurable Parameters

- Spectroscopic Ellipsometry: ψ (0° - 90°) and Δ (0° - 360°)
- Transmission intensity : % Transmission
- Reflection intensity : % Reflection
- Depolarization : % Depolarization
- Mueller-matrix: Measure and fit at least 11 normalized Mueller-matrix elements. It should be useful for studying the sample that are both anisotropic and depolarizing.

5. Straight-Through Accuracy

- $\Psi = 45^\circ \pm 0.1$; $\tan(\Psi) = 1 \pm 0.0035$
- $\Delta = 0^\circ \pm 0.2$; $\cos(\Delta) = 1 \pm 0.000006$

6. Sample Size

- Sample dimensions from 5mm up to 200mm.
- Maximum substrate thickness = 16mm

7. Polarizers

- Beam deviation: < 1 arcmin.
- Extinction ratio: 1×10^{-6} or better

8. Compensator

Suitable and standard spectroscopic compensator should be provided, which can operate over entire wavelength range with beam deviation: < 1 arcmin.

9. Focusing Optics

Necessary optics should be provided to allow measurement on small or patterned areas by reducing beam diameter to < 400 micrometres or better.

10. Software

Software for Data Acquisition and Analysis should be provided along with the instrument. The software should be user-friendly for quick, easy measurements of film thickness, refractive index, should allow dynamic measurement. At least 400 pre-loaded material files and dispersion equations should be included in the software to enable analysis of wide variety of thin films – dielectrics, absorbing materials, anisotropic materials, metals, organic materials, organic



भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद

धनबाद, झारखण्ड, भारत, पिन-826004

(मानव संसाधन एवं विकास मंत्रालय, भारत सरकार के अधीन एक राष्ट्रीय महत्व का संस्थान)

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

DHANBAD, JHARKHAND, INDIA, PIN-826004

(An Institute of National Importance under Ministry of H.R.D., Govt. of India)

STORES & PURCHASE SECTION Phone:(0326) 2235678 || Email : purchase@ismdhanbad.ac.in || Website : www.iitism.ac.in

NIT No. App Phy-PRJ-017-18-19

Date: 24.04.2018

and inorganic semiconductors etc. Software should also include advance modeling approaches using B-spline layer, general oscillators like Lorentz, Drude, Gaussian, Harmonic, Tauc-Lorentz, Cody-Lorentz etc.

11. All necessary cables should be provided along with the instrument.
12. Vendor must provide information regarding installation of such instrument or similar ones at least 5 nos. in R & D laboratories/Industries within India in the last ten years including customers correspondence address, Email-ID, Phone no. Fax No. etc.
13. Compliance statement of the above mentioned technical specifications must be provided by the vendor along with the quotation.
14. **Warranty:** The complete system must be guaranteed for free repair/replacement for a minimum period of **one year** from the date of complete installation.
15. The value of the complete system should be quoted on **FOR IIT(ISM) Dhanbad** basis.
16. Details of the power input of the instrument and temperature requirement of room should be provided in advance.
17. Vendor has to provide hard copy of complete set of operation, service & maintenance manual, technical manuals etc.
18. The supplier or his representative will do free of cost installation and commissioning of the equipment at IIT(ISM), Dhanbad.
19. The infrastructure/utilities required from IIT(ISM), Dhanbad during installation and commissioning should be intimated with the offer.
20. Training should be given by the firm engineer at user's site after completing the installation and commissioning of the system by the vendor without any additional charges.



भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद

धनबाद, झारखण्ड, भारत, पिन-826004

(मानव संसाधन एवं विकास मंत्रालय, भारत सरकार के अधीन एक राष्ट्रीय महत्व का संस्थान)

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

DHANBAD, JHARKHAND, INDIA, PIN-826004

(An Institute of National Importance under Ministry of H.R.D., Govt. of India)

STORES & PURCHASE SECTION Phone:(0326) 2235678 || Email : purchase@ismdhanbad.ac.in || Website : www.iitism.ac.in

NIT No. App Phy-PRJ-017-18-19

Date: 24.04.2018

Annexure-II

GENERAL TERMS & CONDITIONS

NIT No. App Phy-PRJ-017-18-19

Sealed tenders under **two-bid system** are invited from manufacturers/ their authorized dealers/agents for supply and installation in IIT (ISM) Dhanbad of items specified in *Annexure-I*.

1. Offer should be submitted under **TWO BID** systems in two separate sealed covers i.e. “**Techno-commercial bid**” and “**Price bid**”.
2. a) In a tender, either the Indian agent on behalf of the principle/OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender.
b) If an agent submit bid on behalf of the principle/OEM, the same agent shall not submit a bid on behalf of another principle/OEM in the same tender for the same item/product. There must be authorization letter for this tender reference issued by principle/ OEM in firm of the agent.
3. **Techno-commercial Bid**: should contain the following documents/information:
 - a. **Tender Cost**: Tender Cost is to be paid by way of an A/C payee demand draft and drawn in favor of Registrar, IIT (ISM) Dhanbad and payable at Dhanbad. Tender cost is **non-refundable and non-transferable**. It has to be submitted along with Techno-commercial bid.
 - b. **Earnest Money Deposit (EMD)**: It should be submitted preferably in form of A/C payee demand draft drawn in favor of Registrar, IIT (ISM), Dhanbad and payable at Dhanbad.
 - c. Tenders without payment of tender cost and EMD may not be considered. Both should be in separate demand drafts and attached with Techno-commercial bid.
 - d. All relevant technical specifications/details of offered items, drawings, printed technical leaflets, and commercial details which are necessary to ensure that offer is complete in all respects.
 - e. A ‘*Compliance Statement*’ along with a certificate and duly signed that the tenderer satisfies the technical requirements given in *Annexure-I*. The said statement should be in a tabular form with the columns: sl. no., (2) technical requirement as per NIT; (3) what is offered by the tenderer; and (4) status of compliance: Complied/Not complied).
 - f. IIT (ISM) does not bind itself to offer any explanation to those bidders whose Technical Bids have not been found acceptable by the concerned committee of the Institute.
4. The packing, forwarding, freight and transit insurance charges, if any must be included in the price and should not be claimed separately. Duties & taxes, if applicable, are to be shown separately clarifying whether those are extra or included in the price. **Price bids of only technically short-listed tenderers shall be opened.**
5. **Educational discount, if any, should be clearly mentioned.**
6. IIT (ISM) is entitled for custom/ excise Duty Exemption under Govt. of India notifications and is registered with DSIR, Govt. of India for this purpose. This may be taken into consideration while quoting minimum possible rate. IIT (ISM) has not agreed any high sea sales Purchase. IIT (ISM) will provide only custom duty exemption certificate for availing concessional custom duty.
7. IIT (ISM) does not issue form ‘C’ or ‘D’ for concessional Sales tax/VAT. Hence, full rate of sales tax as applicable to educational institutions against the form of certificate (enclosed as Annexure V) should be indicated.
8. **Warranty**: Minimum 01 year from the date of installation and commissioning at the site.
9. **Validity**: Offer must be valid for a period of **240 days** from the date of opening of tender (price bid).



भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद

धनबाद, झारखण्ड, भारत, पिन-826004

(मानव संसाधन एवं विकास मंत्रालय, भारत सरकार के अधीन एक राष्ट्रीय महत्व का संस्थान)

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

DHANBAD, JHARKHAND, INDIA, PIN-826004

(An Institute of National Importance under Ministry of H.R.D., Govt. of India)

STORES & PURCHASE SECTION Phone:(0326) 2235678 || Email : purchase@ismdhanbad.ac.in || Website : www.iitism.ac.in

NIT No. App Phy-PRJ-017-18-19

Date: 24.04.2018

10. **Price** should be quoted on FOR, IIT(ISM), Dhanbad basis only.
11. Your full address for correspondence and name address of the beneficiary's banker should be clearly indicated in the offer.
12. One set of technical literature/catalogue with the detail specification of the material under purchase should be furnished with the offer.
13. Earliest/expected delivery period should be clearly indicated.
14. The offer should reach at the earliest in a sealed envelope superscribed 'Enquiry Reference Number and due date' address to
**Deputy Registrar (P&S),
Indian Institute of Technology (Indian School of Mines),
Dhanbad-826004, Jharkhand, India.**
15. **Performance Security (Performance Bank Guarantee):** Successful bidder has to submit a performance security (PBG) in the form of bank guarantee issued by a Nationalized Bank in India towards PBG within two weeks of placement of purchase order for an amount equal to 10% of order value of purchase order and valid till the period beyond two months of completion of warranty period as per IIT(ISM) rules.
16. **Delivery Period and Liquidated Damage:** The ordered materials/work complete in all respects are required to be delivered and installed within the period stipulated in the purchase order failing which liquidated damages of 1% per week or part thereof for the delayed period subject to maximum of 5% of the total value of the order shall be deducted from the invoice of the supplier.
17. **Inspection:** Inspection shall be carried out at IIT (ISM), Dhanbad after arrival of the materials and decision of the Institute in this regard shall be final.
18. **Rejection and Replacement:** Rejection, if any, shall be notified to the supplier within 30 days of receipt and inspection of the material/workmanship or as per user's convenience. Rejected materials/work is to be removed by the supplier at his own risk and cost from IIT (ISM). Campus within 14 days of intimation of rejection. Defective Supplies are required to be replaced within 15 days of the removal of the rejected materials/work.
19. **Risk Purchase:** IIT (ISM) shall be at liberty to realize from the supplier the differential amount, if any, which it shall have to incur on purchase of the material/work at higher price(s) from elsewhere in the market, if the supplier, due to their fault, fails to supply the ordered quality and quantity of the material/work within the stipulated time.
20. **Conditional offer will not be accepted.**
21. Any kind of advance or part payment will not be released.
22. Payment will be made within 30 days after satisfactory supply, inspection, installation/commissioning & acceptance and on submission of pre-receipted tax invoice, delivery challan, warranty certificate and installation report in triplicate and performance security (PBG) followed by its verification. The invoice should be duly certified by the Head of Dept to which supply is made or any other IIT (ISM) official authorized for this purpose.
29. **Last date** for receipt of tenders and date & time for opening of the same is given above. IIT(ISM) may extend/ revise these date & time as per its rules without assigning notice/ reason thereof.
30. (i) Tender should be submitted in a sealed cover/envelope and must be superscribed as:
"Tender No. _____ (NIT no. should be mentioned for _____ (tendered item should be mentioned) due on _____ (tender opening date should be mentioned) at _____ (tender opening time should be mentioned).



भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद

धनबाद, झारखण्ड, भारत, पिन-826004

(मानव संसाधन एवं विकास मंत्रालय, भारत सरकार के अधीन एक राष्ट्रीय महत्व का संस्थान)

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

DHANBAD, JHARKHAND, INDIA, PIN-826004

(An Institute of National Importance under Ministry of H.R.D., Govt. of India)

STORES & PURCHASE SECTION Phone:(0326) 2235678 || Email : purchase@ismdhanbad.ac.in || Website : www.iitism.ac.in

NIT No. App Phy-PRJ-017-18-19

Date: 24.04.2018

-
- (ii) All tender shall be received upto to the time and date as stated in the tender notice, after which no tender shall be accepted in any circumstances.
 - (iii) All tender must be send by Registered Post/Speed Post/Courier along with Courier receipt, during IIT (ISM) working days, working hours only (i.e. Monday to Friday). Please note that no hand delivery of tender will be received at any circumstances.
31. IIT (ISM) reserves the right to accept or reject any or all the bids in part or in full without assigning any reason and does not bind himself to accept the lowest bid. The Institute at its discretion may change the quantity/quality/parameters/upgrade the criteria/drop any item(s) or part thereof at any time before or after placing the order. IIT(ISM) reserves the right to change/ cancel the purchase order at any stage without assigning any reason/ notice thereof.
 32. In case of any dispute, the decision of IIT (ISM) shall be final and binding on the bidders/tenderers.



भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद

धनबाद, झारखण्ड, भारत, पिन-826004

(मानव संसाधन एवं विकास मंत्रालय, भारत सरकार के अधीन एक राष्ट्रीय महत्व का संस्थान)

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

DHANBAD, JHARKHAND, INDIA, PIN-826004

(An Institute of National Importance under Ministry of H.R.D., Govt. of India)

STORES & PURCHASE SECTION Phone:(0326) 2235678 || Email : purchase@ismdhanbad.ac.in || Website : www.iitism.ac.in

NIT No. App Phy-PRJ-017-18-19

Date: 24.04.2018

Annexure-III

ABOVE TERMS AND CONDITIONS OF THE NIT ARE ACCEPTED

1	Name and address of the tenderer	
2	Telecom nos. of the tenderer i.e. phone & email id.	
3	Signature, name & designation of the person signing on behalf of the tenderer & his/her office seal	
4.	Name & designation of the contact person & his phone/mobile no.	



भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद

धनबाद, झारखण्ड, भारत, पिन-826004

(मानव संसाधन एवं विकास मंत्रालय, भारत सरकार के अधीन एक राष्ट्रीय महत्व का संस्थान)

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

DHANBAD, JHARKHAND, INDIA, PIN-826004

(An Institute of National Importance under Ministry of H.R.D., Govt. of India)

STORES & PURCHASE SECTION Phone:(0326) 2235678 || Email : purchase@ismdhanbad.ac.in || Website : www.iitism.ac.in

NIT No. App Phy-PRJ-017-18-19

Date: 24.04.2018

Annexure-IV

Format for Financial Bid

NIT No.: APP PHY/PRJ/017/18-19

Date:

Bidders Ref: No.

Date:

GSTIN No.:

Subject: Supply & Installation of Spectroscopic Ellipsomete

Sl. No.	Full Description of Items with (HSN Code/SAC Code)	Qty.	Rate	Amount
			Packing & Forwarding (if any)	
			Total	
			GST	
			Freight (if any)	
			Installation (if any)	
	Amount should be in figure as well as word (FOR IIT(ISM), Dhanbad basis)		Grand Total	

Note:

- 1) All the details must be provided as per prescribed format only
- 2) Prices quoted by the bidders should include GST, HSN Code, SAC Code, duties, livies, transportation cost and insurance costs etc. if any
- 3) All the rates must be quoted in Indian Rupees.



भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद

धनबाद, झारखण्ड, भारत, पिन-826004

(मानव संसाधन एवं विकास मंत्रालय, भारत सरकार के अधीन एक राष्ट्रीय महत्व का संस्थान)

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

DHANBAD, JHARKHAND, INDIA, PIN-826004

(An Institute of National Importance under Ministry of H.R.D., Govt. of India)

STORES & PURCHASE SECTION Phone:(0326) 2235678 || Email : purchase@ismdhanbad.ac.in || Website : www.iitism.ac.in

NIT No. App Phy-PRJ-017-18-19

Date: 24.04.2018

Annexure-V

Compliance Statement

Sl. No	Technical requirement as per NIT	What is offered by the tenderer	Status of Compliance Complied/Not Complied
--------	----------------------------------	---------------------------------	--