



# झारखण्ड केन्द्रीय विश्वविद्यालय

Central University of Jharkhand  
Brambe, Ranchi, Jharkhand, -835205

CUJ/CoE-GEET/NIT/2018/

Dated: 03/08/2018

Sealed quotations are invited for the articles enclosed in the separate sheet subject to the terms and conditions given below. The quotation should be addressed to Prof. S. K. Samdarshi, (coordinator and PI of the Project), Centre for Energy Engineering, Central University of Jharkhand, Ratu –Lohardaga Road, Brambe, Ranchi, 835205 and **should reach on or before 24/08/2018**. Quotations will be opened on the next working day.

## TERMS AND CONDITIONS

1. Quotations without any erasures and overwriting must be submitted in sealed cover addressed to the, Prof. S. K. Samdarshi, Centre for Energy Engineering, Central University of Jharkhand, Ratu- Lohardaga road, Brambe, Ranchi- 835205 super-scribed Tender/ Enquiry No. and the due date failing which, quotation may be ignored. Tender/quotation should be sent through Post /Courier/By Hand.
2. The rate quoted should be inclusive of all packing, forwarding, commissioning & installation, sales tax, freight and insurance charges and should remain valid for our acceptance for minimum period of six (6) months from the due date of opening of the quotations. The quotation should be CUJ consignee's site basis i. e. Central University of Jharkhand, Ratu Lohardaga Road, Brambe, Ranchi.
3. Manufacturer's name of company of origin of materials offered must be clearly specified. Complete details of illustrated literatures/or drawings, in original (not photocopies), if any must accompany all quotations.
4. The University will not entertain requests for revision in prices once quoted for whatever reason after the tenders are opened during the period the period of contract.
5. All goods must be delivered at our University at Ratu- Lohardaga Road, Brambe, Ranchi for inspection by our inspecting authority.
6. Full payment will be made within 30 days of the receipt and acceptance after inspection of supplies at destination. The quotations containing different payment terms are liable to be ignored.
7. All goods must be delivered at our university at Ratu – Lohardaga road, Brambe, Ranchi (Store & Purchase Section) after confirmed order. The University will provide DSIR certificate, Educational certificate, if necessary. The University will not be responsible for issuing any Road Permit.
8. Only Manufacture/ Authorized dealer/ firms of repute dealing in the items listed in the quotation having experience in sale and repair / maintenance, need apply.
9. Only lasted models/ mentioned models of items need to be quoted.

10. It should be mentioned specifically whether price quoted includes all taxes and duties. Sales tax and / or other duties legally liable and intended to be claimed should be distinctly shown in the tender.
11. GST Registration Number and its validity should be indicated. Documentary evidences be supplied/ attached to the tender documents.
12. All rates shall be indicated both in words and figures. Where there is difference between the rates quoted in words and figures, rate quoted in words will prevail.
13. The supplier shall make delivery of the items within the stipulated period from the placement of the purchase order. The purchase order would be placed after assessing the requirement and hence, actual quantity may increase/ decrease
14. The Tender Document for items will be Two Bid system consisting of Technical Bid and Price Bid. The Tender Document will be submitted item –wise in two separate sealed covers clearly mentioning on the envelope the details of times for which Bid is submitted.
15. The Bidder must enclose point wise compliance of the technical specifications of each item/
16. The price of Tender Document is Rs. 1000/- only (one thousand rupees only) (nonrefundable). The Tender Document price may be attached to the Technical Bid in the form of Bank Draft in favour of “Central University of Jharkhand” payable at Ranchi.
17. The Tender Document comprising of Price- Bid, Technical Bid and Earnest Money Deposit of Rs.80000.00 only (Rupees Eighty thousand only) (refundable) in the form of Bank Draft in favour of “Central University of Jharkhand” payable at Ranchi kept in the separate envelope super – scribed with the name of the same. The Tender Document must be enclosed with Earnest Money Deposit otherwise the tender document will be rejected. All the documents must be enclosed in a bigger size envelope super- scribed with the tender number and items name.
18. Only those Manufactures liable to participate having ISO 9001 and ISO 14001 certification.
19. All legal disputes shall be under the jurisdiction of Jharkhand High court, Ranchi.
20. The University reserves the right to accept or reject any Bid, without assigning any reason thereof. No correspondence in this regard will be entertained.
21. All the participating firms should attach supporting documents in favour of:
  - a) Have at least 5 years of experience in the field.
  - b) Have an annual turnover of at least Rs. 50 Lakh per annum for each of the last 3 years ( i. e. 2015-16, 2016-2017 & 2017-2018) (Agency should produce a certificate from their Audit Firming respect of turnover for the mentioned period)
  - c) Be registered with Directorate of Industries or Small Scale Industries or any other appropriate authorities.
  - d) Have valid TIN Number for registration under VAT/CST/GST
  - e) Have PAN for Income Tax. Supporting documents for Income Tax return for the last Two years (i.e. 2016-17, 2017-18).
  - f) Documents as proof in respect of Technical bid along with supporting documents.
  - g) Profile and Track Record of the agency. (3 years)
  - h) Copy of signed Balance Sheets of last three years.
  - i) Minimum 5 installations report of the quoted model in India.
  - j) Detailed terms & conditions regarding performance/ warranty / bank guarantee/ Inspection /LD/ penalty for delayed supplied will be elaborated in purchase order. For propriety items/

single manufactures or Government manufacturers, proper certification in original in to be attached along with the Technical Bid.

**List of Instruments**

S.No.	Name of the Instruments	Technical Specifications	EMD (Rs.)
1.	TGA-DTA	<ul style="list-style-type: none"> <li>➤ Temperature Range: From Room temp. to 1000 °C with accuracy of +/- 1°C &amp; Temp. precision +/-0.8°C. Sample should follow the program temperature up to 900°C System should take into account the temperature lag &amp; correct for same.</li> <li>➤ Balance Capacity: upto 1500mg.</li> <li>➤ Heating Rate: 0.1 to 200 °C/min.</li> <li>➤ Weighing accuracy / precision 0.02% / 0.01%.</li> <li>➤ Balance Design: Micro Balance weight change measurements should not be dependent on sample positioning. Thermostated balance housing with auto calibration facility with built-in-ring weights.</li> <li>➤ Balance measurement range: 1gm balance and 1µg real resolution &amp; not digital resolution for complete measurement range.</li> <li>➤ Blank curve reproducibility: +/- 50µg for complete temp. range</li> <li>➤ Thermostat for balance (Water cooled): Temperature accuracy +/- 0.01 °C Stability of balance temp. at 22°C +/- 0.1°C.</li> <li>➤ Hyphenated techniques: TGA should be up-gradable to MS/FTIR of any standard make for EGA applications / requirements with same furnace/Simultaneous Thermal Analyzer (TGA-DTA-DSC)</li> <li>➤ Temperature Calibration: To be performed using calibration standards.</li> <li>➤ Built in Gas Flow Controller for easy</li> </ul>	50,000.00

		<p>operation.</p> <ul style="list-style-type: none"> <li>➤ Sample pans: Supply 180µl Alumina-20 nos.</li> <li>➤ Power supply: 220V/50Hz.</li> <li>➤ User control: Through software</li> <li>➤ Branded PC &amp; Printer should be quoted to run TGA system.</li> <li>➤ Warranty should be 12 months from the date of installation. Also AMC charges should be quoted after warranty period.</li> </ul>	
2.	Material modelling and simulation software	<ul style="list-style-type: none"> <li>➤ Graphical user Environment for material modeling and simulation.</li> <li>➤ Capability to construct, manipulate and view models of molecules, crystalline materials, surfaces, polymers and mesoscale structures.</li> <li>➤ Capabilities to visualize results through images, animations, graphs, charts, tables and textual data.</li> <li>➤ Capabilities to generate analyze and optimize molecular conformation.</li> <li>➤ capabilities to predict mechanical properties, diffusivity, local structure, density variations, cohesive energy density, dipole autocorrelation functional and other properties by molecular mechanics and dynamics methods</li> <li>➤ It should support all latest class 2 and important forcefields like COMPASS, CVFF, PCFF, Dreiding, and Universal etc.</li> <li>➤ Shall have the capabilities to interface with the third party software Gaussian</li> <li>➤ Ability to simulate X-ray, neutron, and electron powder diffraction patterns based on 3D models of crystalline materials.</li> <li>➤ Capability to predict physical and chemical properties of molecules by using semi empirical molecular orbital method .</li> <li>➤ The software must have integrated into bundles validated and efficient quantum mechanical applications based on Density Functional Theory (DFT), hybrid QM/MM and semi-empirical methods.</li> </ul>	20,000.00

		<ul style="list-style-type: none"> <li>➤ Accurate treatment of systems such as grain boundaries, nanoclusters and protein-ligand complexes with the quantum mechanics-based program designed specifically for calculations on large systems of more than 500 atoms should be possible.</li> <li>➤ The tools should accurately predict molecular and crystal geometry, chemical reaction pathways, optical properties, spectra (IR, Raman, NMR, EELS, ELNES, XES, XANES, EXAFS etc.)</li> <li>➤ Capabilities to simulate the properties of solids, interfaces, and surfaces for a wide range of materials including ceramics, semiconductors, and metals using a plane-wave density functional method.</li> <li>➤ Should provide for activation energies and thermodynamic parameters of reactions at interfaces and solids.</li> <li>➤ capability to simulate electronic properties of materials by DFT calculation.</li> <li>➤ Should have DMol<sup>3</sup> and DFTB+ to model the electronic structure and properties of wide range of materials</li> <li>➤ capability of studying the linear scaling DFT code, enabling accurate, first principles calculations on systems of up to thousands of atoms. An interface shall be given to execute parallel processing in the available computing nodes</li> <li>➤ It Should be able to predict electron transport across molecules/ions or polymers between electrodes.</li> <li>➤ Should have CASTEP should be able to predict NMR chemical shifts and electric field gradient tensors from first principles.</li> <li>➤ <b>The licence period is perpetual.</b> The software must be downloaded and installed at user computer/server after award of the purchase order.</li> <li>➤ Any assistance required for installation to be provided.</li> <li>➤ Vendor should ensure completion of license registration process. All necessary licensing documents for software must be supplied.</li> </ul>	
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## NOTICE INVITING TENDERS

Centre of Excellence in Green and Efficient Energy Technology (CoE-GEET), Central University of Jharkhand, Ranchi invites tenders for supply laboratory instrument (TGA-DTA) and Material modelling and simulation software. For details, please refer to the website [www.cuj.ac.in/nit.php](http://www.cuj.ac.in/nit.php)

Coordinator

CoE-GEET