

झारखण्ड केन्द्रीय विश्वविद्यालय, राँची
CENTRAL UNIVERSITY OF JHARKHAND, RANCHI
(संसदीय अधिनियम के तहत 2009 में स्थापित केन्द्रीय विश्वविद्यालय)
(A Central University established by an Act of Parliament in 2009)

Ref no. CUJ/ P&S/EE/263/2014/

Dated: 23-04-2014

Sealed quotations are invited for the article enclosed in the separate sheet (Annexure-I) subject to the terms and conditions given below:

The quotation should be addressed to The Stores Officer Central University of Jharkhand, Ratu-Lohardaga Road, Brambe, Ranchi, 835205 and should reach on or before 15-05-2014 Technical bid will be opened on 16-05-2014 at 3:00. pm.

TERMS AND CONDITIONS

1. Quotations without any erasures and overwriting must be submitted in sealed cover addressed to the Stores Officer, Central University of Jharkhand, Ratu- Lohardaga road, Brambe, Ranchi- 835 205 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, sales tax, freight and insurance charges and should remain valid for our acceptance for minimum period of three 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 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, 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 (Stores & Purchase Section) free of cost after confirmed order.
8. Only Manufacturer/ Authorized dealer/ firms of repute dealing in the items listed in the quotation having experience in sale and repair/ maintenance, need apply.
9. Only latest 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 leviable and intended to be claimed should be distinctly shown in the tender.
11. VAT/CST 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 30 days 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 items for which Bid is submitted.
15. The price of Tender Document is Rs. 1000/- only (One Thousand rupees only) (non- refundable). 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.
16. The Tender Documents comprising of Price- Bid, Technical Bid and **Earnest Money Deposit** of **Rs. 3,00,000 only (Rupees Three Lakhs 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 item name.
17. Only those Manufacturers liable to participate having ISO 9001 and ISO 14001 certification.
18. All legal disputes shall be under the jurisdiction of Jharkhand High court, Ranchi.
19. The University reserves the right to accept or reject any Bid, without assigning any reason thereof. No correspondence in this regard will be entertained.
20. 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 2010-11, 2011-12 & 2012-13) (Agency should produce a certificate from their Audit Firm in 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
 - e) Have PAN for Income Tax. Supporting documents for Income Tax return for the last Two years (i.e 2011-12, 2012-13).

- 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) Detailed terms and condition regarding performance/ warranty/ Bank guarantee/ inspection/ LD/ Penalty for delayed supplied will be elaborated in our purchase order.
21. Details specification of the equipment annexed as Annexure-I.
22. For any queries you may contact our University web site www.cuj.ac.in.

Chairman
(Academic Purchase)

DETAILS OF ARTICLE

Solar PV and Solar Thermal Lab.		
Sl. No.	Description of the Item with specification	Quantity
1	Pyranometer	01
2	Pyranometer Standard	01
3	Pyrheliometer with tracker	01
4	Angstrom compensation pyrheliometer	01
5	Sunshine duration recorder with spherical lens	01
6	Class AAA Solar Simulator along with accessories Beam Size 2 x 2 in. (51 x 51 mm) Beam direction: vertically upward Typical Power Output 100mW/cm ² (1 Sun) Lamp Wattage 450 W Spectral Match Classification A (IEC 60904-9 2007), A (JIS C 8912), A (ASTM E927 - 05) Power Requirements 220 VAC/ 50 Hz Line Regulation 0.01 % Lamp Type: Xenon Arc lamp, 1.5G Air mass filter Highly regulated Power supply. Working Distance 12 in Calibrated Reference solar cell(2 x 2 cm) (IEC 60904-2) and Meter 2KVA UPS	01
7	QE/IPCE Measurement Kit Preselected components for the solar cell QE/IPCE measurements Digital lock-in measurements with a NIST calibrated detectors over the 300 – 1100 nm range 300 W Xe light source Fully programmable lock-in amplifier with integrating Software that measures QE spectroradiometer control software with direct Excel export Solar cell fixture Desktop PC with accessories	01
8	Solar – Thermal Training Kit Solar water heater (Flat plate collector): 2 m ² area Collector dimension 1230x1850x100 cu. Mm Aperture area 2.25 sq. m	02

	<p>Glazing type: Toughened glass (4 mm thick) Glazing transmission: > 80% Effective absorber surface area: 2 sq.m (>0.1 mm thick) Absorber plate dimension: 1760mm x1190mm Emittance/Absorptance: <10% / >90 % Raiser dimension: 12.7 mm (>3.0 ltr capacity) Raiser test pressure 5kg/sq. cm Raiser working pressure: >3.0 kg/sq cm. Insulation: Rockwool (density >40 kg/cu. m) Insulation thickness: 50 mm base, 25 mm side Casing: frame type (thickness 1.4 mm) Tank type: Non pressurized Tank material: SS-304 Tank size: dia-450 mm, length-1000 mm Tank insulation: PUF Tested pressure: ~ 1 kg/cu. cm Thermometers: 0-100⁰C range Water pump with regulator: AC pump for forced circulation Storage tank 100 l tr Cooler: 200 W Inbuilt pressure gauge, ribbon meter and pressure gauge for measurement System efficiency: >70%</p>	
9	<p>Poly-Crystalline Solar PV Module Specifications at STC Nominal Power at STC, Pmax (W)-30 Current at Pmax, Imp (A)-1.76 Short Circuit Current, Isc (A)-2.10 Voltage at Pmax , Vmp (V)-17 Open circuit voltage, Voc (V)-21</p>	2
10	<p>Poly-Crystalline Solar PV Module Specifications at STC Nominal Power at STC, Pmax (W)-75 Current at Pmax, Imp (A)-4.41 Short Circuit Current, Isc (A)-5.25 Voltage at Pmax , Vmp (V)-17 Open circuit voltage, Voc (V)-21</p>	2
11	<p>Mono-Crystalline Solar PV Module Specifications at STC Maximum Power Rating Pmax.(Wp)=35.0 Rated Current IMPP(A)-2.10</p>	2

	Rated Voltage VMPP(V)-16.5 Short circuit current Isc (A)-2.60 Open circuit Voltage Voc (V)-20.5	
12	Mono-Crystalline Solar PV Module Specifications at STC Maximum Power Rating Pmax. (Wp)-75.0 Rated Current Impp (A)-4.40 Rated Voltage Vmpp (V)-17.0 Short Circuit Current Isc (A)-5.00 Open Circuit Voltage Voc (V)-21.4	1
13	Amorphous Silicon Thin Film Modules Specifications at STC Maximum Power-50 Wp Open circuit voltage (Voc)-83.0 V Maximum power voltage (Vmp)-65.0 V Short circuit current (Isc)-0.95 A Maximum power current (Impp)-0.78 A	2
14	Natural Thermo Siphon Air Draft Solar Driers Temperature Range-60 ⁰ -90 ⁰ Capacity-8 Kg of Stuff	1
15	Forced Circulation Air Draft Type Solar Dryers Temperature Range-60 ⁰ -270 ⁰ Capacity-8 Kg of Stuff	1
16	Solar Cocker(Box type) Should be as per BIS (IS 13429:2000), with size 550mm*550mm*170 mm ± 20 mm With four matt black coated cooking pots (with lid)(made of stainless steel) Mirror reflectivity should not be less than 75%. The body of the solar cooker should be 1.00 mm thick UV resistant FRP Solar cooker must have thermal performance (F1) not less than 0.12 Each solar cooker must be provided with four castor wheels as per BIS 13429	2
17	Solar Cocker(Dish Type) Dish diameter : 1.4 m minimum Reflector Material : Bright anodized aluminium sheets of thickness 0.4 mm. Reflectivity : >80% with a maximum degradation of 10% in 5 years Focal spot : It will be of a size such that all the reflected rays are exactly focused at the bottom of the vessel (5 litre pressure cooker for 1.4 m dia. Dish.) Thermal/ optical efficiency : min 40% Tracking Mechanism: Manual or automatic 360 degree rotation of the dish around horizontal axis	2

	ISI marked pressure cooker of 5 litre capacity with high temp. resistant black powder coated bottom	
18	Digital Solar Power Meter 4 digit LCD reading Measuring Range: 0-2000 W/m ² Resolution: 0.1 W/m ² Spectral Response: 400 to 1000nm Sampling Rate: 4 times/sec Operating Temperature & Humidity: 0 to 50°C;0% to 80% RH Photo Detector: Silicon photovoltaic detector.	2
19	Solar still (for distilled water) Basin Area (m ²)-1 Glass Thickness(mm)-4 Number of Glass-1 Slope of Glass-15°	1
20	Flat Plate Collector type Solar Water Heater 100 Litre Per Day	1
21	Evacuated Tube Collector type Solar Water Heater 100 Litre Per Day	1
22	White led (w-led) based solar lantern PV Module 5 Wp under STC Battery Sealed Maintenance Free (SMF) lead acid battery or NiMH battery or Lithium Ion Battery Light Source W-LED luminaire, dispersed beam, soothing to eyes with the use of proper optics and diffuser Electronics Efficiency approximately 85% Duty cycle 4 hours a day under average daily insolation of 5.5 kWh/m². on a horizontal surface	2
23	CFL light source based solar lantern PV Module :10 Wp under STC (10% efficiency) Battery Sealed Maintenance Free (SMF) lead acid battery or NiMH battery or Lithium Ion battery Light Source :7 Watt CFL luminaire with 4 pins only along with proper pre-heating circuit Electronics Efficiency approximately 85% Duty cycle: 4 hours a day under average daily insolation of 5.5 kWh/m ² . on a horizontal surface. Autonomy :Minimum of 3 days or 12 operating hours per permissible discharge	2
24	Digital Weighing Balance Range-.01mg-300gm	1

25	Digital Weighing Balance Range-1gm-300gm, 1kg	1
26	Digital Combo Meter Wind Speed, Humidity, Light and Temperature Light: 0 to 20,000 Lux Velocity units: m/s, kph, mph, knots Temperature measurement in °F or °C Humidity: 10 to 95% RH Data Hold, Record Max/Min	1
27	Infrared thermometer Temperature Range:-50-550°C User selectable °F or °C Built-in laser pointer Backlighting illuminates display for taking measurements from Infrared Thermometers at night Auto data hold (when trigger released) and Auto shut off	1
28	Vacuum thermal evaporation system Specification: Unit operates on 220V A.C 50 Hz Single phase power supply. High vacuum in the order of 5×10^{-6} m.bar Digital High Pressure Pirani gauge LT evaporation Meters Quartz film thickness monitor Special substrate heater Rotary Drive control Accessories: Tungsten Helicals (1Pkt.),Tungsten Baskets (1 Pkt.) Molybdenum Boats 200 amps (1pkt.) Quartz 6 MHz Crystal for Film Thickness Monitor	01
29	Spin coater with Vacuum pump and Dip coater (a) Spin coater Spin speed: 100-12,000 rpm spins wafers up to ø150mm and plates up to 4" square Multi step Digital Process Controller—time, speed, and acceleration programmable in each step Safety interlock protection Natural Polypropylene construction Chemically resistant clear-view top Vacuum and non-vacuum chucks for thin and small substrates,	01 1 01 01

	(c) A desktop PC with below specifications Operating system: windows 8 (64 bit) Processor: 3rd Generation Intel® Core™ i5-3450 processor (3.10 GHz) RAM: 8 GB Hard disk: 1 TB Optical drive: 16X DVD+/-RW drive Display: 21.5" Full HD	01 01
33	Muffle furnace Temperature $\geq 1000^{\circ}\text{C}$ with multistep programming control	01
34	Microvoltmeter/Microammeter	1+1