

DOCUMENT

Open Competitive Bid (OCB)

For

**Supply and Installation of
Physical Metallurgy Lab equipments of
Metallurgical & Materials Engineering Dept.
at the three campuses of
Rajiv Gandhi University of Knowledge
Technologies**

Proprietary & Confidential



**RAJIV GANDHI UNIVERSITY OF KNOWLEDGE
TECHNOLOGIES**

**Ground Floor, Vindhya C4 Building,
IIIT-H Campus, Gachibowli**

HYDERABAD- 500 032

Phone: 040-23001830

Proprietary & Confidential

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News paper advertisement

Short Tender Notice



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TECHNOLOGIES

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Gachibowli, HYDERABAD- 500 032
Phone: 040-23001830

Separate Sealed Tenders are hereby invited from reputed Manufacturers or Authorised dealers for supply and installation of Lab equipments for the following labs of Metallurgical & Materials Engineering Departments at the three campuses of RGUKT located at Basar (Adilabad District), Nuzvid(Krishna District) and RK Vally (YSR Kadapa District):

- 1) Chemical Metallurgy Laboratory
- 2) Physical Metallurgy Laboratory
- 3) Corrosion and Environmental Degradation Laboratory
- 4) Material Testing and Processing Laboratory
- 5) Heat Treatment Laboratory

Last date of submission of tender along with EMD as specified in the bid document is on 09.08.2012 before 04 .00 pm.

Interested parties can collect the Tender document for each laboratory from **25.07.2012 to 08.08.2012** against payment of Rs. 5,000/- towards the cost of Tender document fee (non-refundable) through D.D. from any Nationalized Bank payable to REGISTRAR, RGUKT at Hyderabad from the office of the RGUKT. For further details visit our website www.rgukt.in

Date: 25.07.2012

Sd/
Registrar

Time schedule of various Short tender related events

Bid calling date	25.07.2012
Last date for sale of document	08.08.2012 at 05:00 P.M
Pre bid meeting	31.07.2012 at 11.10AM
Bid closing date/time	09.08.2012 at 04:00 P.M
Technical Bid Opening date/time	13.08.2012 at 02:30 P.M.
Price Bid opening date/time	14.08.2012 at 04:00 P.M
Bid Document fee	Rs.5,000/-
Contact person	Registrar, RGUKT
Reference No	RGUKT/Proc/MME/PM/T 20/2012

Registrar,
RGUKT

TENDER FORM

Not transferable

Reference. No. RGUKT/Proc/ MME/PM/T 20/2012

Dated 25.07.2012

Subject: Invitation of Tenders for Supply, installation and commissioning of Physical Metallurgy Lab Equipments to the Metallurgical & Materials Engineering Departments at three campuses of RGUKT located at Basara (Adilabad Dist), Nuzvid (Krishna Dist) and RK Valley (YSR Kadapa Dist) of Andhra Pradesh.

Last date and time for submission of the TENDER AT RGUKT, Vindhya-C4, IIIT Campus, Gachibowli, HYDERABAD is **09.08.2012 up to 4:00PM**

Dear Sir/Madam,

- A. RGUKT invites sealed tenders comprising technical bid and price bid separately from reputed manufacturers (or) authorized dealers for three RGUKT IIITs located at Basara (Adilabad Dist), Nuzvid (Krishna Dist) and R K Valley (Kadapa Dist) of Andhra Pradesh.
- B. The Tender form consists of **33 pages of which pages from 6 to 17** are instructions and **page No.24** contains the format for financial bid. The duly completed Technical Bid together with a copy of the bid document (this tender) signed on all pages by the Bidders authorized signatory and the Price Bid should be kept in separate sealed covers. These sealed covers must be submitted in a sealed master envelope super scribed "Tender for Supply, Installation & Commissioning of Physical Metallurgy Lab Equipments to the Metallurgical & Materials Engineering Departments at the three campuses of RGUKT. The last date for submission of bid is **09.08.2012 and closing time is 04:00 PM.**
- C. The Sealed Tenders should be deposited in the Tender box kept in the office of Registrar, RGUKT, Hyderabad up to **04:00 P.M. on 09.08.2012.**

For any clarification and further details on the above tender please contact by Telephone No: 040-23001830 or Contact in Person during office hours.

Thanking you

Yours faithfully,

Registrar,
RGUKT.

STATEMENT OF IMPORTANT LIMITS/VALUES RELATED TO BID

Item	Description
EMD	Rs.1,00,000/- by way of Demand Draft from any Nationalised Bank or by way of irrevocable bank guarantee from any Nationalised Bank only. DD/BG from other than Nationalised Banks will not be accepted.
Bid Validity Period	365 days from the date of opening of Financial bid
EMD Validity Period	90 days from the date of opening of Financial bid
Warranty Period	3 years
Variation in quantities/number of residents	+ 40 %
Period for furnishing performance Security Deposit	Within 10 days from date of receipt of award
Delivery Schedule	Bidder shall deliver the goods in one single lot within 30days from the date of award of the contract.
Performance security value	5% of contract value by way of irrevocable Bank Guarantee from any Nationalised Bank
Performance security validity period	38 months from award of contract (including 30 days of installation period)
Period for signing the order Acceptance	Within 7 days from date of receipt of notification of award

Payment terms	
On delivery at user site	<p>Payment for goods and services shall be made in Indian rupees as follows.</p> <ol style="list-style-type: none"> 1. 80% of payment will be paid after installation, commissioning 2. Balance 20% will be paid after 3 months after obtaining the satisfactory certificate from the Director, RGUKT IIITs.
Maximum Liquidated Damages for late deliveries	<p>For delays:- If the supplier fails to deliver any (or) all of the goods or perform the services within the time period specified in the contract the purchaser shall without prejudice to its other remedies under the contract deduct from the contract price as liquidated damages a sum equivalent to 0.25% of the contract value per day until actual delivery or performance up to a maximum deduction of 10% of the delayed goods or services contract price. Once the maximum deduction is reached, the purchaser may consider the termination of the contract duly forfeiting the performance security etc.,</p>

5. ELIGIBILITY CRITERIA

1. This bid is open to all firms within India who are eligible to do business under relevant Indian laws as in force at the time of bidding, subject to meeting the pre-qualification criterion. They should provide list of customers of previous supply of similar/ same items to IITs, NIT's or Central Universities or any Academic Institute of National repute with contact details. Copies of orders received from the reputed firms on bidding firm need to be submitted.
2. The bidder should have servicing facility or work shop with in India so the provision of service is possible at a short notice and without incurrance of delay.
3. The Bidding firm should have minimum turnover as follows:

Bid Value offered against the tender call	Last financial year's business turnover
25 lakhs	50 lakhs
50 lakhs	1 crore
50-100 lakhs	2 corers
Greater than 100 lakhs	3 Crores

The bidder should have adequate experience in supply of such materials/ equipment as required in the tender. Bidder should furnish proof of having supplied such materials as required in the tender in the previous financial year ending 31st March 2012 as mentioned above . A certificate of the bidder's turnover in Rupees must be enclosed and be duly certified by a firm of chartered accountants. In this certificate the turnover of subject material during 2011-2012 (ending with 31.03.2012) must be covered.

4. The bidder should furnish satisfactory performance certificate from the parties concerned to whom bulk supplies were effected, in case such supplies were made. RGUKT may contact any such parties to elicit details.
5. Bidder should be registered under VAT Act/CST Act with the relevant State Sales Tax Authorities. He should furnish along with the bid document, the relevant VAT/CST Registration Document and PAN / TAN Card copies.
6. All bidders shall also include the following information and documents with their tenders (in the Technical bid cover)
 - a) Copies of original documents defining the constitution or legal status, place of registration, and principal place of business of the bidding firm/entity; written power of attorney of the signatory of the Bid to commit the Bidder.

- b) Machinery/equipment owned by the bidder and number of employees.
 - c) Latest Income Tax returns and VAT/CST Returns filed.
 - d) List of Present Clientele with contact addresses & telephone numbers.
7. All the certificates furnished along with technical bids should be attested by a Gazetted Officer, counter signed by bidder along with their seal.

The bidders must submit all relevant documentary evidence in support to their claim for eligibility in placing bid. **The tenders received without the above documents will be rejected.**

Requirement of Physical Metallurgy Lab Equipments

Sl.no.	Item	Qty Required
1	Double disc variable speed polishing machine	12
2	Electro-polishing/etching unit	6
3	High Precision low speed diamond saw	3
4	High temperature Microwave furnace	3
5	Microstructure Image Analysis System	3
6	Tube furnace with quartz/high alumina muffle	3
7	Ultrasonic Cleaner	6

1.Specification of double disc variable speed polishing machine:

- Machine should be able to accommodate plate sizes 200 mm to 250 mm dia.
- It should have a strong steel frame with composite body & anti-splash ring making it corrosion proof. It should have removable bowl for easy cleaning.
- It should have continuously variable speed from 20 to 700 rpm in either rotation direction (clockwise & anti-clockwise).
- The plate should have progressive acceleration (slow start) & immediate stop for safety.
- Facility should also be provided for drying the specimen after each operation.
- It should have has two high andpowered motors (1 HP each) with inverter technology to provide constant & high torque.
- Water faucet, built-in sink arrangement and water flow should be controlled by a robust solenoid valve.
- Accessories required
 - (1) Base support plate with cogs **2 nos.**
 - (2) Flat plate 200 mm diameter used for sticking polishing pads & abrasive papers **2 nos.**

2.Specifications of Electro-polishing/etching unit

DC Power Supply

Input supply	:	230V single phase AC, 50Hz
Output	:	0-50v/0-30amps
Line and load regulation	:	+/-0.1% for variations in input and load variations
Ripple	:	less than 3mv rms
Indications	:	a) LED indications for ac input , cv & cc operations b) digit digital meters to read output voltage & load current.
Controls	:	a) On/off switch at input side, b) Coarse and fine voltage set potentiometer for both voltage & current separately
Terminations	:	a) input through a power card b) Output will be brought on to binding terminals on front panel and also with remote sense terminals on to rear panel.
Protections	:	a) fuse protection at input b) Outputs are to be protected against over loads & continuous short circuits.
Mechanical	:	a) Bench top model

Electropolishing cell

- Tank : Tank design should prevent easy electrolyte spillages and facilitate easy cleaning after use. Tank shall be made of glass/PVC and will hold about 500CC of electrolyte. Electrically insulating tank cover should facilitate the placement and the alignment of cathode and anode in the tank.
- Patch cords, alligator clips for electrical connection should be provided.
- Bath heating device : Thermostat with a temperature regulated base plate of 6"x6" Temperature range 0-80°C.
- Glass thermometer (0 to 100°C range) for measuring the bath temperature.
- Timer to monitor the electro-polishing duration
- Vernier for making dimensional measurements on the specimens

3. Specifications for High Precision low speed diamond saw

- Continuously variable speed from 0-600rpm driven by high torque motor
- Position accuracy : 0.005mm or better
- Wheel shaft dia : 12.7 mm
- Automatic switch off of machine on completion of cut
- Built in micrometer for cross feeding adjustment of specimen.
- Standard specimen holder : Must be supplied
- Counter balanced holder for a set of at least three weights
- Ability to use wheels of diameter up to 5"
- Built in coolant tray
- Diamond blades : Fully sintered diamond blade of 4"
- Input voltage : 230V AC 50Hz

4. High temperature Microwave furnace

- Microwave sintering furnace shall operate at a 2.45GHz frequency with power output in the range of 3-5 KW.
- Hot Zone dimensions : preferably 150mm x 150mm x200mm
- Sintering chamber to have ceramic insulation housing (batch system). The primary function of the insulation is to preserve the heat generated in the work piece.
- The temperature is to be monitored by optical sheathed thermocouples placed close to the surface of the sample.
- Max. Temp developed In situ : 1,400 deg. C,
- The system shall be equipped with stainless steel Housing including air circulation, glass door .
- Programmable controller with max. 8 or 10 Program steps, control output indicator and Exhaust device as well

5. Specifications of Microstructure Image Analysis System

Metallurgical Microscope

Required features

- Principle of Operation : Reflected / Incident light automated optical metallurgical microscope for Bright Field (BF), Dark Field (DF), Polarization & Nomarski Interference Contrast (NIC) modes. Both Upright & Inverted models shall be considered
- Superior image quality with LED illumination
- Objective details : High resolution semi apochromatic 5x, 10x, 20x, 50x, 100x Objectives suitable for BF, DF, Polarization and NIC with suitable prisms for the objectives
- Objective Turret : 6 fold revolving motorized nose piece for the objectives including incident light axis with aperture and diaphragm discs
- Eyepiece details : Plan Achromatic 10x with diapter adjustment graticule 10mm=100div adjusted for the eyepiece 10x & ASTM Graticule for grain size measurements
- Z Drive / Focus : Motorized Z drive piezoelectric type with minimum step size of less than 1 micron.
- Specimen stage : 100x75 mm high precision scanning stage with X and Y motorization. Accuracy: less than ± 5 microns
- Contrast modes : BF, DF, POLARIZER & ANALYSER as well as DIC/NIC with Automated Contrast and light intensity setting
- Illumination System : Bright LED illumination suitable for BF/DF/NIC/POL modes
- Filters : Grey filter, panchromatic green, blue and day light filters.
- LCD display with controls : Facility for programmable settings of illumination intensity, field & aperture diaphragms for repeated operations on standard samples.
- Calibrated Graticule : Graticule for eyepiece 10x with 10mm : 100 Divisions

Metallurgical Image analysis system

- Digital Camera and adopter : $\frac{1}{2}$ " size CCD camera of 5 Mega pixels for capturing live image, Imaging Software Kit, PC interface & suitable C mount adopter
- Image analysis software module : (1) Complete metallurgical analysis system working on Windows for image acquisition from the microscope and image processing operations such as image calibration, image refinement operations, magnification imprinting on image. (2) Standard analysis as per ASTM, DIN, JIS, IS and, ISO standards for grain size, phase analysis, inclusion rating, coating thickness, graphite nodule rating, tools for measurements should be provided.
- Desk Top System with printer : (1) Desktop system of DELL/ HP/ SONY/IBM make suitable for image processing applications with 8GB RAM, 1GB graphics card and 500 GB HDD or higher configuration system shall be included in the offer. (2) A4 size photo quality printer of minimum 1200 DPI should be included in the offer

- Interfacing :Facility should be with USB port and cable for connecting to PC with Image retrieval and analysis system software.
- Electric Power Supply : $230 \pm 10 \% V$, 50Hz, Single Phase AC
- Installation and Commissioning: The equipment with all accessories is to be installed & commissioned at the three campuses of RGUKT by the Supplier.
- Warranty: The supplier shall give guarantee and warrantee for products supplied to be free from defects in material and workmanship under normal conditions of use for a period of 36 months from the date of final acceptance after complete installation and commissioning.

6. Tube furnace with quartz/high alumina muffle

- Recrystallised Alumina/Quart tube for sample heating
- Length of quartz/alumina muffle tube : 30", Internal diameter of Muffle tube 30mm/40mm
- Controlled inert / reducing atmosphere in the heating chamber must be possible.
- Water cooled Stainless Steel end fittings for Vacuum / controlled Atmosphere must be provided
- Operating temperature upto 1150°C
- Super kanthal/ Silicon carbide heating elements
- Chromel-Aumel-based thermocouple
- Programmable heating, soaking and cooling cycles.
- Provision for PC connectivity and data logging
- Horizontal tube furnace

7. Specifications of Ultrasonic Cleaner

- Provided with digital control panel of set time and temperature.
- Drain valve system of manually cleaning the tank.
- Fully stainless tank with stainless steel basket and memory Function timer and temperature setting is stored in the unit.
- Thermostatically continuously variable between 20 and 80 °c
- Complete unit should be of one piece design made of stainless steel And drip proof.
- For heat retention it should be of double wall construction should include mesh basket and lid.

- Should have bottom mounted ultrasonic transducers.
- Tank capacity 2 liter

7. General Requirements & Qualification Criteria

- Bidding Firm offering the product should have ISO 9001 Accreditation certification.
- Bidding Firm, offering the product, should have supplied similar type of test systems for a several years to Government establishments, defense organizations & National higher learning institutions like IITs, IISC etc., in India
- Bidding Firm offering the product should submit list of supplies made by it, during last two years with complete contact details of the end users such as phone number, fax number, e-mail ID etc. It should submit copies of order placed by such organizations and user certificates for goods of same/similar nature.
- Bidding Firm offering the Product should have a Local Service Support Facility, preferably in Hyderabad, and should submit address and contact details
- Bidding Firm should give an Undertaking that, an interrupted service support will be given for a minimum period of 10 years with unbroken availability of spares supply.
- Bidding Firm should give an undertaking that, the Software upgrades if any, during the warranty period of three year, should be supplied free of charge
- Bidding Firm should offer pre-dispatch inspection free of charge at their factory premises for 2 users for 3 days and post installation training at our three laboratories in different campuses to 2 users for 5 days.

NOTE

A complete set of bidding documents may be purchased by interested bidders from the RGUKT contact person upon payment of the bid document price which is non-refundable. Payment of bid document price should be by demand draft/ cashier's cheque or certified cheque drawn in favour of "Registrar, Rajiv Gandhi University of Knowledge Technologies" and payable at Hyderabad (India).