

Ref. No: RGUKT/Proc/Ch.Engg/CREL/T9/E-2013, dated 03.08.2013

BID DOCUMENT

**Open Competitive Bid (OCB)
(e-Procurement)**

For

**Supply and Installation of Equipments
To the Chemical Reaction Engineering Lab of Chemical
Engineering Department
at the three campuses of
Rajiv Gandhi University of Knowledge Technologies**

Proprietary & Confidential



**RAJIV GANDHI UNIVERSITY OF KNOWLEDGE
TECHNOLOGIES**

Ground Floor, Vindhya C4 Building,

IIT-H Campus, Gachibowli

HYDERABAD- 500 032

Phone: 040-23001830

Proprietary & Confidential

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News paper advertisement

E-Procurement Tender Notice

RAJIV GANDHI UNIVERSITY OF KNOWLEDGE TECHNOLOGIES



**Ground Floor, Vindhya C4 building, IIIT- H Campus,
Gachibowli, HYDERABAD- 500 032**

Phone: 040-23001830

Ref: RGUKT/Proc/Ch.Engg/CREL /T9/E-2013 dated: 03 .08.2013

Online tenders are hereby invited from reputed **manufacturer/ authorized representatives** for supply and installation of equipments for the following labs of Chemical Engineering Department to the three RGUKT campuses located at Basar in Adilabad dist, Nuzvid in Krishna dist and R.K. Valley in YSR Kadapa dist, in AP.

- i) Mass Transfer Operations Lab
- ii) Chemical Reaction Engineering Lab
- iii) Analytical and Laboratory equipments

1. Tenderers can download the tender schedules from e-procurement Platform www.eprocurement.gov.in from 04.08.2013 onwards. Tenderers need to submit the bids **separately for each Lab** online by uploading all the required documents through www.eprocurement.gov.in. **The last date for submission of tenders online is 23.08.2013 upto 05:00PM**

For further details regarding Tender Notification & Specifications please visit website: www.eprocurement.gov.in and www.rgukt.in

Date: 03 .08.2013

**Sd/-
Registrar**

Time schedule of Tender related events
(Chemical Reaction Engineering Lab)

Bid calling date	03.08.2013
Bid Document fee	Rs. 1,000/- (By way of DD from any Nationalized Bank)
Bid Documents Downloading Start date	04.08.2013
Bid Document Downloading End Date	23 .08 .2013 till 04:00PM
Pre Bid Meeting	13.08.2013 at 03:00PM
Last date for uploading documents online	23.08.2013 at 05:00 PM.
Last date for Submission of documents (hard copies)	24.08.2013 at 04.00PM
Technical Bid opening date/time	26 .08.2013 at 04:00 PM.
Price Bid opening date/time	27.08.2013 at 4.00 PM
Contact person	Registrar, RGUKT
Reference No.	RGUKT/Proc/Ch.Engg/CREL/T9/E-2013, dated: 03 .08.2013

Note: The dates stipulated above are firm and under no circumstances they will be relaxed unless otherwise extended by an official notification or happen to be Public Holidays. For the assistance in the online submission issues, the bidder may contact the help desk of M/s. Vayam Technologies (e-procurement) at their e-mail address: helpdesk.eproc@vayamtech.com

SECTION - I
INVITATION FOR BIDS

Reference: No: RGUKT/Proc/Ch.Engg/CREL/T9/E-2013, dated: 03 .08.2013

Subject: Tender for supply and installation of equipments to the Chemical Reaction Engineering Lab of Chemical Engineering Department to the three campuses of RGUKT located at Basara (Adilabad Dist), Nuzvid (Krishna Dist) and RK Valley (Kadapa Dist) – Reg..

Sir/Madam,

- 1) Bids are invited on the e-procurement platform from the eligible manufacturers or their authorized distributors for **supply and installation of equipments to the Chemical Reaction Engineering Lab of Chemical Engineering Department** to three campuses of RGUKT located at Basara (Adilabad Dist), Nuzvid (Krishna Dist) and R K Valley (YSR Kadapa Dist). The details of bidding conditions and other terms can be downloaded from the electronic procurement platform of Government of Andhra Pradesh i.e. www.eprocurement.gov.in
- 2) Bidders would be required to register on the e-Procurement market place “www.eprocurement.gov.in” and submit their bids online. On registration with the e-Procurement market place they will be provided with a user id and password by the system through which they can submit their bids online.
- 3) The bidders need to scan and upload the required documents as per the Check list given. Such uploaded documents pertaining to technical bid need to be attached to the tender while submitting the bids on line. The attested copies of all these uploaded documents of technical bid, signed undertaking of tenderer should be submitted off line to Registrar, RGUKT, and Hyderabad by 4.00 PM of 24.08.2013. The RGUKT will consider only the bids submitted through on-line copies of the paper based bids.
- 4)
 - a) The participating bidder/s will have to pay tender processing fee (non-refundable) for the amounts specified in the Schedule of Requirements, in the form of Demand Draft drawn from any Nationalized Bank, in favour of Registrar, RGUKT, Hyderabad, payable at Hyderabad.
 - b) Further the bidder/s shall furnish, as part of bid, the Bid security for the amounts specified in the Section-II of Tender Document be paid in the form of an unconditional and irrevocable Bank Guarantee issued by any Nationalized bank in the standard format as shown in the Tender Schedule

or a crossed Demand Draft drawn in favour of Registrar, RGUKT, Hyderabad along with bids.

- c) Further all the participating bidders have to electronically pay a non-refundable transaction fee to M/s. APTS, the service provider through "Payment Gateway Service on E-Procurement platform", as per the Government Orders placed on the e-procurement website.
- d) RGUKT will not accept the tenders from blacklisted companies or undependable Suppliers whose past performance with RGUKT was found poor due to delayed and/or erratic supplies and those with frequent product failures, and also against whom there have been adverse reports of Sub-Standard Quality / Poor Service of Equipment supplies, as defined in the other parts of the Bidding document.

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

SECTION-II

STATEMENT OF IMPORTANT LIMITS/VALUES RELATED TO BID

Item	Description
EMD	Rs. 75,000/- by way of Demand Draft from any Nationalized Bank or by way of irrevocable bank guarantee from any Nationalized Bank only. DD/BG from other than Nationalized Banks will not be accepted.
Bid Validity Period	90 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 Comprehensive Warranty
Variation in quantities/number of residents	± 40 %
Period for furnishing performance Security Deposit	Within 15 days from date of receipt of award
Delivery Schedule	Bidder shall deliver the goods in one single lot within 120 days from the date of award of the contract. In case of imported equipment 150 days.
Performance security value	<ol style="list-style-type: none">1. 5% of contract value by way of irrevocable Bank Guarantee from any Nationalized Bank2. 10% of contract value by way of irrevocable Bank Guarantee in case of imported equipment.
Performance security validity period	38 months from award of contract (including 30 days of installation period)

Period for signing the order Acceptance	Within 15 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 IITs. 3. In case of equipment from foreign country LC will be opened for 100% and 90% of payment will be paid on delivery & submission of documents and remaining 10% will be paid after installation and commission.
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>
Placing work order	<ul style="list-style-type: none"> ➤ RGUKT will place order on identified successful bidder. ➤ All the payments shall be made directly by RGUKT to the successful bidder as per the tender terms and conditions. ➤ If decided RGUKT can split the order basing on the quoted price and service track record. The decision of RGUKT is final in this regard.

Transaction Fee	Transaction fee: All the participating bidders who submit the bids have to pay an amount @ 0.03% of their final bid value online with a cap of Rs. 10,000/- for quoted value of purchase up to Rs.50 crores and Rs.25000/- if the purchase value is above Rs.50 crores & service tax applicable @ 12.36% as levied by Govt. of India on transaction fee through online in favour of MD, APTS. The amount payable to APTS is non refundable.
Transaction Fee Payable to	The Managing Director, A.P. Technology Services Ltd., Hyderabad
Bid submission	Online. Bidders are requested to submit the bids after issue of minutes of the pre bid meeting duly considering the changes made if any, during the pre bid meeting. Bidders are totally responsible for incorporating/complying the changes/amendments issued if any during pre bid meeting in their bid.
Procedure for Bid Submission	Bids shall be submitted online on www.eprocurement.gov.in platform <ol style="list-style-type: none"> 1. The participating bidders in the tender should register themselves free of cost on e-procurement platform in the website www.eprocurement.gov.in 2. Bidders can log-in to e-procurement platform in Secure mode only by signing with the Digital certificates. 3. The bidders who are desirous of participating in e- procurement shall submit their technical bids, price bids as per the standard formats available at the e-market place. 4. The bidders should scan and upload the respective documents in Pre-Qualification and Technical bid documentation including EMD. The bidders shall sign on all the statements, documents certificates uploaded by them, owning responsibility for their correctness/authenticity.

	<p>5. The hard copies of all the uploaded Technical / Price bid, to be attested by a Gazetted Officer or properly notarized.</p> <p>6. The rates should be quoted in online only</p>
Other conditions	<p>1. After uploading the documents, the copies of the uploaded technical bid documents, for evaluation and original Demand Drafts in respect of Bid Security and Bid document fee are to be submitted by the bidder to the “The Registrar, RGUKT, Vindhya-C4 Building, IIIT Campus, Gachibowli, Hyderabad-32”, by 04:00PM on 24.08.2013.</p> <p>Failure to furnish any of the uploaded documents, certificates, will entitle in rejection of the bid. The RGUKT shall not hold any risk on account of postal delay. Similarly, if any of the certificates, documents, etc., furnished by the Bidder are found to be false / fabricated / bogus, the bidder will be disqualified, blacklisted, action will be initiated as deemed fit and the Bid Security will be forfeited.</p> <p>2. RGUKT will not hold any risk and responsibility regulating non-visibility of the scanned and uploaded documents.</p> <p>3. The Documents that are uploaded online on e-market place will only be considered for Bid Evaluation.</p> <p>4. Important Notice to Contractors, Suppliers and Department users (i) In the endeavor to bring total automation of processes in e-Procurement, the Govt. has issued orders vide G.O.Ms.No. 13 dated. 5.7.2006 permitting integration of electronic Payment Gateway of ICICI/HDFC/Axis Banks with e-Procurement platform, which provides a facility to participating suppliers / contractors to electronically pay the transaction fee online using their credit cards.</p>

SECTION-III

TENDER SCHEDULE

1. PREAMBLE:

The Registrar, Rajiv Gandhi University of Knowledge Technologies (RGUKT), Hyderabad invites tenders for supply and installation of Chemical Reaction Engineering Lab equipments to its three campuses located at Basar (Adilabad District), Nuzvid (Krishna District) and RK Valley (YSR Kadapa District), through e-procurement platform.

2. SCOPE OF WORK

Supply and installation of Chemical Reaction Engineering Lab equipments to the three campuses of RGUKT located at Basar (Adilabad Dist), Nuzvid (Krishna Dist) and R K Valley (YSR Dist).

3. EARNEST MONEY DEPOSIT / SECURITY DEPOSIT:

3.1 The tender should be accompanied by Earnest Money Deposit (EMD) for **Rs. 75,000/-** by way of crossed Demand Draft/ Bank Guarantee issued/ drawn from any Nationalized Bank in favor of "Registrar, RGUKT" payable at Hyderabad. Tenders received without EMD will be summarily rejected.

3.2 Forfeiture of the EMD will be made in the following events:

3.2.1 Withdrawal of bid during the bid validity period.

3.2.2 In case of successful bidder, if the bidder fails to sign the contract in time or fails to submit performance guarantee.

4. PERFORMANCE SECURITY:

4.1 The successful bidder has to deposit 5% for indigenous equipments and 10% in case of imported equipment (foreign origin) of the total contract value as performance security deposit in the form of Bank Guarantee from any Nationalized Bank.

4.2 The Performance Security Deposit / Bank Guarantee of successful bidder will be retained for the period of contract in force and will be

returned after expiry of contract, after deducting the outstanding liabilities if any.

- 4.3 The Performance Security Deposit / Bank Guarantee shall not carry any interest.

5 ELIGIBILITY CRITERIA

5.1 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.

5.2 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.

5.3 The Bidding firm should have minimum turnover as follows:

Bid Value offered against the tender call	Last financial year's business turnover
Up to 25 lakhs	50 lakhs
More than 25 lakhs	1 crore

The bidder should have adequate experience in supply of such materials 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 indicating the Turn Over value details (in Rupees) of subject material, during the financial year 2012-13 (for the year ending 31.03.2013) from a Firm of Chartered Accountants must be enclosed (in original) as a proof for Turnover. The Turn Over of the subject Material must be separately indicated in the certificate.

- 5.4 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.
- 5.5 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.
- 5.6 All bidders shall also include the following information and documents with their tenders (in the Technical bid cover)
- 5.6.1 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.
- 5.6.2 Machinery/equipment owned by the bidder and number of employees.
- 5.6.3 Latest Income Tax returns and **VAT/ CST** Returns filed.
- 5.6.4 List of Present Clientele with contact addresses & telephone numbers.
- 5.7 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 to support their claim for eligibility in placing bid. **The tenders received without the above documents will be rejected.**

6. INSTRUCTIONS TO BIDDERS

- 6.1 Tenders with over writings, alterations etc., will not be admitted unless they are attested by the bidder. Where there is a discrepancy between the amount (Rupees) in figures and words, the price, which is least of the two, will prevail.
- 6.2 Bid should be strictly in conformity with the Terms and Conditions mentioned in the tender schedule.
- 6.3 Bidders are expected to examine all the terms and instructions mentioned in the tender schedule and prepare their proposals accordingly. Failure to provide all requisite information will be at the bidders' own risk and may result in the rejection of the tender.

- 6.4 All assertions made in connection with the tender are to be supported / substantiated by relevant documents. The Registrar, RGUKT reserves the right to verify the credentials of the bidder as per the eligibility criteria.
- 6.5 The Registrar, RGUKT will notify the bidder whose tender has been accepted.
- 6.6 The successful bidder shall execute an agreement with RGUKT on Non-judicial stamp paper worth Rs.100.00 agreeing to all the conditions of the contract **15 days** upon intimation of acceptance of Tender. The successful bidder has to submit performance security guarantee after taking Letter of Intent but before having contract agreement. Failure on enter into an agreement within the stipulated time will result in forfeiture of the EMD.

The Registrar, RGUKT reserves the right to issue instructions / modifications at any point of time before award of contract.

7. METHOD OF SUBMISSION:

Bids shall be submitted online on www.eprocurement.gov.in Platform.

- 7.1. The participating bidders in the tender should register themselves free of cost on e-procurement platform in the website www.eprocurement.gov.in
- 7.2. Bidders can log-in to e-procurement platform in Secure mode only by signing with the Digital certificates.
- 7.3. The bidders who are desirous of participating in e-procurement shall submit their technical bids, price bids as per the standard formats available at the e-market place.
- 7.4. The bidders shall sign on all the statements, documents certificates uploaded by them, owning responsibility for their correctness/authenticity.

- 7.5. The bidders should scan and upload the respective documents in Technical Documentation as per the check list.
- 7.6. After uploading the documents, the copies of the uploaded technical bid documents, for evaluation and original Demand Drafts in respect of Bid Security and Bid document fee are to be submitted by the bidder to the “The Registrar, RGUKT, Vindhya-C4 Building, IIIT Campus, Gachibowli, Hyderabad-32”, by **04:00PM on 24.08.2013.**
- 7.7. Failure to furnish any of the uploaded documents, certificates, will entitled in rejection of the bid. The RGUKT shall not hold any risk on account of postal delay. Similarly, if any of the certificates, documents, etc., furnished by the Bidder are found to be false / fabricated / bogus, the bidder will be disqualified, blacklisted, action will be initiated as deemed fit and the Bid Security will be forfeited.
- 7.8. RGUKT will not hold any risk and responsibility regulating non-visibility of the scanned and uploaded documents.
- 7.9. The Documents that are uploaded online on e-market place will only be considered for Bid Evaluation.
- 7.10. Important Notice to Contractors, Suppliers and Department users (i) In the endeavor to bring total automation of processes in e-Procurement, the Govt.has issued orders vide G.O.Ms.No. 13 dated. 5.7.2006 permitting integration of electronic Payment Gateway of ICICI/HDFC/Axis Banks with e-Procurement platform, which provides a facility to participating suppliers / contractors to electronically pay the transaction fee online using their credit cards.

In case of consortium either the prime bidder or the consortium partner can purchase the bid document. The bid can be filed either with user ID of prime bidder or consortium partner.

- 7.11. The rates should be quoted online only.

8 EVALUATION PROCEDURE:

- 8.1 The Tenders will be opened on 26.08.2013 at 04:00 PM by the Registrar, RGUKT or his authorized representative in the presence of the bidders or their authorized representative who may be present at that time.
- 8.2 The Technical Bids will be opened on 26.08.2013 at 04.00 PM. The tenders will be evaluated so as to ascertain the capability of the bidders to provide the material within the period mentioned above and also to assess whether the bidder satisfies the eligibility criteria as detailed in Clause 5 above.
- 8.3 The rejection of the bidder on technical grounds will be based on the failure to meet eligibility requirements.
- 8.4 **The committee may reject a bid for non conformance of the specifications.**
- 8.5 Price Bid of only those bidders, who have fulfilled the eligibility criteria specified in Clause '5', 8.2 and 8.4 above, will be considered and who does not fulfill the eligibility criteria will not be considered and their tender stands rejected.
- 8.6 Any claims or disputes raised by the unsuccessful bidders in respect of selection process and non-allotment of award will have no legal validity and will not be enforceable against the RGUKT. No further correspondence will be entertained regarding the disqualification.
- 8.7 The Registrar, RGUKT reserves the right to accept or reject any / or all the tenders without assigning any reasons whatsoever. The Registrar, RGUKT also reserves the right to cancel the selection process for award of the contract at any time. The decision of the Registrar, RGUKT is final and binding.

9. PENALTY CONDITIONS :

9.1. 0.25% will be deducted from total value of the order for each day of delayed supply, and maximum of 10% will be deducted, if delay continues beyond 10% the contract is liable for termination. If contract is terminated the bidder forfeits the performance security Deposit etc.,

(NOTE: Delivery and installation must be made in a single lot within the delivery date agreed at the time of award of contract)

9.2. If the contract is terminated, as per clause 9.1 above the performance security will be en-cashed by Registrar, RGUKT and the bidder forfeits it.

9.3. In case after random check of equipment of the supplied lot, if it is found to be non conforming to the technical specifications then entire lot of such equipment will be rejected. In this case the Registrar, RGUKT shall encash the performance security deposit. The bidder shall have no claim to any payment towards the transaction.

10. VALIDITY OF THE CONTRACT

The contract quoted bid price shall remain valid for a period of 365 days from the date of issue of purchase order.

11. GENERAL TERMS & CONDITIONS

12.1. The supply, installation and Commissioning of Chemical Reaction Engineering Lab Equipments shall be at the three IIITs under the RGUKT located at

1. Basra, Adilabad District
2. Nuzvid, Krishna District
3. R K Valley (Idupulapaya), Kadapa District

12.2. Goods are to be supplied as per the specification and quantity. Details are annexed to this bid document.

12.3. Delivery and distribution:

General Clause: The goods need to be supplied (in case of equipment need to be installed and commissioned) within the stipulated time agreed upon in the contract.

If no such clause exists in the contract, this period may be treated as 120 days from the signing on Supply Agreement Form.

Bidder shall deliver the goods in one lot within 120 days from the date of award of the contract.

12.4. All goods/ equipment supply shall carry a comprehensive warranty period of 3 years. Within the warranty period, in case of any damage to the supplied material like breakage, wear and tear, Electronics defects etc, it will be the responsibility of the supplier to trouble shoot, rectify and restore functioning or replace the damaged material within 7 working days.

12.5. A random sample of any item will be picked from the lot of items delivered by the bidder to the three campuses of RGUKT. This sample will be subjected to tests, if necessary at labs anywhere in the country to ensure compliance to specifications. If the result indicates non conformance, the entire lot will be rejected and the contract will stand terminated without any liability on the part of RGUKT. In addition, this event shall lead to the forfeiture of the performance security amount.

13. DISPUTES:

All disputes and differences of any kind whatsoever arising out of or in connection with the contract, whether during or after completion of contract will be settled at Hyderabad only, amicably in a spirit of co – operation and the RGUKT's decision shall be final on all such matters and shall be binding on the Bidder.

14. DISCLAIMER:

- 14.1. Even though adequate care has been taken in the preparation of this Tender Schedule the Bidder should satisfy himself that the Schedule is complete in all respects.
- 14.2. Neither RGUKT nor its employees make any representation or warranty as to the accuracy, reliability or completeness of the information in this tender schedule and it is not possible for the RGUKT to consider the investment objective, financial situation and particular needs of each party who reads or uses the Tender Schedule. Certain prospective Bidders may have a better knowledge of the scope of work than others. Each prospective Bidder should conduct his or her own investigations and analysis and check the accuracy, reliability and completeness of the information in the Tender schedule and obtain independent advice from appropriate sources.
- 14.3. Registrar, RGUKT reserves the right to reject any or all the Bids submitted in response to this request for Proposal at any stage without assigning any reasons whatsoever.
- 14.4. Registrar, RGUKT reserves the right to change any or all of the provisions of this tender Proposal.

15. REJECTION OF TENDERS:

- 15.1. The Registrar, RGUKT reserves the right to cancel the tender process and reject all tenders at any time prior to the award of contract without thereby incurring any liability as against the affected bidder or any obligations to inform the affected bidder of the grounds of acceptance or rejection.
- 15.2. No bidder is entitled to withdraw his or her offer after submission. In case of such withdrawal, the EMD deposited along with the tender schedule shall stand forfeited.

15.3. For breach of any of the conditions prescribed in the tender or as specified by the RGUKT from time to time, the EMD is liable to the forfeited. Decision of the Registrar, RGUKT in this regard is final and binding on bidders.

16. REQUIREMENT :

The following Chemical Reaction Engineering Lab equipments are required in the specifications mentioned here under for all the three Campuses of RGUKT located at Basar (Adilabad District), Nuzvid (Krishna District), RK Valley (YSR District)

Specifications of Chemical Reaction Engineering Lab

CH3904: Chemical Reaction Engineering Lab

Sl. No	Experimental setup	Quantity required per campus	Total quantity
1	Kinetics of tubular reactor	1	3
2	Kinetics of continuous stirred reactor	1	3
3	Kinetics of cascade CSTR	1	3
4	Kinetics of straight tube pFR	1	3
5	Kinetics of isothermal batch reactor	1	3
6	RTD of CSTR	1	3
7	RTD of PFR	1	3
8	Fixed bed catalytic reactors	1	3
9	Chemical reactor trainer	1	3
10	Catalyst characterization sorption system	1	3

General terms and conditions to be followed by the suppliers/manufacturers

1. Any supplier / manufacturer is eligible to quote the rates for items partially or completely to which tenders are called for
2. While quoting the prices, it should be combined with prices of the accessories insisted in the specifications
3. Where ever additional accessories are essential to be quoted , however, allowed to do so by quoting separately
4. supplier / manufacturer should provide the clear data of utility requirement list
5. supplier / manufacturer should provide the instruction manual for both the experimental setups and instruments
6. supplier / manufacturer should provide the sample data & calculations and standard results for comparison in case of experimental setups

Specifications of Chemical Reaction Engineering Lab

Equipments

1. Kinetics of tubular plug flow reactor

- To determine the influence of temperature and contact time on chemical reactions
- Reactor made of coiled, chemically resistant plastic tube
- Heater bath made of transparent plastic/glass with strong steel tube support
- Heater temperature is maximum 80-90 °c, continuously adjustable, electronically controlled
- Reactor volume= 0.4 to 1 L
- Flow rate= 20 – 400 ml/min
- Resistant collecting tank= 50 L
- Length of reaction time = 20 -30 minutes

2. Kinetics of continuous stirred tank reactor

- To observe the conversion of reactants at different reactant flow rates and different temperatures
- Reactor tank wall made of borosilicate with capacity of 1/3 Liters
- With inbuilt stirrer and temperature sensor
- Control panel for digital display and computer interface for data acquisition
- Provided with feed tank of capacity of 15- 20 Liters
- With required accessories like compressor, stop watch etc

3. Kinetics of cascade CSTR

- To study the performance of cascade of 3 equal volumes of CSTR's in series
- To evaluate the reaction rate constant
- 3 reactors of MS steel of capacity 2 Liters
- Provided with 3 stirrers – SS steel and shaft coupled with FHP motor

- Feed tanks in 2 numbers of MS steel, each of 20 L capacity
- Control panel with digital indication and data acquisition system

4. Kinetics of straight tube PFR

- To perform the reactions where the progress of the reaction is recorded using service unit conductivity sensor and compared with the theory
- For steady state conversion of a chemical reaction in packed reactor
- To understand the principles of tracer techniques in flow pattern characterization
- Visual monitoring of the tracer and conversion experiments using color
- With Glass reactor of volume 1 Liter
- Length of the reactor is approximately 1100 -1200 mm, packed with 3mm diameter glass beads
- 2 feed tanks of capacity of 20-30 Liters
- Fitted with a static pre-mixer at the base of the column
- Supply the suitable injection valve and other accessories
- Interface with computer for data acquisition

5. Isothermal batch reactor

- To study the reaction kinetics and the effect of temperature on rate constant
- Reactor of volume 1-2 liters made of glass
- Provided with bath and heater
- With built in stirrers and temperature sensors
- Control panel for digital display and computer interface for data acquisition

6. RTD in CSTR

- To determine the Dispersion No
- To plot RTD curve for a CSTR Using pulse tracer
- With feed tank to circulate the water to the reactor
- Feed tank with volume 20-30 liters

- The flow rate should be adjustable by Rota meter
- CSTR made of glass for flow visualization
- With reactor capacity 1-5 Liters
- With varied space time
- Arrangement for tracer injection

7. RTD in PFR

- To predict the exact behavior of reaction in plug flow reactor
- To plot RTD curve for Plug Flow Reactor
- To determine the Dispersion No
- With feed tank to circulate the water to the reactor
- Feed tank with volume 20-30 liters
- The flow rate should be adjustable by rotameter
- Helical coil/straight tube type reactor made of glass for flow visualization
- With reactor capacity 1-5 Liters with ID 0.5 -1 inch
- With varied space time
- Arrangement for tracer injection

8. Fixed bed catalysis

The experiment should involve the understanding the principles of packed bed catalytic reactors, Mass balancing (yield), Examination of steady and unsteady state catalysis, Comparison of chemical and biological (enzymatic) catalysis, Flow characterization in a packed bed, Understanding the principles of Flow Injection Analysis (FIA)

- It must be a bench top unit comprising reactor columns, feed pump, optical sensor and optional Flow Injection Analysis (FIA) system.
- The unit must be supplied with 3 reactor columns for chemical catalysis as standard.
- The unit must have a heated water supply to the column jackets and have automatic control of the reaction temperature.
- The feed flow rate must be variable between 0 and 20ml/min.

- The FIA pump must be able to give flow rates up to 2.5ml/min.
- All electrical circuits must be fitted with appropriate protection devices.
- The console must have two digital meters
- Provide with photometer for analysis of product with wavelength approximately 600 nm
- Tanks for reactant and product with 2-3 Liters capacity made of glass/plastic material
- The unit must have education software and data logging available as an option.

9. Chemical reactor trainer

- To study the reaction rate constant, effect of throughput on conversion, dependency of rate constant on temperature, residence time distribution and the effect of flow rate on conversion
- This unit is a compact, self-contained, bench top service unit designed to provide services for up to five different chemical reactors as follows:
 - a. Continuous Stirred Tank Reactor
 - b. Tubular Reactor
 - c. Plug Flow Reactor
 - d. Batch Reactor
 - e. Reactors with stirrers in series
- The service unit should include a mounting position for the reactor being used
- Installation and exchange system of the reactors, quick and easy to handle.
- It supplies all the services for the operation of each reactor.
- This unit included wheels for its mobility.
- Diagram in the front panel with similar distribution to the elements in the real unit.
- 2 dosing pumps, computer controlled.

- The reactor vessels should be transparent to allow the student good visibility of the experiments.
- There should be two peristaltic/diaphragm pumps used to pump the reagents under smooth flow to the reactors with individually variable flow rates of 0-220ml/min.
- The unit should provide PID temperature controlled hot water in order to maintain reactor temperature.
- Instrumentation for temperature and conductivity measurements should be supplied. Two 'K' type thermocouples should be included, for the hot water and for the reactor contents. An input for a third user supplied sensor should also be provided for project work.
- A dual range conductivity sensor should be provided. An algorithm for the saponification reaction linking the degree of conversion of the reactions to the electrical conductivity should be used, allowing the progress of the reaction to be monitored using the software.
- Measurement of conductivity = 0-200 mS
- Temperature = 0-100 °C
- The unit should provide necessary items to perform isothermal experiments
- Provision for adiabatic and isothermal reactions in batch reactor
- All the reactors should be made of glass like material for visualization of the operation and the volume may range between 1-2 Liters
- The unit should be fully computer controlled, via an integral USB interface with data logging as standard. Educational software specific to each reactor type must be supplied. With this software there should also be the 'drivers' required to allow other software applications to communicate with the unit so that users can use their own software as well.
- The software should allow the user to vary the feed pump speeds and flow rates, to vary the heater power in the hot water, to implement a PID control loop ensuring stable temperatures, switch on and off the hot water pump, and to control the speed of the stirrers used on some of the reactors.

- a. CSTR
 - Adjustable volume of 0.5 -2 liters
 - With variable speed agitator with range 0-250 rpm
 - Vessel should be constructed with borosilicate glass and the heater with stain less steel
 - Provision for measuring temperature and conductivity

- b. Tubular reactor
 - A 20-30 meter length of tubular flow reactor in a visible vessel with volume of approximately 0.5 Liters
 - With agitator and pumps
 - Provision for measuring temperature and conductivity
 - With adjustable heater temperature up to 90 °C

- c. PFR
 - Straight visible Plug flow reactor packed with 2-3 mm glass beads
 - Provision for measuring temperature and conductivity
 - Provision for injection of tracer for
 - Reaction can be monitored with color visibility

- d. Batch reactor
 - Batch reactor made of transparent material
 - With a volume of approximately 1 Liter
 - With variable stirrer speed
 - Provision for measurement for temperature and conductivity

- e. Reactors with Stirrer in Series
 - Anodized aluminium structure and panels in painted steel.

 - Main metallic elements in stainless steel.

Diagram in the front panel with similar distribution to the elements in the real unit.

3 Reactors insulated made of Pyrex-glass, with a maximum volume of 1 litre each

Agitation system with agitation speed control and indication from 0 to 2000 rpm. for each reactor.

3 Temperature sensors.

Conductivity sensors.

Safety, easy and quick connections.

All elements of this unit are chemically resistant.

This unit is supplied with 8 manuals: Required Services, Assembly and Installation, Interface and Control Software, Starting-up, Safety, Maintenance, Calibration & Practices Manuals.

Computer Control Software:

Computer Control+Data Acquisition+Data Management Software for Reactors with Stirrer in Series (QRSA).

Compatible with actual Windows operating systems. Graphic and intuitive simulation of the process in screen.

Compatible with the industry standards.

Registration and visualization of all process variables in an automatic and simultaneously way.

Flexible, open and multicontrol software, developed with actual windows graphic systems, acting simultaneously on all process parameters.

Analog and digital PID control. Menu for PID and set point selection required

in the whole work range.

Management, processing, comparison and storage of data. Sampling velocity up to 250,000 data per second guaranteed.

Calibration system for the sensors involved in the process.

It allows the registration of the alarms state and the graphic representation in real time.

Comparative analysis of the obtained data, after the process and modification of the conditions during the process

10. Catalyst characterization (measurement of porosity and surface area)

- High-performance automated sorption system research grade analytical measurements for determining surface area and pore size distribution
- It can measure active metal surface area, crystallize size, heat of adsorption, micropore size distribution, single and multi point –BET surface area, adsorption and desorption isotherms, Langmuir surface area, mesopore volume and area, total pore volume
- With computer interfaced for graphical analysis with α -plots, f-ration plots and deBoer t-plots etc...

DEGASSING SYSTEM:

- Number of ports: 2 (TWO) simultaneous integrated in the main instrument
- Automation: Totally automated, programmable through the main instrument software
- Degassing parameters are to be specified in the sample analysis file and to be made available on the analysis report.
- Temperature:
 - Ambient to 450° C(programmable)
 - Deviation less than $\pm 10^\circ$ C of set point of thermocouple

- Vacuum: A dedicated vacuum pump for degassing capable of 5×10^{-3} mmHg using two stage mechanical pump. This should be integrated in the main unit. The degas vacuum should not be shared by analysis ports.

ANALYSIS SYSTEM:

- Number of ports: 1 (ONE)
- Vacuum pump capability: 5×10^{-9} mmHg; dedicated , this should not be shared with the degas stations.
- Transducers: 3 (Three) transducers should be provided to cover the entire range of pressure measurement (0-950mmHg)

RESOLUTION:

- 0 to 1 mmHg Transducer: 0.000001 mmHg
- 0 to 10 mmHg Transducer: 0.00001 mmHg
- 0 to 1000 mmHg Transducer: 0.001 mmHg

ACCURACY (ANALYSIS SYSTEM):

- 1000 mmHg range: within 0.15% of reading
- 10 mmHg range: within 0.15% of reading
- 1 mmHg range: within 0.12% of reading

Same transducer should be used for all measurements (manifold, sample and saturation pressure) in order to avoid progressive offset and drift between separate transducers covering the same range.

CRYOGENIC SYSTEM:

- Dewar capacity: 3 Litres which should provide 72 hours of unattended analysis.
- Analysis time: Unlimited. The cryogen dewar should be refillable without affecting the accuracy of the analysis results.
- Coolant level control: Should be available with a life-long warranty without involving level sensors or RTD's.

GAS INLETS:

- 6 Nos. for Physisorption inlets
- 6 Nos. for Chemisorption inlets
- 1 No Vapor inlet
- 1 No Free space He inlet
- 1 No. Degas back fill inlet

Choice of gas should be selectable automatically through the software program during analysis.

CHEMISORPTION FURNACE:

- Temperature from 10°C above Ambient to 1100°C
- Rate selection:
 - Heat ramp control from 1°C to 20°C per minute up to 800°C
 - 10°C / min up to 1000°C
 - 5°C / min up to 1100°C
- Temperature selection: 1°C increments
- Temperature accuracy: Within ± 5°C stability within ± 1°C

SAMPLE TUBES:

- **Physisorption:**
 - * ½ inch O.D. with 9cc bulb
 - * ¼ inch O.D. with 9cc bulb
 - * ¾ inch O.D. with 9cc bulb

- **Chemisorption:**

Quartz flow thru sample tube with ½ inch O.D. with exhaust path for flow through preparation.

SOFTWARE:

- Should use Windows interface to plan, launch and control the analysis.
- Should include features to allow cut and paste graphics scalable and editable graphs and customized reports
- Should allow degas temperatures profiles and treatment time data to be integrated with Sample file for future reference and verification of SOP compliance.
- Instrument Schematic screen display should include current analysis status and real time isotherm besides allowing the operator to assure manual control, if desired.
- Graphic display should include up to 9 (nine) overlaid graphs for easy comparison between different samples or different data reduction techniques applied to the same sample.

ANALYSIS REPORTS:

- Single- and Multi- point BET surface area.
- Adsorption and Desorption Isotherms.
- Langmuir surface area
- BJH Mesopore volume and Mesopore area distribution.
- deBoer t-Plot method
- MP method.
- Horvath Kawazoe with Cheng/ Yang extension and Saito/ Foley models .
- Dubinin-Radushkevich
- Dubinin-Astakhov
- Deconvolution by model fitting.
- Heat of adsorption
- α 's plots

- Freundlich and Temkin isotherms.
- Crystallite size from Chemisorption studies
- Metal surface area and Metal dispersion
- Frenkel-Halsey Hill and Broekhoff-de thickness curves.
- Summary report
- **Density functional theory to generate:**
 - Porevolume distribution of Poresize
 - Surface energy
 - Surface area distribution of poresize

Using slit and cylindrical pore shape models for Argon, Co₂ and N₂ gas as adsorbate.

Financial Bid

Price Schedule for Goods offered

Please quote amounts in numerals and words at each place.

Sl. No	Name of the Equipment	Total Qty	Unit Price (In Rs) Without Taxes & Duties	Taxes & Duties on Unit Price	Unit Price (In Rs) With Taxes and Duties T(4+5)	Total Price (In Rs) (3*6)
1	2	3	4	5	6	7
1	Kinetics of tubular reactor	3				
2	Kinetics of continuous stirred reactor	3				
3	Kinetics of cascade CSTR	3				
4	Kinetics of straight tube pFR	3				
5	Kinetics of isothermal batch reactor	3				
6	RTD of CSTR	3				
7	RTD of PFR	3				
8	Fixed bed catalytic reactors	3				
9	Chemical reactor trainer	3				
10	Catalyst characterization sorption system	3				

(Signature of Bidder)

ANNEXURE-1

RGUKT. Ref. No: RGUKT/Proc/Ch.Engg/CREL /T9/E-2013

Bid Security(EMD) form

(To be issued by a Nationalized Bank in India and having at least one branch in Hyderabad)

Whereas.....(here in after called “ the Bidder”) has submitted its bid
Dated.....(Date). For the execution of(here in after called “the Bid”)

KNOW ALL MEN By these present that WE.....ofhaving our

Registered office at(hereinafter called the “Bank”) are bound unto
the Rajiv Gandhi University of Knowledge Technologies,. (hereinafter called “The RGUKT”) in
the sum offor which payment well and truly to be made to the said RGUKT itself,
its successors and assignees by these presents.

The conditions of these obligations are:

1. If the bidder withdraws its bid during the period of bid validity or
2. If the bidder, having been notified of the acceptance of its bid by the RGUKT during the period of bid validity
 - 1) Fails or refuses to execute the contract form if required; or
 - 2) Fails or refuses to furnish the performance security, in accordance with the bid requirement;

We undertake to pay the RGUKT up to the above amount upon receipt of its first written demand, without the RGUKT having to substantiate its demand, provided that in its demand the RGUKT will note that the amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including 45 days after the period of the bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

Place:

Signature of the Bank

Date:

and seal.

ANNEXURE-II

RGUKT Ref. NO: *RGUKT/Proc/Ch.Engg/CREL /T9/E-2013*

PERFORMANCE SECURITY FORM

(To be issued by a Nationalized Bank in India and having at least one branch in Hyderabad)

To :.....(Address of RGUKT)

WHEREAS..... (Name of Vendor) hereinafter called “the Vendor” has undertaken, in pursuance of

Contract No.....Dated,.....(Date), to supply.....called “the Contract” AND WHEREAS it has been stipulated by you in the said Contract, that the Vendor shall furnish you with a Bank guarantee by a Nationalized bank for the sum specified therein as security for compliance with the supplier’s performance Obligations in accordance with the Contract.

WHEREAS we have agreed to give the Vendor a Guarantee:

THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Vendor, up to a total of Rs.....and we undertake to pay you, upon your first written demand declaring the Vendor to be in default under Rs..... (Amount of Guarantee) as aforesaid without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until theday of (Date)

Place:

Signature of Guarantors and Seal

Date:

ANNEXURE-III

SUPPLY AGREEMENT FORM

THIS AGREEMENT made the day of..... (Year).Between the Rajiv Gandhi University of Knowledge Technologies (hereinafter “the RGUKT”) of one part and..... (Name of Vendor) of..... (City and Country of Vendor) (Hereinafter “the Vendor”) of the other part:

WHEREAS the RGUKT is desirous that certain items as described in the bid document and briefly outlined below, should be provided by the Vendor.

Date of tender call:

Title of the project:

Brief outline of the work:

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

In this agreement words and expression shall have the same meanings as are respectively assigned to them in the bid document referred to.

The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.

1. bid documents
2. clarifications issued by RGUKT if any,
3. RGUKT notification of award.

In consideration of the payments to be made by the RGUKT to the Vendor as hereinafter mentioned, the Vendor hereby covenants with the RGUKT to provide the **items and to replace defective items during the warranty period** therein in conformity, in all respects, with the provisions of the contract.

The RGUKT hereby covenants to pay the Vendor in consideration of the provision of the items and **to replace defective items during the warranty period** therein, the contract price or such other sum as may become payable under the provisions of the contract at the times and in the manner prescribed by the contract.

Brief particulars of the items which shall be provided by the Vendor are as under:

Items	Quantity	Unit price (Inclusive of all taxes and duties)	Total Amount	Remarks

The Bidder further notes and accepts that:-

- Bidder shall deliver the goods in one single lot within 120 days from the date of award of the contract.

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, and demonstrating of satisfactory functioning on site. 2. Balance 20% will be paid after 3 months after obtaining the satisfactory certificate from the Director, RGUKT IIIT. 3. In case of equipment from foreign country LC will be opened for 100% and 90% of payment will be paid on delivery & submission of documents and remaining 10% will be paid after installation and commission
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>

In addition if the contract is cancelled, the performance security will be en-cashed and forfeited.

- In case, after random sampling of the supplied lot, it is found that there is any non conformance to specifications, the performance guarantee will be en-cashed and forfeited and the bidder will have no claim to any payments. The entire lot will be rejected.
- The supply and distribution of Items supplied shall be done at all the three RGUKT campuses located at
 - Basara, Adilabad District
 - Nuzvid, Krishna District
 - R K Valley (Idupulapaya), Kadapa District
- There shall be a warranty period of 3 years and within the warranty period, in case of any damage to the supplied material like breakage, wear and tear, Electrical defects etc., it will be the responsibility of the supplier to made working the damaged material.
- A random sample of any size will be picked from the lot of items delivered by the bidder to the three IIITs under the RGUKT. This sample will be subjected to tests, if necessary at labs anywhere in the country to ensure compliance to specifications. If the result indicates non conformance, the entire lot will be rejected and the contract will stand cancelled without any liability on the part of RGUKT. In addition, this event shall lead to the forfeiture of the performance security amount.
 - All disputes and differences of any kind whatsoever arising out or in connection with contract, whether during or after completion of contract will be settled amicably in a spirit of co – operation and the RGUKT decision shall be final on all such matters and shall be binding on the bidder.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with their respective laws the day and year above written.

Signed, and delivered by

Signed, and delivered by

For the Vendor.

For. Rajiv Gandhi University

Vendor's common seal:

of Knowledge Technologies

Place

RGUKT common seal:

Date:

Place:

Date:

In the presence of:.....

BID LETTER FORM

From:

(Registered name and address of the bidder)

To

Rajiv Gandhi University of Knowledge Technologies,

Ground floor, Vindhya C4 Building,

IIT-H Campuses, Gachibowli,

Hyderabad-500032.

Sir,

Having examined the bidding documents and amendments there on, we the undersigned, offer to supply and deliver the Chemical Reaction Engineering Lab (and other related materials) as the case may be, in conformity with the terms and conditions of the bidding document and amendments thereon in response to your tender call dated.....

We undertake to supply the above mentioned materials, as assigned to us in conformity with the said bidding documents, for an estimated sum of Rs (Total bid amount in words and figures) which may vary in accordance with the schedule of prices attached herewith and coverage options made by RGUKT or its user organization.

If our bid is accepted, we undertake to:

- a. supply the materials according to the time schedule specified in the bid document,
- b. Obtain the performance guarantee from a scheduled bank in accordance with bid requirements for the due performance of the contract, and
- c. Agree to abide by the bid conditions, which remain binding upon us during the entire bid validity period and the bid may be accepted any time before the expiration of that period.
- d. We understand that you are not bound to accept the lowest or any bid you may receive, nor to give any reason for the rejection of any bid, and that you will not defray any expenses incurred by us in bidding.

Place:

Bidder's Signature

Date:

Seal.

BIDDER INFORMATION

1	Name of the organization	
2	Year of establishment	
3	Registered Office Address	
4	Phone No.	
5	Fax No.	
6	Email	
7	Total No. of branch offices in AP	
8	Whether Manufacturer	Yes/No
9	Details of EMD furnished	
10	Details of certificates enclosed.	

Turn over details of item/product – 2012-13

S.No	Item name	Nos. sold	Amount (Rs in Lakhs)

List of Major Customers – 2012-13

S. No	Customer Full Address	Year of supply	Item Name	Turn Over (Rs. in Lakhs)

CHECK LIST

Important:

The Bidder must ensure that the following details in the check list are furnished along with the bid document. The bidder must also carefully go through all the contents of the BID Document and any additional information/documents, required more than the items listed in the check list below, also shall have to be furnished. Non-furnishing of any required information/document as per the Tender Document will lead to rejection of the bid.

S.NO	PARTICULARS	PAGE NUMBER
1	BIDDER INFORMATION	
2	TENDER PROCESSING FEE OF RS.1000/- BY WAY OF DD FROM ANY NATIONALIZED BANK	
3	EMD (DD/BG) FROM A NATIONALIZED BANK	
4	PROOF OF HAVING SUPPLIED MATERIALS DURING THE FY12-13	
5	CERTIFICATES ISSUED BY THE FIRM OF CAS REGARDING TURNOVER OF THE SUBJECT MATERIAL	
6	COPY OF ISO CERTIFICATION	
7	SATISFACTORY PERFORMANCE CERTIFICATE FROM PARTIES	
8	CONSTITUTION/LEGAL STATUS OF THE FIRM	
9	COPY OF REGISTRATION CERTIFICATE	
10	LATEST INCOME TAX RETURNS FILED	
11	VAT/CST REGISTRATION	
12	LATEST VAT/CST RETURNS	
13	POWER OF ATTORNEY, WHEREEVER APPLICABLE	

14	LIST OF MACNINERY/EQUIPMENT OF THE BIDDER	
15	NUMBER OF EMPLOYEES	
16	LIST OF CUSTOMERS OF PREVIOUS SUPPLY OF SIMILAR/ SAME ITEMS TO IITS, NIT'S OR CENTRAL UNIVERSITIES OR ANY ACADEMIC INSTITUTE OF NATIONAL REPUTE INSTITUTIONS	
17	LIST OF SERVICING FACILITY CENTERS OR WORK SHOP WITH IN INDIA	
18	LIST OF PRESENT CLIENTELE WITH CONTACT ADDRESSES & TELEPHONE NUMBERS	
19	THE HARD COPIES OF ALL UPLOADED TECHINACAL BID DOCUMENTS SHOULD BE ATTESTED BY THE GAZETTED OFFICER AND COUNTER SIGN BY BIDDER WITH SEAL	
20	ALL OTHER INFORMATION/DOCUMENTS THAT ARE REQUIRED IN BID DOCUMENTS	

NOTE: All pages of the bid documents must be serially numbered and signed.