

UNIVERSITY OF CALICUT  
DEPARTMENT OF CHEMISTRY

200445/CHE-ASST-2/2017/Admn

Dated 04.12.2017

The Registrar, University of Calicut, invites open tender through e-tender (2 cover tender) for the purchase of a state of the art **Contact angle measurement system** the Department of Chemistry, the details of which are given in the schedule of items below.

To take part in the tender the bidder shall remit the cost of tender and Earnest Money Deposit as given below.

Cost of Tender	₹2400(including 12%GST)
EMD	₹14,000

A Performance Security equivalent to 5% of the total value of the contract rounded to the nearest rupee should be submitted by the successful bidder. The EMD and Performance Security are returnable. The successful bidder should also execute a purchase agreement in Kerala Stamp Paper worth Rs.200/- towards fulfillment of the contract.

Tender Notice	200445/CHE-ASST-2/2017/Admn.
Last date of Submission of Bid	18.12.2017 4:00pm
Pre bid meeting	07.12.17 11:00 am
Venue of Pre bid Meeting	Chamber of HoD
Bid opening date	22.12.17 11:00am
Date upto which the dates are to be firm	Max 6 months

Hard Copy of the sealed tenders (only technical details) should be submitted to the Head, Department of Chemistry, University of Calicut, Calicut University P.O. Malappuram District 673 635 before 4 p.m. On 21.12.2017. The hard copies submitted should be the exact copies of the technical details submitted (uploaded) in the e-tender portal. Additional details, if any, submitted along with the hard copies will not be considered while evaluating technical bid.

The specifications for the item is attached herewith

**Contact Angle Technical Specification**

Contact Angle System for fully automatic measurements of contact angle, Surface Free Energy and surface & interfacial tension of liquids based on Pendant drop method etc.

**Measuring system:** Image analysis through CCD camera

**Measurement Method:** Sessile Drop, Pendant Drop, Extension/contraction (for dynamic contact angle), Sliding/tilting angle

**Analysis System:** /2 method, Tangent method, Circle fitting, Ellipse Fitting

**Measuring Range:** 0 - 180degrees

**Resolution:** 0.1degree

**Accuracy:** 0.2degree

**Camera:** High resolution and high speed 60fps USB 3.0 camera

**Field of view:** step zoom: about 4.0 x 5.3 mm, 7.2 x 9.6mm, 10.2 x 13.6mm

**Sample Stage Size:** 150w x 100dmm

**Applicable Sample:** 150 x 100 x 5mm max.

**Stage Movement:** X-axis; 150mm by manual slide, Z-axis; 20mm by rotation of knob +20

**Droplet Dispensing:** Automated dispenser performs discharging regular volume in  $\mu\text{l}$  of droplet by pre-set in the software for advancing & receding Contact angle study as well as surface free energy analysis

**Calibration Tool:** for pixel calibrating the Instrument standard Droplet for Sessile provided

**Standards:** Drop & Pendent Drop Calibration Standard should be provide

**Reference Standard:** 5 Liquid for Surface energy calculation should be provided

**Contact Angle Meter should be quote with below future upgradable accessories;**

- i. **Pendant Drop Kit:** for measurement of interfacial tension between liquid, viscous liquid and molten polymer with Glass cell 5 ea, Glass cell cover for lightproof 1 ea , PD needle set 2 ea (28,22,18,15G), PD Inverted needle Set 2ea (28,22,18,15G), Standard Pendant drop sample (standard view) 1ea etc.
- ii. **Surface Free Energy Kit:** with suitable polar/non polar standard
- iii. **Heater type stage:** For contact angle measurement, stage for temperature control of solid surface Temperature controller of heater type stage, chamber and dispenser by pre- set temperature automatically from 0–400°C
- iv. **Heater type chamber:** For interfacial tension measurement for use to control circum-temperature of pendant drop as interfacial tension measurement automatically from 0–400°C
- v. **Sliding/Tilting Angle:** The sliding angle measurement for evaluation of adhereability and exfoliation between solid and liquid by setting the main body of contact angle meter on Tilting Table. The Tilting table should be built into the system and same original manufacture and the control is totally through the software and when the table is tilted, the camera is also getting tilted in the same angle so that even fine slide of droplet ends can be recognized to determine Sliding Angle and get the true Contact Angle at any given time. The software can do is collect information of Sliding Angle (Angle of slop that droplet starts sliding), Advancing Angle, Receding Angle, and Adhesive Energy between droplet and solid as a reference of hydrophobicity and data should be obtained with desired speed from 0.1°/sec - 10°/sec.

#### **Terms and conditions:-**

- 1)The bidder should be an OEM or OEM authorised partner and firm should produce OEM authorisation, mentioning warranty and service assurance.
- 2) The bidder should clearly mention the make and model number with deviations (if any) in the technical bid.
- 3) The bidder should attach the technical data sheet of the make and model being quoted in the tender.
- 4)For equipments to be imported from abroad ,the prices should be quoted in terms of the respective foreign currency, for CIF Calicut. The Company /or the agent shall be responsible for the transportation and installation of the Equipment in the Department of Chemistry, University of

Calicut.

5)The university shall provide all documents for the customs clearance such as the DSIR Certificate,Essentiality Certificate etc.for submitting to the customs duty.

6)All the pre-installation requiements should be mentioned in the bid

7)The bidder should have GST Registration and copy of the same should be submitted. The base price, GST and other charges, if any should be furnished in tender. Price quoted should be inclusive all charges including all taxes, delivery and installation charges.

8) The firms should clearly satisfy the warranty terms and the quoted items should meet all the the technical specifications. A minimum of one year warranty for the items supplied is compulsory.

9) The firms who fail to submit the above details (with proofs) will be automatically rejected.

General Conditions:-

1. No tender received after the specified date and time will be accepted on any account. The rates will be considered firm for acceptance till the date mentioned below. Tenders not stipulating period of firmness and tenders with price variation clause and/or 'subject to prior sale' condition are liable to rejected.

2. (a) Every tenderer who has not registered his name with the state Government (Stores Purchase Department), should send along with his tender, an earnest money of one per cent of the total cost of the articles tendered for (rounded to the nearest rupee) subject to a minimum of Rs.1500, if the amount calculated at one per cent of the value of the articles tendered for falls below Rs.1500. No interest will be paid for the earnest money deposited.

(b) Tenderers whose names are registered with Government (Stores Purchase Department) are generally exempted from furnishing earnest money for such articles for which they have registered their names. If they tender for stores other than those for which they have registered their names, they will have to furnish earnest money as in the case of unregistered firms.Registered firms will have to quote invariably in every tender they submit the registration number assigned to them by the Stores Purchase Department.

(c ) (i) Micro, Small & Medium Enterprises and Cottage Industries and Industrial co- operatives within the State which are certified as such by the Director of Industries and commerce or by the Regional Joint Directors of Industries and Commerce will be exempted from furnishing earnest money deposits in support of tenders submitted by them. The Khadi and village Industries Cooperative Societies and the institutions registered under the Literary, Scientific and Charitable Societies Act and financed by the Kerala Khadi and Village Industries Board within that State which are certified as such by the Secretary, Kerala Khadi Village Industries Board will be exempted from furnishing earnest money deposits in support of tenders submitted by them. Government Institutions/State Public Sector Industries which manufacture and supply stores will also be exempted from furnishing earnest money for tenders submitted by them.

(ii) Micro and Small Enterprises and Industrial Co-operatives within the State which have been registered as such with the Industries Department (Department under the control of theDirector of Industries and Commerce) on furnishing proof of such registration will be exempted fromfurnishing security deposit against contracts for supply of stores manufactured by them provided that an officer of and above the rank of Deputy Director of Industries and commerce having jurisdiction over the area also certifies to the soundness and reliability of the concerns to undertake the contracts.

The Khadi and Village Industries Co-operative Societies within the State which have beenregistered as such with the Kerala Khadi and Village Industries Board and the institutions registered under the Literary, Scientific and Charitable Societies Act and which are financed by the Board within the State on furnishing proof of such registration will be exempted from furnishing security deposits against contracts for supply of stores manufactured by them provided that the Secretary,Kerala Khadi and Village Industries Board also certifies to the soundness and reliability of the concerns to undertake the contracts.

(d) In the matter of purchase of stores Small Scale Industrial Units sponsored by the National Small Scale Industries Corporation Limited, New Delhi and in respect of which competency certificates are issued by the Corporation will be exempted from payment of Earnest Money Deposits and Security Deposits.

(e) The exemption stipulated in clauses (b), (c) and (d) above will not however, apply to tendersfor the supply of raw materials or dietary articles or stores on rate or running contract basis.

3. The tenders will be opened on the appointed day and time in the office of the undersigned.

4. If any tenderer withdraws from his tender before the expiry of the period fixed for keepingthe rates firm for acceptance, the earnest money if, any, deposited by him will be forfeited toUniversity or such action taken against him as University think fit.

5. Tenderers shall invariably specify in their tenders the delivery conditions including thetime required for the supply of articles tendered for.

6. (a) The tenderer shall clearly specify whether the articles offered bear Indian Standards Institution Certification Mark or not. In such cases, they shall produce copies of Certification mark along with their tender in support of it.

(b) Tenderers shall clearly specify whether the goods are offered from indigenous sources, from imported stocks in India or from foreign sources to be imported under a license. The University reserves the right to reject offers for import of goods if the Import Trade Control Policy in force at the time of award of the contract prohibits or restricts such imports.

7. The final acceptance of the tenders rests entirely with the University who do not bind themselves to accept the lowest or any tender. But the tenderers on their part should be prepared to carry out such portion of the supplies included in their tenders as may be allotted to them.

8. In the case of materials of technical nature the successful tenderer should be prepared to guarantee satisfactory performance for a definite period under a definite penalty.

9. Communication of acceptance of the tender normally constitutes a concluded contract. Nevertheless, the successful tenderer shall also execute an agreement for the due fulfillment of the contract within the period to be specified in the letter of acceptance. The contractor shall have to pay all stamp duty, lawyer's charges and other expenses incidental to the execution of the agreement. Failure to execute the agreement within the period specified will entail the penalties set out in para 12 below.

10. (a) The successful tenderer shall, before signing the agreement and within the period specified in the letter of acceptance of his tender deposit a sum equivalent to 5 per cent of the value of the contract as security for the satisfactory fulfillment of the contract. The amount of security may be deposited in Government Treasury Savings Bank and the Pass Book pledged to Purchasing Officer or in Fixed Deposit Receipts of State Bank of India endorsed in favour of the above officer. Letters of guarantee in the prescribed form for the amount of security from an

approved Bank will also be considered enough at the discretion of University. If the successful tenderer fails to deposit the security and execute the agreement as stated above, the earnest money deposited by him will be forfeited to University and contract arranged elsewhere at the defaulter's risk and any loss incurred by University on account of the purchase will be recovered from the defaulter who will, however, not be entitled to any gain accruing thereby. If the defaulting firm is a registered firm their registration is liable to be cancelled.

(b) In cases where a successful tenderer, after having made partial supplies fails to fulfil the contracts in full, all or any of the materials not supplied may at the discretion of the Purchasing Officer, be purchased by means of another tender/ quotation or by negotiation or from the next higher tenderer who had offered to supply already and the loss, if any, caused to the University shall thereby together with such sums as may be fixed by the University towards damages be recovered from the defaulting tenderer.

(c) Even in cases where no alternate purchases are arranged for the materials not supplied, the proportionate portion of the security deposit based on the cost of the materials not supplied at the rate shown in the tender of the defaulter shall be forfeited and balance alone shall be refunded.

(d) If the contractor fails to deliver all or any of the stores or perform the service within the time/period(s) 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 0.5% or 1% of the delivered price of the delayed stores or unperformed services for each week of delay until actual delivery or performance, upto a maximum deduction of 10% of the contract prices of the delayed stores or services. Once the maximum is reached, the purchaser may consider termination of the contract at the risk and cost of the contractor.

11. The security deposit shall, subject to the conditions specified herein, be returned to the contractor within three months after the expiration of the contract, but in the event of any dispute arising between the Department concerned and the contractor, the Department shall be entitled to deduct out of the deposits or the balance thereof, until such dispute is determined the amount of such damages, costs, charges and expenses as may be claimed. The same may also be deducted from any other sum which may be due at any time from University to the contractor. In all cases where there is guarantee for the goods supplied the security deposit will be released only after the expiry of the guarantee period.

12. (a) All payments to the contractors will be made by the Purchasing Officer in due course:-

(i) by cheques or drafts on the Reserve Bank of India, State Bank of India (at any of their Principal Branches in India).

(ii) In the case of supplies from abroad by drafts as may be, arranged between the contracting parties.

(b) All incidental expenses incurred by the University for making payments outside the district in which the claim arises shall be borne by the contractor.

13. The tenderers shall quote also the percentage of rebate (discount) offered by them in case the payment is made promptly within fifteen days/within one month of taking delivery of stores.

14. Ordinarily payments will be made only after the supplies are actually verified and taken to stock

but in exceptional cases, payments against satisfactory shipping documents including certificates of Insurance will be made up to 90 percent of the value of the materials at the discretion of University. Bank charges incurred in connection with payment against documents through bank will be to the account of the contractor. The firms will produce stamped pre-receipted invoices in all cases where payments (advance/final) for release of railway receipts/shipping documents are made through banks. In exceptional cases where the stamped receipts of the firms are not received for the payments (in advance) the unstamped receipt of the Bank (i.e., counterfoils of pay-in-slips issued by the Bank) alone may be accepted as a valid proof for the payment made.

15. The contractor shall not assign or make over the contract on the benefits or burdens thereof to any other person or body corporate. The contractor shall not underlet or sublet to any person or persons or body corporate the execution of the contract or any part thereof without the consent in writing of the purchasing officer who shall have absolute power to refuse such consent or to rescind such consent (if given) at any time if he is not satisfied with the manner in which the contract is being executed and no allowance or compensation shall be made to the contractor or the subcontractor upon such rescission. Provided always that if such consent be given at any time, the contractor shall not be relieved from any obligation, duty or responsibility under this contract.

16. (a) In case the contractor becomes insolvent or goes into liquidation, or makes or proposes to make any assignment for the benefit of his creditors or proposes any composition with his creditors for the settlement of his debts, carries on his business or the contract under inspection on behalf of or his creditors, or in case any receiving order or orders, for the administration of his estate are made against him or in case the contractor shall commit any act of insolvency or case in which under any clause or clauses of this contract the contractor shall have rendered himself liable to damages amounting to the whole of his security deposits, the contract shall, thereupon, after notice given by the Purchasing Officer to the contractor, be determined and the University may complete the contract in such time and manner and by such persons as the University shall think fit. But such determination of the contract shall be without any prejudice to any right or remedy of the University against the contractor or his sureties in respect of any breach of contract therefore committed by the contractor. All expenses and damages caused to University by any breach of contract by the contractor shall be paid by the contractor to University, and may be recovered from him under the provisions of the Revenue Recovery Act in force in the State.

17. (a) In case the contractor fails to supply and deliver any of the said articles and things within the time provided for delivery of the same, or in case the contractor commits any breach of any of the covenants, stipulations and agreements herein contained, and on his part to be observed and performed, then and in any such case, it shall be lawful for University (if they shall think fit to do so) to arrange for the purchase of the said articles and things from elsewhere or on behalf of the University by an order in writing under the hand of the Purchasing Officer put an end to this contract and in case the University shall have incurred, sustained or been put to any costs, damages or expenses by reason of such purchase or by reason of this contract having been so put an end to or in case any difference in price, compensation, loss, costs, damages, expenses or other money shall then or any time during the continuance of this contract be payable by the contractor to the University under and by virtue of this contract, it shall be lawful for the University from and out of any moneys for the time being payable or owing to the contractor from the University under or by virtue of this contract or otherwise to pay and reimburse to the University all such costs, damages and expenses they may have sustained, incurred or been put to by reason of the purchase made elsewhere or by reason of this contract having been so put an end to as aforesaid and also all such difference in price, compensation, loss, costs, damages, expenses and other moneys as shall for the time being be payable by the contractor aforesaid.

(b) In case any difference or dispute arises in connection with the contract, all legal proceeding relating to the matter shall be instituted in the Court within whose jurisdiction the Purchasing Officer voluntarily resides.

18. Any sum of money due and payable to the contractor (including security deposit returnable to him) under this contract may be appropriated by the Purchasing Officer or University or any other person authorized by University and set off against any claim of the Purchasing Officer or University for the payment of a sum of money arising out of or under any other contract made by the contractor with the Purchasing Officer or University or any other person authorized by University. Any sum of money due and payable to the successful tenderer or contractor from University shall be adjusted against any sum of money due to University from him under any other contracts.

19. Every notice hereby required or authorized to be given may be either given to the contractor personally or left at his residence or last known place of abode or business, or may be handed over to his agent personally, or may be addressed to the contractor by post/e-mail at his usual or last known place of abode or business and if so addressed and posted/e-mailed, shall be deemed to have been served on the contractor on the date on which, in the ordinary course of post, a letter so addressed and posted would reach his place of abode or business.

20. The tenderer shall undertake to supply materials according to the standard sample and / or specifications.

21. (a) No representation for enhancement of rates once accepted will be considered. However, in exceptional cases if University is convinced of any compelling need for enhancement of rate, it may do so.

(b) In the case of imported goods, when the price accepted is the ex-site price quoted by the tenderer, the benefit of any reduction in the C.I.F . price should accrue to the University.

22. Any attempt on the part of the tenderers or their agents to influence the University in their favour by personal canvassing with the Officers concerned will disqualify the tenderers.

23. Tenderers should be prepared to accept orders subject to the penalty clause for forfeiture of security in the event of default in supplies or failure to supply within the stipulated period.

24. Samples should be forwarded if called for and unapproved samples go back by the tenderers at their own cost. Samples sent by V.P. Post or 'freight to pay' will not be accepted. The approved samples may or may not be returned at the discretion of the undersigned. Sample sent by post, railway or plane should be so despatched as to reach the Purchasing Officer not later than the date on which the tenders are due. In the case of samples sent by railway the receipt should be sent separately and not along with the tender since the tender will be opened only on the appointed day and demurrage will have to be paid if the railway parcels are not cleared in time University will not be responsible if any sample is found missing at any time due to the non-observance of the provisions of this clause. Tenderers whose samples are received late will not be considered. Samples should be forwarded under separate cover duly listed and the corresponding number of the item in the tender schedule should also be noted in the list of samples. Tenders for the supply of materials are liable to be rejected unless samples, if called for, of the materials tendered for are forwarded

25. (a) The prices quoted should be inclusive of all taxes, duties cesses, etc., which are or may become payable by the contractor under existing or future laws or rules of the country of origin/supply or delivery during the course of execution of the contract. (b) In case payment of customs/excise duty is to be made by the Purchasing Officer, the Purchasing Officer will pay the duty on the "unloaded invoice price" only in the first instance, any difference being paid when the tenderer produces, the final assessment orders later.

26. Special conditions, if any, of the tenderers attached with the tenders will not be applicable to the contract unless they are expressly accepted in writing by the purchaser.

Tender documents and tender schedule may be downloaded free of cost from the Website [www.etenders.kerala.gov.in](http://www.etenders.kerala.gov.in) All bid/tender documents are to be submitted online only and in the designated cover(s)/envelope(s) on the website. Tenders/Bids shall be accepted only through online mode on the website and no manual submission of the same shall be entertained. Late tenders will not be accepted. Further details can be had from the Deputy Registrar, Purchase Division, University of Calicut, Malappuram, during working hours. (0494– 2407130, 2407160) Online Payment modes:

The tender document fees can be paid in the following manner through ePayment:

1. State Bank of India (SBI) Internet Banking: If a bidder has a SBI internet banking account, then, during the online bid submission process, bidder shall select SBI option and then select Internet banking option. The e-Procurement system will re-direct the bidder to SBI's internet banking page where he can enter his internet banking credentials and transfer the tender document amount.

2. National Electronic Fund Transfer (NEFT): If a bidder holds bank account in a different bank, then, during the online bid submission process, bidder shall select NEFT option. An online remittance form would be generated, which the bidder can use for transferring amount through NEFT either by using internet banking of his bank or visiting nearest branch of his bank. After obtaining the successful transaction receipt no., the bidder has to update the same in e Procurement system for completing the process of bid submission. Bidder should only use the details given in the Remittance form for making a NEFT payment otherwise payment would result in failure in eProcurement system. As NEFT payment status confirmation is not received by e-Procurement system on a real time basis, bidders are advised to exercise NEFT mode of payment option at least 48 hours prior to the last date and time of bid submission to avoid any payment issues.

NEFT payment should be done according to following guidelines:

1. Single transaction for remitting Tender document fee and EMD: Bidder should ensure that tender document fees and EMD are remitted as one single transaction.

2. Account number as per Remittance Form only: Account no. entered during NEFT remittance

at any bank counter or during adding beneficiary account in Internet banking site should be the same as it appears in the remittance form generated for that particular bid by the e-Procurement system. Bidder should ensure that tender document fees and EMD are remitted only to the account number given in the Remittance form provided by e- Procurement system for that particular tender. Bidders must ensure that the banker inputs the Account Number (which is case sensitive) as displayed in the Remittance form. No additional information like bidder name, company name, etc. should be entered in the account no. column along with account no. for NEFT remittance.

3. Only NEFT Remittance Allowed: RTGS payments, Account to Account transfers, State Bank Group Transfers (GRPT) or Cash payments are not allowed and are treated as invalid mode of payments. Bidder must ensure that the banker does NEFT transaction only irrespective of the amount and specially instruct the banks not to convert the payment type to RTGS or GRPT.

4. Amount as per Remittance form: Bidder should ensure that the amount being remitted is neither less nor higher than the amount shown in remittance form

5. UTR Number: Bidders should ensure that the remittance confirmation (UTR number) received after NEFT transfer should be updated as it is, in the eProcurement system for tracking the payment.

6. One Remittance Form per Bidder and per Bid: The remittance form provided by e-Procurement system shall be valid for that particular bidder and bid and should not be re-used for any other tender or bid or by any other bidder. Any transaction charges levied while using any of the above modes of online payment has be borne by the bidder. The supplier/contractor's bid will be evaluated only if payment status against bidder is showing "Success" during bid opening.

For details log on to [www.etenderskerala.gov.in](http://www.etenderskerala.gov.in)

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