

TENDER DOCUMENT

SUPPLY OF LABORATORY EQUIPMENTS

**HLL LIFECARE LIMITED,
PEROORKADA FACTORY,
THIRUVANANTHAPURAM – 695 005,
KERALA, INDIA.**

HLL LIFECARE LIMITED
(A Government of India Enterprise)
Project Division, Peroorkada. PO,
Thiruvananthapuram – 695005,
Kerala, India
Phn: 0471 – 2437270, 2437884
Fax: 0471 – 2432898, 2432647

INVITATION FOR BIDS (IFB)

IFB No : **HLL/IP/KFC/LAB-EQPMNTS/2014**
Date : **20.02.2014**

HLL Lifecare Limited (HLL), a Government of India Enterprise is in the process of setting up its new condom manufacturing facility at Rubber Park, Irapuram, Kochi. For the said project, sealed and super scribed bids are invited from competent and experienced Suppliers who are capable to supply the following equipments meeting the requirements as per our tender.

SI.No	Brief Description Of Item/Work	Qty	EMD in Rs
1	Supply of Laboratory Equipments as per the Schedule of Items at our Kochi units	As per the Schedule of Items enclosed	Rs 25,000/-

2. The bid documents will be available up to 15.00 Hrs. on the previous working day of the opening of the bids. The scheduled date for issue, receipt and opening of bids is as follows.

- a) Date of issue of tender document - 20.02.2014
- b) Last date and time for receipt of bids - 07.03.2014 up to 15.00 Hrs
- c) Date and time of opening of bids - 07.03.2014, 15.30 Hrs.
- d) Address for communication, receipt and place of opening of bids:

EXECUTIVE DIRECTOR (INTERNAL PROJECTS),
HLL LIFECARE LIMITED
Projects Division, Peroorkada. PO,
Thiruvananthapuram – 695005, Kerala, India
Phn: 0471 – 2437270, 2437884
Fax: 0471 – 2432898, 2432647
E-mail: nnavikumar@lifecarehll.com, harikrishnankp@lifecarehll.com

3. The completed and sealed bid documents should be submitted to **Executive Director (Internal Projects)**, in the above address along with the EMD. The outer cover should bear the Enquiry No, closing date and General description of item tendered, and the words "DO NOT OPEN BEFORE" 15.30 Hrs (IST) on ----- (Indicate the Closing Date). EMD shall be submitted in the form of demand draft drawn from a nationalized bank in favour of HLL Lifecare Limited payable at Thiruvananthapuram. Bids received after due date and time will be rejected. Any bid not accompanied by EMD will be rejected.

4. Bids will be opened in the presence of Bidders representative(s) who choose to attend on the specified date and time, at the office of HLL at the address given in Clause 2 (d) above.
5. In the event of the date specified for bid receipt and opening being declared as a closed holiday for the above purchaser's office, the due date for submission of bids and opening of bids will be the following working day at the appointed times.
6. HLL may, at its discretion, extend this deadline for submission of bids by amending the Bid Documents or any other reasons, in which case all rights and obligations of HLL and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.
7. HLL will not be held responsible for the postal delay, if any, in the delivery of the bidding document or the non-receipt of the same. Bids sent by Telex/Fax/Telegraph will not be accepted.
8. The company reserves the right to club or split the items of works, change the qualifying criteria at their discretion and to reject or cancel the Invitation for bids without assigning any reason thereof.
9. In addition to the invitation for bids, the bidding documents include the following schedules.

SCHEDULE	- I	:	Conditions of Bid
SCHEDULE	- II	:	General conditions
SCHEDULE	- III	:	Conditions of Contract
SCHEDULE	- IV	:	Acceptance of all conditions/specifications
SCHEDULE	- V	:	Schedule of Items

EXECUTIVE DIRECTOR (INTERNAL PROJECTS)

SCHEDULE I
CONDITIONS OF BID

1. Definitions

- a. **“Invitation For Bid”** shall mean and include the present document, and such other complements and agenda, which may subsequently be issued in this connection.
- b. **“Purchaser/Owner”** shall mean HLL Lifecare Limited, (Thiruvananthapuram) or its units thereof.
- c. **“Bidder”** shall mean the person, firm or Corporation submitting a bid against this invitation for bid and shall also include his agents and representatives.
- d. **“Supplier/Contractor”** shall mean the bidder whose bid has been accepted and shall also include his successors and assigns, agents and representatives.
- e. **“Contract”** means signed acceptance of the Letter of Intend, if issued, and order by the supplier.
- f. **“IFC”** shall mean **HLL Lifecare Limited, Irapuram Factory, Plot No.1, Rubber Park, Irapuram, Kunnathunada, Ernakulam - 683541, Kerala**
- g. **“KFC”** shall mean **HLL Lifecare Limited, Kakkanad Factory, Plot No 16A/1, Cochin Special Economic Zone (CSEZ), Kakkanad, Cochin – 682037, Kerala.**

2. Bid Information and Period of Validity

2.1 The Bid must include the following information,

- a. Enquiry / IFB No.
- b. Promised Delivery Schedule for each item/work.
- c. Certificate that bid is in total conformity with the specifications and terms and conditions mentioned in the bid document and if not, list of exclusions, and/or exceptions.
- d. All information requested in the specifications, dimensional drawings, technical literature describing the make offered, material etc., as specified in the bid document.
- e. EMD
- f. The Price should be quoted as per the following:
 - i) The Bidder shall indicate all prices including basic price, the relevant duties and taxes, other levies, packing & forwarding charges, charges for inland transportation and other local costs incidental to delivery of the goods to supplier’s site, etc. on the appropriate price schedule (FORMAT FOR QUOTING – SCHEDULE IV) attached to these documents for completing the above work as per the Specification, Terms and Conditions as specified in the Bid Documents. Civil work is excluded from the scope of the supplier.
 - ii) Bidder must quote for unit price and total price based on the requirement shown in the bid document.

- iii) Price should be firm without any escalation on any account until the order is completely fulfilled.
 - iv) All other documents/certificate/information as specified in the bid document.
- 2.2 Bids shall remain valid for **90 days** after the date of bid opening prescribed by the Purchaser.

3. Format and Signing of Bid

- 3.1 All pages of the bid, except for un-amended printed literature shall be signed by the person or persons signing the bid.
- 3.2 Bids shall be made in English.
- 3.3 The bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the Bidder, in which case such corrections shall be signed by the person or persons signing the bid.

4. Submission of Bids

Sealing and Marking of Bids

- 4.1 The bids should be submitted in duplicate. The Bidder shall seal the original and each copy of the bid in an inner and then in an outer envelope, duly marked the envelopes as "original" and "copy".
- 4.2 The inner and outer envelopes shall be:
- (a) Addressed to the Purchaser in the following address,

Executive Director (Internal Projects),
HLL Lifecare Limited
Projects Division, Peroorkada. PO,
Thiruvananthapuram – 695005,
Kerala, India
Phn: 0471 – 2437270, 2437884
Fax: 0471 – 2432898, 2432647
E-mail: nnavikumar@lifecarehll.com, harikrishnankp@lifecarehll.com
 - (b) Bear the Enquiry No, closing date and General description of item tendered, and the words "DO NOT OPEN BEFORE" 15.30 Hrs (IST) on ----- (Indicate the Closing Date).
- 4.3 The inner envelopes shall indicate the name and address of the Bidder. If the outer envelope is not sealed and marked as indicated above, the Purchaser will assume no responsibility for the bid's misplacement or premature opening.
- 4.4 Bids should be hand delivered or sent by courier to ensure timely arrival. Telex, cable, e-mail or facsimile bids will be rejected.
- Deadline for submission of Bids**
- 4.5 The bids will be received by the Purchaser in the above given address (4.2.a) not later than the date and time specified in the Invitation for Bids.

In the event of the specified date for submission of Bids being declared a holiday for the Purchaser, the bids will be received up to the appointed time on the next working day.

- 4.6 The purchaser may, at its discretion, extend this deadline for submission of bids by amending the Bid Documents or any other reasons in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.
- 4.7 It is the responsibility of the bidders to see that the completed bidding documents whether sent by post or by courier or by person are received in the office of Executive Director (Internal Projects), in the above address by the date and time stipulated for receipt as above failing which the bid would be considered late and rejected. Purchaser will not be held responsible for the postal delay, if any, in the delivery of the bidding document or the non-receipt of the same. Bids received after due date and time will be rejected. Mere handing over of the bid documents at reception counter or at any other counter or room or person cannot be considered as submission of bid.

5. Clarification of Bidding Documents

A prospective Bidder requiring any clarification of the Bidding Documents may notify the Purchaser in writing, or by fax at the purchasers mailing address indicated in the Invitation for Bids. The Purchaser will respond in writing to any request for clarification of Bidding Documents, which it receives not later than 7 days prior to the deadline for submission of Bids prescribed by the Purchaser.

6. Amendment of Bidding Documents

- 6.1 At any time prior to the deadline for submission of bids, the Purchaser may, for any reason, modify the Bidding Documents by amendment.
- 6.2 The amendment will be notified in writing or fax or telegram or e-mail to all prospective Bidders, which have received the Bidding Documents and will be binding on them.
- 6.3 In order to afford prospective Bidders reasonable time in which to take the amendment in to account in preparing their bid, the Purchaser may, at its discretion, extend the deadline for the submission of bids.

7. Bid Opening by Purchaser

- 7.1 The Purchaser will open bids, in the presence of the bidders' representatives who choose to attend, at the date and time specified and in the location given in this document. The Bidders' representatives who are present shall sign a register evidencing their attendance. In the event of the specified date of bid opening being declared a holiday for the Purchaser, the bids shall be opened at the appointed time and location on the next working day.
- 7.2 The Bidders' names, the presence or absence of the requisite EMD and such other details as the Purchaser, at its discretion, may consider appropriate will be announced at the opening.
- 7.3 The Purchaser will prepare appropriate bid opening register and the same shall be signed by bidders present during the opening of the bids and Purchaser.

8. Clarification of bids

To assist in the examination, evaluation and comparison of bids, the purchaser may, at its discretion, ask the bidder for a clarification of its bid. The request for clarification and the response shall be in writing and no change in the price or substance of the bid shall be sought, offered or permitted.

9. Preliminary examination

- 9.1 The purchaser will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required EMD has been furnished, whether the documents have been properly signed, whether the bid validity is as required and whether the bids are generally in order.
- 9.2 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be calculated. If there is a discrepancy between the words and figures, the amount in words shall prevail.
- 9.3 Prior to the detailed evaluation, the purchaser will determine the substantial responsiveness of each bid to the bidding documents. For purposes of these clauses, a substantially responsive bid is one that conforms to specifications and all the terms and conditions of the bidding documents without material deviation. The purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.
- 9.4 A bid determined as not substantially responsive will be rejected by the purchaser and may not subsequently be made responsive by the bidder by correction of the non-conformity.
- 9.5 The purchaser may waive any minor informality or non-conformity or irregularity in a bid, which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any bidder.
- 9.6 The purchaser's determination as to the substantial responsiveness or otherwise of each bid or consideration of a minor informality or non-conformity or irregularity is final and conclusive.

10. Evaluation and comparison of bids.

- 10.1 The purchaser will technically evaluate all bids previously determined to be responsive and compare the bids previously determined to be substantially responsive and technically acceptable.

11. Post – qualification

- 11.1 Notwithstanding the qualification requirements given in this document, the Purchaser will determine to its satisfaction whether the Bidder selected as having submitted the lowest evaluated responsive bid is qualified to satisfactorily perform the Contract.
- 11.2 The determination will take into account the Bidder's financial, technical and production capabilities. It will be based upon an examination of the documentary

evidence of the Bidder's qualifications submitted by the Bidder, as well as such other information as the Purchaser deems necessary and appropriate.

- 11.3 The Purchaser reserves the right to negotiate with the lowest evaluated responsive bidder.
- 11.4 An affirmative determination will be a prerequisite for award of the Contract to the Bidder. A negative determination will result in rejection of the Bidder's bid, in which event the Purchaser will proceed to the next lowest evaluated bid to make a similar determination of that bidder's capabilities to perform satisfactorily.
- 11.5 Conditional Bids shall not be entertained.

12. Award Criteria

The Purchaser will award the Contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined as the lowest evaluated bid provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily for the items offered.

13. Notification of Award

- 13.1 Prior to the expiration of the period of bid validity, the purchaser will notify the successful Bidder in writing by post or by cable or telex or fax, to be confirmed in writing by post, that its bid has been accepted. The notification of award may be sent in the form of Letter of Intend / Work order.
- 13.2 The signed acceptance of the notification of award by the Supplier/Contractor will constitute a concluded contract.

14. Earnest Money

- 14.1 Each bid must be accompanied by E.M.D.
- 14.2 The EMD is required to protect the Purchaser against risk of Bidder's conduct, which would warrant the security's forfeiture
 - a. The EMD shall be denominated in Indian Rupees and shall be in the form of cash deposit or demand draft from a nationalized bank drawn in favour of HLL Lifecare Limited payable at Thiruvananthapuram.
 - b. E.M.D of the unsuccessful bidders will be released after tabulating tenders, keeping only the earnest money of the first three lowest bidders.
 - c. E.M.D of the remaining two unsuccessful bidders will be released after the acceptance of the notification of award by the successful bidder.
 - d. In the case of successful bidder, the Earnest Money will be returned after the satisfactory completion of the work and acceptance of item/work by HLL.
- 14.3 The EMD may be forfeited:
 - (a) If a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Bid Document; or
 - (b) If the Bidder fails to sign the Contract / Work order, in the case of successful Bidder.

SCHEDULE II

GENERAL CONDITIONS

1. The supplier should submit 3 copies of the following documents relevant to his scope of work, two weeks prior to the commissioning of the unit, free of cost:
 - a. Instruction/Testing/Operation manual (3 copies)
 - b. Maintenance manual/Lubrication Chart (3 copies)
 - c. Relevant Test Certificates, Calibration certificates, Guarantee Certificate for each item of equipment.
 - d. Catalogue and literature on bought outs (3 copies)
 - e. Any other related documents
2. All the items should be of standard and reputed make.
3. The bidder should attach to their bid detailed specifications, catalogues and other details of all the equipments quoted by them.
4. The equipments should be complete with all interconnections, accessories, controls, timers, indicating lamps etc.
5. HLL will be providing the required electrical supply to the equipment. All wiring requirements with in the equipment are to be provided by the supplier as per standard.
6. The equipment offered should be suitable for Indian electrical ratings as follows:
Power supply: 200-230V, 50 Hz (Single Phase) or 400-440 V 50 Hz (3 Phase)
7. Calibration certificates with traceability to National Standards shall be supplied for all the instruments coming under the scope of supply of supplier.
8. Any deviations from the bid documents should be clearly indicated.

SCHEDULE III

CONDITIONS OF CONTRACT

1. Price

The price quoted should be inclusive of Basic Price, all applicable taxes and duties including Excise duty, Sales Tax, VAT, Entry tax, Octroi & other levies, P&F charges, insurance, installation, calibration and commissioning charges etc. The Supplier should pay entry taxes, as applicable and should be included in the offer. The offer should, inter-alia, include the breakups as per the **Schedule V** attached.

Price quoted should be firm without any escalation till the order is completely executed.

2. Taxes/Duties/Levies

The supplier/contractor shall be entirely responsible for all taxes including entry tax, duties, license fees, etc. incurred until successful completion of contract. All central, state, municipal taxes, duties and levies payable shall be shown by the bidder separately in the Bid. The Purchaser will issue necessary 'C' Form, if required.

Note:

The term 'Machine' means the final and complete equipment/machinery as ordered and does not mean raw material, components, consumable, etc. required for the work. The Purchaser shall not be liable to pay any tax/duty/levy incurred during the transactions between the Supplier and his sub-suppliers and or Agents.

3. Insurance

The supplier shall arrange insurance coverage for transit, storage and erection.

4. Delivery/ Completion Period

The equipment and its accessories should be delivered and commissioned within **4 WEEKS** from the date of Letter Of Intent or Order.

Time being the essence of the Contract, the delivery, stipulated should be strictly adhered to. Delay in delivery/non delivery of the equipment will cause loss and/or damage to Purchaser. The delivery period shall be counted from the date of sending of Purchaser's intimation of acceptance of the Supplier's offer (Letter of Intent (LOI) and/or order).

5. Terms Of Payment

The payment terms are as follows: -

- a) 90% of the total price will be paid after successful supply & commissioning of the equipments at site.
- b) 10% of the total price will be paid against a Performance Bank Guarantee (from a nationalized bank) equal to 10% of the total contract value valid for the guarantee period of one year.

Tax Deduction: All statutory deductions like Income Tax or any other government-imposed liabilities shall be borne by the Supplier/Contractor (as applicable at the time of execution of job) and shall be deducted from each bill submitted by the Supplier/Contractor.

6. Guarantee Period

The Guarantee against any possible manufacturing defects shall be given for a period of 18 months from the date of supply and acceptance of the items at HLL site or 12 months from the date of installation, whichever is earlier.

7. Liquidated damages for delays

If the equipment is not supplied to the purchaser within the time stipulated in the Order, Purchaser may at their option, either (1) recover from the Supplier/Contractor liquidated damages at the rate of 0.5 % of the total contract value for every week of delay, subject to a maximum of 7.5 % of the total contract value, or (2) at the risk and cost of the Supplier and without prejudice to the other remedies/rights as per the Contract, terminate the order wholly or partially and complete it themselves or reassign it to other Suppliers/Contractors.

8. Inspection And Testing

Purchaser shall have the right of access to the Supplier's/Contractor's works at all reasonable times to inspect and measure the progress of execution of the Order. The Supplier/Contractor should make available all tools, instruments, apparatus, equipment, facilities, services and materials to enable the Purchaser's nominee to carryout such inspection/tests without obligations. Notwithstanding such tests/inspection conducted at the Supplier's works from time to time, goods under the Order shall not be dispatched unless they have been finally inspected by the purchaser or inspection waived and dispatch specifically authorized in writing, wherever inspection during various stages of execution of the order and prior to dispatch are specifically provided for in the order, sufficient advance notice shall be given to the purchaser for the purpose, and as a consequence of such inspection, if necessary, the Supplier shall arrange re-work at his own cost. Not withstanding any such inspection/tests carried out at Supplier's works, the equipment shall be accepted only after receipt and successful commissioning at the site and the inspection/tests carried out at Supplier's works will not relieve his contractual obligations for conforming to the specifications under the Order.

9. Performance Guarantee

The Supplier shall fully guarantee all of the equipment supplied to perform in accordance with the specifications and to be free of all defects in design, material and workmanship. Should any equipment not performing as intended or should the design, material or workmanship prove defective within a period of 12 months from the date of successful commissioning, the equipment shall, upon notification of deficiency or defect, be promptly corrected by the Supplier to the satisfaction of Purchaser without delay and at no extra cost. If the Supplier fails to take proper corrective action to replace or repair the deficiency within a reasonable time of Purchaser's notification to this effect, the Purchaser shall be free to take such corrective action at the Supplier's risk and cost.

10. Scope of Services, Supplies and Materials:

The scope will include all services, supplies etc. for the satisfactory execution of the Contract except in so far as any of those are expressly excluded.

11. Force Majeure

- a. Neither the Supplier nor the Purchaser shall be considered in default in the performance of their obligations as per the Contract so long as such performance is prevented or delayed because of strikes, war, hostilities, revolution, civil commotion, epidemics, accidents, fire, cyclone, flood or because of any law and order proclamation, regulation or ordinance of Government or subdivision thereof or because of any act of God. The proof of existence of force majeure shall be provided by the party claiming it to the satisfaction of the other.
- b. The Supplier shall advise Purchaser initially by a Fax, followed by post, the beginning and end of any of the above causes of delay, failing which Purchaser shall not be liable to consider delays due to the above reasons. Notice as stated above should be given even in case where only the Supplier's bids are under the consideration of the Purchaser and no acceptance of the same has been given and detailed order issued.
- c. In the event of definite delay even if arising out of reasons due to force majeure, Purchaser shall have the right at their discretion to cancel the Order or part of the Order without any liability on their part to make any payment to the Supplier while reserving the right to claim refund of and any payment if advanced or paid to Supplier.

12. Assignment And Subletting

No assignment and subletting of whole or part of the order shall be permitted except with prior approval of purchase obtained in writing.

13. Correspondence

All correspondence relating to this enquiry shall be in English, to:

EXECUTIVE DIRECTOR (INTERNAL PROJECTS),
HLL LIFECARE LIMITED
Projects Division, Peroorkada. PO,
Thiruvananthapuram – 695005,
Kerala, India
Phn: 0471 – 2437270, 2437884
Fax: 0471 – 2432898, 2432647
E-mail: nnavikumar@lifecarehll.com, hari Krishnankp@lifecarehll.com

14. Indemnification Clause

The Supplier shall indemnify and hold harmless the Purchaser from and against all claims, liability, loss damage or expense, including counsel fees arising from or by reason of any actual or claimed trade mark, patent or copy right infringement or any litigation based thereon with respect to any part of the items covered by the Contract, and such obligations shall survive acceptance of payment for the items.

15. Entirety of the Agreement

All of the terms agreed to between the Supplier and Purchaser will be included in the Purchase/work Order/Contract and no their communication, proposal or understanding, written, oral or implied, will be considered to be included in the Purchase/work Order/Contract or form part of the Contract between the Supplier and Purchaser unless specifically agreed to in that behalf in writing between Purchaser and Supplier.

16. Settlement Of Disputes

Arbitration shall not be a means of settlement of any dispute or claim arising out of the contract relating to the work. Any disputes or difference arising between the parties with respect to the performance of any part of this agreement or any thing connected therewith, etc shall as far as possible be mutually settled by the process of dialog and negotiation. The Courts at Thiruvananthapuram alone shall have jurisdiction in respect of settlement of any matter arising out or in connection with the contract.

SCHEDULE IV
ACCEPTANCE FORM

(To be submitted in the letter head of the firm indicating full name and address, telephone & fax numbers etc.)

From

To

Executive Director (Internal Projects),
HLL Lifecare Limited
Projects Division, Peroorkada. PO,
Thiruvananthapuram – 695005,
Kerala, India
Phn: 0471 – 2437270, 2437884
Fax: 0471 – 2432898, 2432647
E-mail: nnavikumar@lifecarehll.com, harikrishnankp@lifecarehll.com

Dear Sir,

I / We, hereby offer to design/supply/install/commission as detailed in schedule hereto or such portion thereof as you may specify in the acceptance of Bid at the price given in the price schedule and agree to hold this offer open till 90 days after the date of bid opening prescribed by the purchaser. I/We have understood the terms and conditions mentioned in the invitation for bid and Conditions of Contract furnished by you and have thoroughly examined the specifications in the bid document hereto and are fully aware of the nature of the scope of work required and my/our offer is to comply strictly in accordance with the requirement and the terms and conditions mentioned above.

Yours faithfully,

SIGNATURE OF THE BIDDER

SCHEDULE V

SCHEDULE OF ITEMS

SCHEDULE OF ITEMS						
Sub:	Supply of Laboratory Equipments and its accessories at our Kochi units - reg.					
SI No.	Item	Specification	Unit	Qty	Rate	Amount in Rs
1	Viscometer	Make: Brookfield, Model: DV 2TLV	Nos.	1		
2	Digital Thickness Gauge	Make : Mitutoyo, Model no:ID-C112	Nos.	3		
3	Mechanical Stability Tester	Make: KLAXON (LATEX STABILITY TEST APPARATUS)	Nos.	1		
4	Melting Point Apparatus	Max Temp. ambient to 350°C. Material of construction: Mild steel duly coated by a powder coating finish. Consist with aluminium cylindrical block for heating, Radial holes admits a thermometer and glass capillary. Temp. Controlled by energy regulator. Alens in the front side of the instrument and a light source inside the instrument to manify and illuminate the zone of melting Regulator fitted to the unit and with high, low heat switch	Nos.	1		
5	Hot Plate (with energy regulator)	Plates to be fitted with a cast iron platform with energy regulator, digital temperature control module and a working voltage of 220 Volts. Plate Dia: 8" Minimum	Nos.	1		
6	Hot Air Oven	Inner chamber dimension : 40 cm x 40 cm x 40 cm (Minimum) Outer chamber dimension : 70 cm x 70 cm x 90 cm Temperature range : ambient to 150 degree Celsius Inner chamber material should be SS 304 with adjustable shelves (2 Nos) The outer and intermediate part of chamber with mild steel. The outer chamber wall should be powder finished Suitable Thermometer etc. complete S door hinges and door lock Air circulation fan to retain the temperature Electrically operated and microprocessor based digital temperature controller Control panel with display board , timer will be Provided which will cut the Heater and sounds the buzzer after the set time Temperature accuracy : +/- 0.5 degree Celsius Explosive proof motor Partition of chamber with mesh type SS Trays	Nos.	2		
7	Water bath	Double walled in construction. Inner chamber and lid made of Stainless Steel. Outer chamber made of Mild steel with powder coating Glass window is on the front for both sides clear observations while conducting immersion test. The gap between the chambers filled with high grade glass wool to minimize the heat loss. 20 holes with concentric rings Temperature range from ambient 21 degree C to 100 degree C and temperature controlled by microprocessor based digital temperature Indicator cum controller with an accuracy of + 0.5°C. The heating mechanism comprises of set of heaters pertaining to fast heating to operate 230 volts AC only. Designed for immersion equipments and for external circulation to maintain constant temperature. To operated 230 Volts AC only.	Nos.	1		
8	Refractometer	To determine Refractive Index & Dispersion Properties of Solids & Liquids Single Eye Piece for Reading Scale & Viewing the Demarcation Horizontal Prism for Easy application of Test Samples Compact lighting system for both Prism Box & Scale Illumination Digital Thermometer for reading Prism Temperature Water Jacketed Prism Box R.I.Scale: 1.3000 - 1.7100, Accuracy: 0.001 or 0.0005 (Direct Reading) Sugar Scale: 0-95%, Accuracy: 0.5% (Direct Reading) Temperature range display : 0 to 50 degree Celsius	Nos.	1		
9	Fume hood	Latest model, must be compact and to incorporate VFA APPARATUS (Markham still) of standard Laboratory size	Nos.	1		

SCHEDULE V

SCHEDULE OF ITEMS

SCHEDULE OF ITEMS						
Sub:	Supply of Laboratory Equipments and its accessories at our Kochi units - reg.					
SI No.	Item	Specification	Unit	Qty	Rate	Amount in Rs
10	Muffle furnace	Outside Body made of G.I. Sheet powder coated /GMP type Inner muffle of Ceramic / High purity fibrous alumina insulation with high grade ceramic instillation Door insulation: High purity fibrous alumina insulation Heating elements made from kanthal A1 Wire A Uniform distribution through all 4 sides with kentahl wire Max. Working temp upto 1160 C Temperature Accuracy : +/- 1 °C Thermocouple : K type Inner dimension : 15 cm x 15 cm x 45 cm Outer diemension : 30 cm x 30 cm x 60 cm Equipped with digital temperature Controller cum indicator fitted on top side of the unit with indicating lamps & switches A special type of thermocouple fuse for safety to avoid over heating Power supply 230 Volts, 50 H2 Optional Accessories: Digital Timer Solid state fuses for extra safety PID Controller with printer interface	Nos.	1		
11	Digital pH meter	Conforms to ISO 976 Avanced microcontroller based design Display of Ph, mv, temperature on backlite LCD RS-232 Interface (Optional) Inbuilt RTC GLP complaint Automatic Ph calibration with buffer standard 4.0, 7.0,and 9.2 PH Automatic temperature compensation Storage of 50 readings Ph range : 0-14 Ph resolution : 0.001 Ph Ph accuracy : +/-0.002Ph Temperature range : 0 to 100 Degree Celsius Least Count : 3	Nos.	2		
12	SHORE A Durometer	Complied with ASTM D2240, ISO/R686, DIN 53505, and JIS R7215 Digital type Measuring range: 0-100 Shore A units Depth of indentation: 0 - 2.5 mm (the testing material has to be thicker than 6 mm) Indenter: Flat Cone Point 35° Measuring force: 0.55 - 8.065 N Test pressure: 12.5 N Accuracy : 0.05 N Least Count :3	Nos.	1		
13	SHORE DUROMETERS D	Digital type Measuring range: 0 - 100 Shore D units Measuring force: 4.45-44.5 N Depth of indentation: 0 - 2.5 mm (the testing material has to be thicker than 6 mm) Test pressure: 50 N Accuracy : 0.05 N Least Count :3	Nos.	1		
14	BULK DENSITY APPARATUS	Digital type Least Count : 3 The housing made of MS/GI Sheet duly finishes in epoxy powder coated shade in regular model microprocessor based stroke setting and stroke can be read on digital display Timer should be provided With 1-9999 programmable strokes and facility for holding 2 cylinders simultaneously (50/100 ml capacity)	Nos.	1		
15	FORD VISCOSITY CUP	Ford cup of size 4 mm Material: SS304	Nos.	2		
TOTAL AMOUNT IN RS						
APPLICABLE TAXES						
GRAND TOTAL IN RS						
GRAND TOTAL (In Words)						