



MIZORAM UNIVERSITY

MIZORAM : AIZAWL

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No. 10/1/Adm-II(A-I)/2014/

Dated Aizawl the 20th February, 2017

NOTICE INVITING TENDER (CORRIGENDUM)

(Two Bids)

FOR SUPPLY & INSTALLATION OF SCIENTIFIC EQUIPMENTS FOR DEPARTMENT OF CHEMISTRY, MIZORAM UNIVERSITY, TANHRIL, AIZAWL

The Vice-Chancellor, Mizoram University invites quotation for supply & Installation of Equipment as per details at ANNEXURE-IV, in **Two Bids** to reach the undersigned:

S.No.	Reference No.	Items	Qty	EMD 2% (₹) in the form of DD	Tender Document Fee (₹) in the form of DD only.
01.		Supply & Installation of Scientific Equipments at Department of Chemistry, Mizoram University, Tanhril, Aizawl	One Package		₹ 1,000

1. Last date & Time for Submission : **01.03.2017 till 5:00 p.m.**
2. Date/Time for Opening of Technical Bids : **02.03.2017 (1:00 p.m.)**
3. Date of notifying the Technically qualified bidders in the website **06.03.2017**
4. Evaluation of Financial bids for Technically qualified bidders : **08.03.2017**
5. Venue of Bid Opening at MIZORAM UNIVERSITY, AIZAWL

BID INSTRUCTIONS:

1. Quotations shall be submitted in **TWO Bids: i) Technical Bids ii) Financial Bids**; which will be submitted in 2 separate envelopes, super-scribing the nomenclature of bids, with name & address of firms. And these 2 envelopes shall be placed inside a single sealed envelope, and must be prominently super scribed:

QUOTATION FOR SUPPLY & INSTALLATION OF SCIENTIFIC EQUIPMENTS FOR DEPARTMENT OF CHEMISTRY AT MIZORAM UNIVERSITY, AIZAWL, REF. NO. F.No. 10/1/ADM-II(A-I)/2014/ Dated the 20th February, 2017

2. **Submission of Compliance Certificate:** Duly filled and signed Compliance Certificates (as per formats at **Annexure I (A & B)** are a must with the Technical bid.

3. Bid not transferable: The bid documents are not transferable and the seal and signature of the authorized official of the firm's must appear on all the papers and envelopes submitted.

QUALIFICATION REQUIREMENTS :

1. The Bidder should be an Original Equipment Manufacturer (OEM) *or* a firm of reputation having sufficient expertise and experience in the subject tender with sound warranty / service support capability and authorization from Manufacturer / Distributor.

2. The Bidders may quote for single or multiple items.

MIZORAM UNIVERSITY TERMS & CONDITIONS:

1. **Rates:** Rates quoted in the **Price Bid** should be **on DOOR DELIVERY Mizoram University basis**, as per details below:

S/N	Particulars	Rate
1	Basic Price (per unit)	
	Total	
	Taxes (pl. give break up)	
	Grand Total for the item on door delivery at Mizoram University	

Bidders shall indicate their rates in clear / visible figures as well as in words and shall not alter/overwrite/make cutting in the quotation. In case of a mismatch, the rates written in words will prevail.

2. **Validity of Quotation:** Quoted rates must be valid for **90 days** from the date of quotation.

3. **Warranty:** The quoted equipment and components must be warranted for a minimum of 1 (One) year after satisfactory installation.

Literature a must: All the quotations must be supported by the printed technical leaflet / literature and the specifications mentioned in the quotation must be reflected / supported by such printed technical leaflet/literature. The model and specifications quoted should **invariably be highlighted** in the leaflet / literature for easy reference. **If supporting documents are not enclosed whether wholly or partly, it will be summarily rejected.**

4. **After Sales Service:** Vendors should clearly state the available nearest after sales service facilities in the region, without which their offers will be rejected.

5. **Dealership Certificate:** Dealers or Agents quoting on behalf of Manufacturer / Distributor must enclose valid dealership certificate.

6. **Earnest Money:** Refundable Earnest Money Deposit (EMD), 2% of the Quoted Value through Demand Draft drawn in favour of "*The Finance Officer, Mizoram University*", payable at Aizawl, shall accompany the Technical Bid. The EMD of unsuccessful bidders shall be returned after award of supply. EMD of the successful bidder will be released on submission of

the Performance Bank Guarantee. Offers received without Earnest Money or valid Certificate shall be summarily rejected.

7. Performance Bank Guarantee (PBG): In case of items with order value of Rupees Five lakhs (₹ 5,00,000/-) and above, the successful bidder shall furnish an unconditional PBG (as per format at **Annexure II**) for 5% of the Purchase Order value from a scheduled Bank of India, after receiving the purchase/supply order. Where the PBG is obtained by a foreign bank, it shall be confirmed by a Schedule Indian bank and shall be governed by Indian Laws and be subject to the jurisdiction of courts at Aizawl. The PBG will be retained in Mizoram University till the Warranty Period and the PBG shall guarantee that,

- (a) The Vendor guarantees satisfactory operation of the Equipment & components against poor workmanship, bad quality of materials used, faulty designs and poor performance.
- (b) The Vendor shall, at his own cost, rectify the defects/replace the items supplied, for defects identified during the period of guarantee.
- (c) This guarantee shall be operative from the date of installation till 120 days after the warranty period.

8. Delivery:

a) Time Limit: Maximum within 8 Weeks from the date of issue of the purchase order.

b) Safe Delivery: All aspects of safe delivery shall be the exclusive responsibility of the vendor. At the destination site, the package will be opened only in the presence of Mizoram University representative and vendor's representative. The intact condition of the package and the seal / indicators for not being tampered with, shall form the basis for certifying the receipt in good condition.

c) Insurance: The supplier is to establish 'All Risk Transit Insurance' coverage till door delivery at Mizoram University, Tanhril, Aizawl.

d) Part Delivery: Acceptance of part delivery shall be a prerogative of the University.

e) Penalty for delay in delivery: The date of delivery should be strictly adhered to otherwise; Mizoram University reserves the right not to accept delivery in part or full.

9. Genuine Pricing: Vendor is to ensure that quoted price for the particular item is not more than the price quoted to any other customer in India, particularly to Mizoram University, and other Government Organizations.

10. Conditional tenders not acceptable: All the terms and conditions mentioned herein must be strictly adhered to by all the vendors. Conditional tenders shall not be accepted on any ground and shall be rejected straightway. Conditions mentioned in the tender bids submitted by vendors will not be binding on Mizoram University.

11. Road Permit: Mizoram University will provide Road Permit to the Vendors of outside Mizoram, on demand.

12. VAT deduction at source: In case of supply within Mizoram, VAT deduction at source, as per Order / notification of the Govt. of Mizoram will be applicable.

13. **Late and delayed tender:** Late and delayed tender will not be considered. In case any unscheduled holiday occurs on the prescribed closing/opening date the next working day shall be the prescribed date of closing/opening.

14. **Payment:** 100% payment within 30 (thirty) days from the date of delivery, Satisfactory installation, acceptance and Training, where applicable/required.

15. **Payment for Imported Goods:** By an irrevocable Letter of Credit at CIF/CIP Kolkata value negotiable through any overseas branch of State Bank of India / any Schedule Bank of India.

Note: Please note LOC will not be opened unless and until Letter of Acknowledgement in original is received at Mizoram University, Tanhril, Aizawl, directly from the principal (Even in case of firms having subsidiary office in India).

16. **ADDITIONAL TERM FOR IMPORTED GOODS**

Following terms besides afore mentioned terms will be applicable in case of foreign purchases:

Rates: Prices quoted must be for destination including freight and insurance charges inclusive of free delivery up to the door of department in Mizoram University premises, as per details below:

S/N	Particulars	Rate
a		
I	Basic Price (per unit)	
II	Total	
III	Custom Duty (Approximate)	
IV	Grand Total for the item on door delivery at Mizoram University, Tanhril, Aizawl	

17. **Free Maintenance & Service for 5 Years:** An agreement is to be executed between the University & the **Manufacturer / Distributor / Dealer** for providing **Free Maintenance & Service for 5 Years** after expiry of the Warranty Period of the equipment by the Manufacturer / Distributor / Dealer (Preferably from the Manufacturer) within 30 Days from the day of Complaint. The cost of the Spare parts required for the service and maintenance will be paid by the Institute along with the To & Fro charges (The cheapest mode of Travel).

18. **Enquiry during the course of evaluation not allowed:** No enquiry from the bidder(s) shall be entertained during the course of evaluation of the tender till final decision is conveyed to the successful bidder(s). However, the Purchase Committee or its authorized representative may make enquiries/seek clarification from the bidders. In such a case, the bidder must extend full co-operation. The bidders may also be asked to arrange demonstration of the offered items, in a short period of notice.

19. **Acceptance & Rejection of the quotation:** The acceptance of the quotation will rest solely with the Vice-Chancellor, Mizoram University, who in the interest of the University is not bound to accept the lowest quotation and reserves the right to reject all the quotations received without assigning any reasons.

If supporting documents and EMD are not enclosed, whether wholly or partly, it will be summarily rejected. At no given time shall the University seek additional information/documents for the purchase items in question. Therefore, the interested firms shall ensure the completeness of the quotation submitted, unless negotiations are called for by the University on need basis.

20. **Force Majeure:**

If the performance of the obligation of either party is rendered commercially impossible by any of the events hereafter mentioned that party shall be under no obligation to perform the agreement under order after giving notice of 15 days from the date of such an event in writing to the other party, and the events referred to are as follows:

- i. Any law, statute or ordinance, order action or regulations of the Government of India,
- ii. Any kind of natural disaster, and
- iii. Strikes, acts of the Public enemy, war, insurrections, riots, lockouts, sabotage.

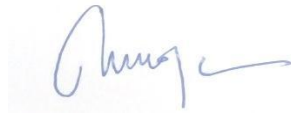
21. Applicable Law:

(a) The contract shall be governed by the laws and procedures established by Govt. of India and subject to exclusive jurisdiction of Competent Court and Forum in Aizawl / India only.

(b) Any dispute arising out of this purchase shall be referred to the Vice-Chancellor, Mizoram University, and if either of the parties hereto is dissatisfied with the decision, the dispute shall be referred to the decision of an Arbitrator, who should be acceptable to both the parties, to be appointed by the Head of the Institution. The decision of such Arbitrator shall be final and binding on both the parties.

22. The Financial Bids of the Technically qualified firms shall be opened in the presence of the representatives of the qualified firms' and the University assigned Committee to purchase the supply.

Encl.: ANNEXURE-I, ANNEXURE-II, ANNEXURE-III & ANNEXURE-IV



(DR. K.ZIRNUNSANGA)
DEPUTY REGISTRAR
GENERAL ADMINISTRATION DEPARTMENT
MIZORAM UNIVERSITY
TANHRIL, AIZAWL, MIZORAM

Annexure -I**A. COMPLIANCE CERTIFICATE FOR MIZORAM UNIVERSITY TERMS
(To be enclosed in the Technical bid)**

S/N	MZU Terms and Conditions	Yes/No
1	Rate quoted as per instruction	
2	AMC rate after warranty provided	
3	Validity of quoted rate for 90 days agreed	
4	EMD submitted (appropriate certificate enclosed)	
5	PBG term agreed	
6	Payment term agreed	
7	Delivery terms agreed	
8	Warranty period agreed	
9	Literature: Printed Literature provided	
10	Dealership / distributorship certificate (in case of dealers/agents) provided	
11	Sales Service: address of after Sales Service centre in India (for imported goods)/ in the region provided	
12	Applicable law terms agreed	
13	Photocopy of items(equipment/machine)	

Signature with Seal:.....

Vendor: M/s.....

B. COMPLIANCE CERTIFICATE FOR SPECIFICATIONS
(One for each item must to be enclosed in the Technical bid)

Item Sl. No.		
Specifications as per Annexure - IV	Quoted Item Specs.*	Complied (Yes/No)

Signature with Seal:.....

Vendor: M/s.....

*** Vendor must quote the parameter / specification of the quoted product in this column and not just copy the specification from the tender document. Failure to do so will lead to rejection of the tender.**

Annexure - II

PERFORMANCE BANK GUARANTEE

To:
The Vice-Chancellor
Mizoram University
Tanhriil-796004, Mizoram

WHEREAS (Name of Supplier)
hereinafter called "the Supplier" has undertaken, in pursuance of Contract No.....
dated,..... 20.. to supply..... (Description of Goods
and Services) hereinafter called "the order".

AND WHEREAS it has been stipulated by you in the said order that the Supplier shall furnish
you with a Bank Guarantee by a recognized bank for the sum specified therein as security for
compliance with the Supplier's performance obligations in accordance with the order.

AND WHEREAS we have agreed to give the Supplier a Guarantee:

THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of
the Supplier, up to a total of (Amount of the
Guarantee in Words and Figures) and we undertake to pay you, upon your first written demand
declaring the Supplier to be in default under the order and without cavil or argument, any sum or
sums within the limit of (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.....20.....

Signature and Seal of Guarantors

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.....
.....

Date.....20....

Address:.....

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All correspondence with reference to this guarantee shall be made at the following address:

Mizoram University
P.O. Box. 190
Tanhriil -796004,
Mizoram

Annexure - III
MANUFACTURERS'/ DISTRIBUTOR'S AUTHORIZATION FORM

No.

Dated

The Vice-Chancellor
Mizoram University
Tanhril-796004, Mizoram

Dear Sir:

We..... who are established and
reputable

Manufacturers/distributors of

.....having factories/office at-----

(address of factory/office) do hereby certify

that.....

.....(Name of the Authorised Dealer)is our authorized dealer to quote
against your tender enquiry no.

.....

..

Last Date of Submission is:

Yours faithfully,

(Name)

(Name of Manufacturer/Distributor)

Annexure – IV

**TECHNICAL SPECIFICATIONS FOR SCIENTIFIC EQUIPMENTS,
DEPARTMENT OF CHEMISTRY, MIZORAM UNIVERSITY.**

S/N	Technical Specifications	Qty.
1	<p>Atomic Absorption Spectrophotometer /Atomic Emission Spectrometer:</p> <ul style="list-style-type: none"> ▪ Wavelength range from 190 nm to 900 nm ▪ True double beam optics with aberration corrected Czerny-Turner monochromator/Ebert Monochromator mounting ▪ High resolution grating with 1800 lines/mm and 298mm or more focal length for high energy throughput ▪ Bandwidth selection with automatic switching 0.2 to 2 nm ▪ High sensitivity Photo-Multiplier Tube (PMT) detector for complete wavelength range ▪ 6 or more lamp motorized turret with vertical mount, controlled through software ▪ D2 Background correction as standard - High speed dual frequency simultaneous measurement D₂ background correction. ▪ All the safety functions are provided as standard including Leak Check; Flame Monitor; Gas Pressure Monitor; Interlock for wrong burner head use; Auto switch-over between Air-C₂H₂ / N₂O-C₂H₂ flame with flow rate monitoring using optical sensor; Drain Tank Level Monitor, Automatic flame extinction during power sudden power interruption, Vibration sensor for auto flame extinction; Internal fan stop sensor and flame retardant body ▪ <u>Hollow Cathode Lamp</u> : As, Pb, Hg, Cu, Zn, Al, Ca, K, Fe, Mn, Cd, Ni ▪ Software : Users friendly Software for easy operation on Windows OS for complete instrument control, data acquisition and processing ▪ Software includes strengthened QA / QC functions; Hardware Validation functions and Comprehensive data management system as standard ▪ Hydride Vapour Generator for analyzing hydride forming elements of As, Se, Hg etc. Hydride vapor generator should be controllable through Auto Sampler. ▪ Instrument should be upgradable in future. If in future we decide to upgrade AAS then Furnace module should be on the same platform of flame burner and the movement between flame & furnace should be automated (Motorized) . Manual switchover from flame to furnace or vice versa not acceptable. Vendor to confirm the same in writing in the compliance statement with documentary proof. ▪ Branded Pentium PC & Printer, Exhaust hood assembly, Oil free compressor, C₂H₂, and Argon Gas Regulators with Cylinders and As,Pb,Hg,Cu,Zn solutions. ▪ PC based high performance; Optical Double Beam Atomic Absorption 	1

	<p>Spectrophotometer operating on WINDOWS 7 / 8 based software for operation on 220V / 50 Hz</p> <ul style="list-style-type: none"> ▪ System should have 5 Years on site warranty <p>OR</p> <p><u>Atomic Emission Spectrometer</u></p> <p>Atomic emission spectrometer for elemental analysis in diverse kind of samples like water, soil, food and agriculture products etc., that offers ease of use.</p> <p>AES INSTRUMENT:</p> <ol style="list-style-type: none"> 1. The instrument must be an atomic emission spectrometer capable of simultaneous measurement of sample and background using a solid-state CCD detector. 2. The instrument must be able to measure aqueous, high acid and organic samples. It should be able to determine all desired elements in one analytical method pass. The system must be suitable for safe unattended analysis and have low running cost <p>SPECTROMETER:</p> <ol style="list-style-type: none"> 1. The spectrometer must use an universal energy source for different elements to be measured. 2. The instrument must be capable of continuously measuring wavelengths over the range from 180 to 780 nm or more to enable determinations across the entire spectrum, both UV and visible. 3. The spectrometer should provide capability to purge the optics for best performance throughout the life of the instrument. 4. The atomization source must be an air cooled design with a solid-state, high voltage power supply, eliminating the need for an external water recirculator. 5. Ignition and shut down of the atomization source must be computer controlled and totally automated. 6. The atomization source must operate without requiring a continuous supply of expensive, combustible or oxidizing gases such as Argon, Acetylene and Nitrous Oxide. 7. The atomization source must be capable of running using ONLY a supply of air from an external air compressor. <p>GAS FLOW CONTROL:</p> <ol style="list-style-type: none"> 1. Gas flows for the atomization source must be computer enabled with fixed flow settings for optimum ease of use. 2. The nebulizer gas flow must be controlled using a precision pressure control system. <p>SAMPLE INTRODUCTION SYSTEM:</p> <ol style="list-style-type: none"> 1. The system must use a three channel, variable speed, computer controlled peristaltic pump for sample introduction. 	
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	<p>2. There should be facility to analyze common elements and hydride forming elements like As, Hg, Se etc. in a single measurement run.</p> <p>SOFTWARE:</p> <ol style="list-style-type: none"> 1. The instrument controlling software must be 64-bit running under the Microsoft Windows 7 operating system. The software must provide capability for the user to create a new worksheet incorporating all method conditions and background correction points using an existing worksheet. 2. The software must provide an optimization routine that automatically varies and then selects the optimum instrument parameters that maximize signal intensity, ensuring simple and fast method development by any user. 3. The software must have a library of preferred analytical wavelengths providing relative intensities of each wavelength and graphically highlight potential interferences based on other selected analytes, for easy method development. 4. The software must provide at least three different forms of background correction (all variations of off-peak background correction are considered as one technique) 5. The software must also provide the capability to apply correction for spectral interferences using spectral modeling techniques in real time. The correction technique used must be able to correct for up to 10 interferent elements simultaneously. 6. The system must be able to apply spectral interference correction in addition to background correction post sample analysis, eliminating the need to reanalyze the sample. 7. Calibration curves must be stored and be able to be recalled for later use. 8. The software must provide capability to measure the same analyte using different wavelengths in the same determination so that the most sensitive line can be used to achieve the best detection limits and less sensitive lines can be used to measure higher concentrations. This enables extended dynamic range during the measurement, without re-measuring samples. 9. The software must continuously monitor gas pressures, safety interlocks, temperatures inside the atomization source and operation of the atomization source. If any interlock is tripped, the atomization source should be shut down immediately and automatically 10. System should have 5 years on site warranty. System should be supplied with branded PC (HP/Dell), Printer, air compressor with filter and fume extraction duct. 	
2	<p>FTIR:</p> <ul style="list-style-type: none"> ▪ Highest Signal to noise ration of 30,000:1 peak to peak or better in its class of general use instrument ▪ The FTIR should have a measuring wave number range of 8000 cm^{-1} to 350 cm^{-1} with a best spectral resolution of 0.5 cm^{-1} selectable in steps of 0.5, 1, 	1

	<p>2, 4, 8 and 16 cm^{-1}.</p> <ul style="list-style-type: none"> ▪ Automatic Solid high-Polymer Electrolytic Desiccator for protecting the beam splitter ▪ Sample compartment should have non Hygroscopic window material, preferably KRS-5 ▪ The moving mirror mechanism should be non-contact, frictionless Flexible Joint Support mechanism with electro-magnetic drive to ensure smooth movement of moving mirror. ▪ Purging with Dry Nitrogen should not be an essential criterion. ▪ Sealed interferometer with reusable Silica gel desiccant. ▪ The beam splitter should be Germanium coated KBr with anti-humidity coating. ▪ Highly stable interferometer with Dynamic Alignment Mechanism so as to get the spectrum under stabilized and optimum conditions. Also ensures short warming up time ▪ Sequential display of diagnostic results are monitored continuously by status monitor function so as to ensure and optimized measuring conditions ▪ Accessories are automatically identified and optimum measurement conditions are set ▪ Small installation space with out compromising the sensitivity ▪ Foreign material analysis program as standard with the help of inbuilt spectral library of more than 12,000 spectra for Organic, Inorganic and polymer substances with peak data ▪ Powerful 32 bit software, completely compliant to GLP with following features <ul style="list-style-type: none"> ○ Real time Display of spectra ○ Compact measurement menus ○ Simple measurement mode ○ Atmospheric correction mode ○ Continuous measurement mode ○ Data processing functions like Kramers- Kronig, ATR Correction, Purity / Compare function, Kubelka – Munk Conversion, Search Function, Quantitation, Macro programming etc are standard <p>Quantitation software to be provided with single / multi-point calibration, Multi-linear Regression (Multi-Component analysis) capability.</p> <p>Software should have built-in Spectral search function with different algorithms. There should be a provision to create user defined database.</p>	
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	<p><u>Sampling Accessories to be supplied with instrument:</u></p> <ol style="list-style-type: none"> 1. NaCl demountable cell 2. KBr Press, Agate Mortar, Pestle, Pellet Holder, KBr Powder set for Pellet Preparation. 3. Monolithic Diamond ATR <ul style="list-style-type: none"> ▪ Should be supplied with Branded PC, Printer and suitable UPS ▪ 5 Years on site warranty 	
3	<p>Double Beam UV-VIS Spectrophotometer : Microprocessor based UV-VIS Spectrophotometer with high resolution LCD display and dedicated soft keypad, for operation on 220V / 50Hz.</p> <ul style="list-style-type: none"> ▪ Stand-alone operation or complete control through PC with PC software supplied as standard ▪ True double beam optics with aberration corrected concave blazed holographic grating in Czerny – Turner mounting for high energy throughput and high quality monochromatic light ▪ Wide wavelength range of 1,100 nm to 190 nm ▪ High resolution 1 nm spectral bandwidth over entire wavelength range ▪ Wavelength setting and display in steps of 0.1nm ▪ Wavelength accuracy of ± 0.1nm for D₂ spectral line ▪ Wavelength reproducibility of ± 0.1nm ▪ Variable wavelength scanning speed of 24,000 nm/min to 2 nm/min ▪ Ultra low stray light of <0.02%T at 220nm with NaI filter ▪ Wide Photometric range of -4 to +4 Abs and 0 to 400 %T ▪ High Photometric Accuracy of ± 0.002 Abs at 0.5 Abs ▪ High Photometric Repeatability of $<\pm 0.001$ Abs at 0.5 Abs ▪ Very low baseline drift of 0.0003 Abs/hour <p>High baseline flatness of ± 0.0006 Abs over entire wavelength</p> <ul style="list-style-type: none"> ▪ Ultra low Photometric noise of <0.00005 Abs ▪ Dual source – high intensity Tungsten-Halogen and Deuterium lamp with automatic changeover ▪ High sensitivity matched pair Silicon Photodiode detector ▪ 5 USB ports for high speed PC and printer connectivity, data storage and transfer through USB pen drive ▪ Guaranteed compliance with all Pharmacopoeial requirements ▪ Built in validation program, diagnostic and security functions ▪ All operational modes as standard – Photometric; Spectrum; Quantitation; Kinetics, Time Scan, DNA and Protein Quantitation in stand alone and PC mode. Additionally Multi-Component measurement available in stand-alone mode. ▪ Large sample compartment compatible with wide range of accessories ▪ Should be supplied with Branded PC, Printer and suitable UPS ▪ Should have additional probe to analyze sample outside of instrument ▪ 5 years on site warranty 	1

4	<p>Cyclic Voltammetry:</p> <ul style="list-style-type: none"> • Compliance: -3, +14 V • Control voltage: -3, +10 V • EIS measurement: 1 MHz • Current ranges: 4 A to 1 μA • Current resolution 760 fA (standard board) • Low current (additional ranges 1 μA to 1 pA with resolution 76 aA) • Floating mode • Analog filtering • Calibration board • Full stability control mode (9 bandwidths) • Option: linear scan generator (1 MV/s) • With potentiostat, multifeatured software package • Impedance Spectroscopy • Must be compatible to study – <ul style="list-style-type: none"> 1) Fundamental Electrochemistry 2) Nanotechnology research and measurements on ultramicroelectrodes 3) Electrolysis 4) Photovoltaic/solar cells 5) Fuel cells/batteries 6) Corrosion studies • Standard Accessories – 1) Compatible software <ul style="list-style-type: none"> 2) Electrodes – <ul style="list-style-type: none"> a) Ag/AgCl reference b) Pt Electrode c) Au Electrode d) Glassy carbon Electrode e) Micro carbon fiber electrode f) Non Aqueous Ag/AgCl electrode • On site 5 years warranty • Must be supplied with branded computer 	1
5	<p>Rotary Evaporator:</p> <ul style="list-style-type: none"> • DC brushless motor drive with speed range of 5-300 rpm Manual control of heating bath, vacuum pump, chiller and drive rotation speed • Digital displays for rotation speed and heating bath temperature • 1500 cm² or larger cooling surface area for better recovery rate • Manual lift with integrated safety “lift-out-function” • Provision to connect vertical, diagonal, reflux and dry ice condenser on same drive. • Heating temperature range of RT to 180°C for water and oil bath 	1

	<p>application</p> <ul style="list-style-type: none"> • Bath capacity : 3 liters; Bath with lower volume heat faster, saves time and energy • Heating bath can accommodate up to 4~5 liters of evaporation and receiving flask • Heating bath should have heat control accuracy of ± 1 K or better • Safety temperature circuit and Dry Run protection of heating bath. • Locking function of heating bath for avoiding accidental changes of settings • Heating bath can be used as standalone unit for different applications. • Vacuum Pump: A suitable vacuum pump for normal distillation can be quoted as optional accessories • Chiller : A suitable chiller for normal distillation can be quoted as optional accessories • On site 5 Years Warranty 	
6	<p>Chiller :</p> <ul style="list-style-type: none"> • CFC Free • Seamless water tank • Cap 04 & 25l • Abrasion resistance and durable finished by heat cured epoxy coating on panels • Full Stainless Steel construction in 25l • Low liquid indication and automatic cut off in 25l • 5 years warranty 	1
7	<p>Computer compatible for the Gaussian Software : Processor – core i5, 8GB RAM, 24 inch Monitor with keyboard, mouse, DVD ROM Drive and UPS 0.8KVA</p>	5