



Central University of Orissa
(Established Under the Act of Parliament, 2009)
Landiguda, Dist.Koraput, ORISSA Pin.: 764 020.
06852-288238/288235, Fax.06852-288225

Ref.:CUO/Admn./Lab & Equip/47

Dt.30.10.2015

NOTICE INVITING TENDER

Sealed tenders are invited for supply, installation and commissioning of Instruments and Equipment from Manufacturers / Authorised Dealers. The sealed quotations are to be submitted on or before 29.12.2015 by 15.00 hrs. as per the terms and conditions prescribed. For further details please log on to our website: www.cuo.ac.in.

Registrar

(Reference NIT Ref.: CUO/Admn./Lab & Equip./47 Dt.30.10.2015)

Sealed tenders are invited for Supply, Installation and Commissioning of **"Equipment and Instruments"** as per details and specifications shown in **Annexure - 02**

TERMS & CONDITIONS3

(A) ELIGIBILITY CRITERIA:

The tenderers must fulfill the following eligibility criteria failing which their offer will be summarily rejected:-

1. The tenderer must possess required valid licenses, Registration etc. issued by the Competent Authority as per law.

2. If the tenderer is the authorized dealer/sole distributor of Equipment and Instruments, the Certificate to this effect should be attached (not applicable for the manufacturer of the product).

3. The tenderer must have completed satisfactorily during the last 03 financial years (2012-13, 2013-14 and 2014-15) and the Current Financial Year at least (a) One supply order of Rs.35.00 Lakh or more (b) Two supply orders of Rs. 20.00 lakh each or more or (c) Three supply orders of Rs.15.00 Lakhs or more issued by any Govt./Autonomous/PSU Organisation (Central or State) for supplying the same or similar item.

[N.B.: (i) the supply in progress irrespective of any value against any supply order not satisfactorily completed/executed shall not be considered; (ii) Supply in any private organization shall not be considered.]

4. The tenderer must have the annual turnover of at least 300% of the estimated purchase value during each of the last 03 financial years (2012-13, 2013-14 and 2014-15) and the Current Financial Year. In this tender the annual turnover should be Rs.1.50 Crore (Rupees One Crore fifty lakhs only) or more.

5. The tenderer must deposit earnest money of Rs.1,00,000/- (Rupees One Lakh only) along with their tender in the form of Demand Draft favouring Central University of Orissa payable at Koraput.

6. The tenderer must have its own bank account, PAN, TAN, TIN, VAT and Service Tax No.

7. The tenderer must submit the following documents (self attested) along with the tender:

- (a) Documentary proof of the registration/license etc. issued by the Competent Authority.
- (b) Satisfactory completion certificate issued by the concerned Govt./Autonomous/PSU Organization (Central or State) under the signature of the appropriate authority as regards Sl.No.3 above. The certificate must contain (i) Full name (with description) of items supplied (ii) Supply order

- No. (iii) Supply order date (iv) Quantity supplied (v) Value of the complete supplies made (vi) Commencement of date of supply (vii) Completion of date of supply (viii) Whether the supply was made satisfactorily or not.
- (c) Copy of income tax return and annual accounts of the last 03 Financial Years.
 - (d) Photocopies of bank account, PAN, TIN, TAN, VAT and Service Tax Registration Certificate.
 - (e) Original demand draft of Rs.1,00,000/- (Rupees One Lakh only) pertaining to earnest money in the form of account payee demand draft in favour of Central University of Orissa payable at Koraput only.
 - (f) Original demand draft of Rs.500.00 (Rupees Five hundred only) being the cost of tender document in the form of account payee demand draft in favour of Central University of Orissa payable at Koraput only
 - (g) Certificate of dealership/distributorship as applicable.

(B) OTHER TERMS & CONDITIONS:

1.0. Submission of Bids: The tenderer shall submit separately two bids: **Technical Bid and Financial Bid.**

1.1 Technical Bid: The technical bid should be submitted on the letterhead of the tenderer addressed to the Registrar, Central University of Orissa, Koraput, containing the information detailed at **Annexure-01 & 02.**

1.2 Financial Bid: The financial bid should be submitted on the letterhead of the tenderer addressed to the Registrar, Central University of Orissa, Koraput, strictly in the format at **Annexure-03.**

1.3 Mode of Submission. (i) "Technical Bid" & "Financial Bid" **must** be placed in separate sealed envelopes clearly marked as **"Technical Bid" & "Financial Bid"**. The Technical Bid envelope must also contain two separate demand drafts pertaining to Earnest Money and tender documents cost.

(ii) Both the Technical Bid and Financial Bid envelopes must be enclosed in one bigger envelope duly sealed and super scribed as "Tender for Desktop Computers vide NIT No....." .

(iii) Tenders/bids submitted through Fax and E-mail will not be considered at all.

1.4 Bid Opening. Technical bids shall be opened first. Subsequently, Financial bids of only those tenderers whose technical bids have been found suitable in accordance with the extant procedure, tender terms and conditions shall be opened by the University.

2.0 **Tender Documents Availability & Cost:** The tenderer/bidder may download the tender document from the University Website (i.e. www.cuo.ac.in). The tenderer are required to enclose along with their Technical Bid a demand draft of Rs.500.00 (Rupees Five hundred only) as the cost of the tender document (non-refundable).

3.0 **Validity of Bids:** Tender/Bids must be valid for 120 days from the tender opening date.

4.0 **Tendered Quantity and Variation:** The required quantity of Laboratory Equipment/Instruments is mentioned in the Annexure-02 and may vary as per the requirement of the University during the contractual period.

5.0 **Delivery Period.** The successful tenderer must be able to supply and install the goods within 15 days from the date of issue of Supply Order. Delayed supply will attract the levy of penalty/liquidated damages.

6.0 **Penalty:** If the suppliers fails to deliver and place any or all the Equipment or perform the service by the specified date, penalty at the rate of 1% per week of the total order value subject to the maximum of 10% of total order value will be deducted.

7.0 **Payment.** 'Advance Payment' is not allowed in any case. 100% payment will be released after completion of the supply, successful installation and commissioning of Computers.

8.0. **Performance Security Deposit.** The successful tenderer shall deposit within 07 days of issue of supply order @5% of the total value of the supply order as performance security deposit with the University in the form of Bank Guarantee or Fixed Deposit Receipts issued by Nationalised banks with validity upto 01 month after warranty period. The performance security deposit shall remain with the University till the completion of warranty period.

9.0 **Tender Opening:** Tender Box shall be sealed at 1500 hrs on 29.12.2015. The tender box shall be opened as below:-

Bid	Date	Time	Place	Remarks
Technical bid	29.12.2015	1530 hrs	CUO, Landiguda	Bidders may also witness the opening
Financial bid	To be advised to the successful tenderers of Technical Bids			

Financial bids of only those tenderers whose technical bids have been found suitable in accordance with the extant procedure, tender terms and conditions shall be opened by the University.

10.0 **Installation & Warranty Declaration:** Suppliers must give the comprehensive onsite warranty of at-least 01 year/as per the Original Equipment Manufacturer (OEM) warranty clause from the date of successful installation of goods against any manufacturing defects. In the installation report the model number of instrument and all spares parts/accessories numbers should be in the line of purchase order. It must be written in the warranty declaration that "everything to be supplied by us hereunder shall be free from all defects and faults in material, workmanship and shall be of the highest quality and material of the type ordered, shall be in full conformity with the specification and shall be complete enough to carry out the experiments, as specified in the tender document. If any item covered under warranty fails, the same shall be replaced free of cost including all the applicable charges (shipping cost both ways)". **Installation must be done within stipulated time period from the date of delivery of the item/equipment as specified in the purchase order.**

11.0 **Settlement of Disputes.** In the event of any dispute or difference(s) between the Central University of Orissa and the vendor(s) arising out of non-supply of material or supplies not found according to the specifications or any other cause whatsoever relating to the supply or purchase order before or after the supply has been executed, shall be referred to the Vice-Chancellor, Central University of Orissa, Koraput who may decide the matter himself or may appoint arbitrator(s) under the Arbitration and Conciliation Act 1996. The decision of the arbitrator shall be final and binding on both the parties. All disputes shall be subject to Jurisdiction of courts at Koraput only.

12.0 **Return of EMD to unsuccessful tenderers.** The unsuccessful tenderers shall be returned of their EMD demand draft within 15 days after finalization of the tender and issue of supply order in favour of successful tenderer. However, the EMD of the successful tenderer shall be retained by the University till the performance security deposit of the full amount is deposited by him in the form of bank guarantee/FDR.

13.0 **Condition of goods.** The supplier must supply the goods in good condition without any defect whatsoever to the satisfaction of the university. Any deviation in the material and the specifications from the accepted terms is liable to be rejected and the suppliers need to supply all the goods in the specified form to the satisfaction / specifications specified in the Letter of Award and demonstrate at the their own cost.

14.0 **Dispatch of tender bids by the tenderer.** (i) The tenderers may drop in person their sealed envelopes containing their technical and financial bids in the tender box to be kept in the office of the Registrar, Central University of Orissa upto 1500 hrs of 29.12.2015.

(ii) The tenderers may also send their bids by speed post or registered post only addressed to the Registrar, Central University of Orissa, Landiguda, Koraput – 764 020, Odisha so as to reach the University before 1500 hrs of 29.12.2015. Such bids received though post shall be entered in the Tender Receipt Register by the purchase section duly endorsed by the Deputy Registrar (Administration) and shall be dropped by him in the tender box immediately after recording the same in the Tender Receipt Register.

(iii) The bids sent through normal post or courier or Fax or e-mail shall not be considered.

15.0 Central University of Orissa, Koraput reserves the rights to accept/reject any offer in full or in part without assigning any reason thereof.

Sd/-
Registrar

TECHNICAL BID PARTICULARS

1. Name of the Tenderer :
2. Full Address of the tenderer :
3. Contact details of tenderer :
 (a) Telephone No.
 (b) Mobile No.,
 (c) Fax No.,
 (d) E-mail id
4. Details of Earnest Money Deposit (Rs.1,00,000/-) :
 (DD must be placed in the Technical Bid envelope)
 (a) D.D. No.
 (b) D.D. date
 (c) DD amount
 (d) Issuing Bank
5. Details of cost of tender document deposited (Rs.500/-):
 (DD must be placed in the Technical Bid envelope)
 (a) D.D. No.
 (b) D.D. date
 (c) DD amount
 (d) Issuing Bank
6. List of Documents enclosed:

Sl.No.	Name of the document	Information to be filled in this column		Whether photocopies of the documents enclosed (pl. tick)
1.	License/Registration (Number)			Yes / No
2.	Dealership/Distributorship Certificate (Number)			Yes / No
3.	Supply order completion certificate (Name of the organization, value, supply completion date)			Yes / No
4.	Income Tax Return (Annual Income during last 03 Financial Years)	2012-13	Rs.	Yes / No
		2013-14	Rs.	
		2014-15	Rs.	

5.	Audited Balance Sheet & Profit and Loss Account Annual turnover during last 03 Financial Years	2012-13	Rs.	Yes / No
		2013-14	Rs.	
		2014-15	Rs.	
6.	Bank Account (Bank Name, Branch & Account No.)			Yes / No
7.	PAN (Number)			Yes / No
8.	TIN (Number)			Yes / No
9.	TAN (Number)			Yes / No
10.	VAT (Number)			Yes / No
11.	Service Tax (Number)			Yes / No

7. Detailed specifications of the goods (computer) proposed to be supplied by the tenderer (The tenderer must submit the same in the enclosed format only (at Annexure-02))

8. Validity period of the Bid:

9. Additional information, if any proposed to be furnished by the tenderer.

Certificate: Certified that we accept all the terms and conditions of the tender documents.

Date :

Place :

Signature of authorised person

Full name :

Designation:

Seal:

DETAILS OF TECHNICAL SPECIFICATIONS OF THE TENDERED ITEMS

Sl No	Name (Specifications stipulated by the University)	Unit	Qty	Specifications of the items to be supplied by the tenderer (whether same or higher than University specifications, if higher, details to be furnished)
1.	Vacuum Pump for filtering apparatus with Millipore membrane (0.22µm) along vacuum pump oil	No	1	
2.	Laminar Air Flow • SIZE OF THE WORKING TABLE: 4 × 2 × 2 FT. Microprocessor based switches and speed control. • CONSTRUCTION: Should be made of stainless steel 304 quality, approx. 1.2 mm thickness with mat grid finish. • TABLE TOP: Should be made of stainless steel, approx. 1.2 thickness, mat finish and pressed on 25mm. solid nuwud board. • SIDE DOOR: Should be made of glass with min. 6 mm. thick and encased in S.S. channel. • FROTN DOOR: Spring loaded swinging type made of poly carbonate with at least 6 mm. thick. • MOTOR BLOWER ASSEMBLY: Should be variable speed motor. • VELOCITY: 100 FPM at 6” from face of the filter. • NOISE LEVEL: 60 db at 1 meter from face of the equipment • PRESSURE GAUGE : Minihelic gauge	No	1	
3.	Muffle Furnace • Rectangular electric muffle furnace. • Outer wall made of thick mild steel duly finished in stoving enamel paint. • The furnace is insulated with ceramic fibre blanket of high density for better insulation. • The furnace is quick heating type, light in weight, elegant in design. • The hinged type swing door insulated with ceramic fibre to avoid heat losses from the door. • Air ventilator on both sides at the top. Calibration with validation protocol. • On site validation. The furnace is fitted with digital temp. controller-cum-Indicator. • Temp. range: 1200°C, 5KW. Working temp 1150° C. • Size of the muffle: 300 × 150 × 150 mm	No	1	

4.	Magnetic stirrer with hotplate (2 lit) - Exact temp. and speed setting via digital display. - Microprocessor controlled stirring hot plate with fast heating. - Capacity: 20 ltrs. - Speed range: 50-1500rpm - Temp. range: 50°C -360°C - Top plate material: Aluminum - Dimension of plate: 127mm - Power: 230V - Supplied with external programmable temperature - Sensor with 5ft cord and plug - Speed Display: digital - Temp. display : digital	No	1	
5.	Homogenizer High speed Homogeniser with 1/8 HP motor & Transformer speed regulator with Homogenising cup.	No	1	
6.	MS-AAS-4100 (Atomic Absorption Spectrometer)	No	1	
7.	Khejda Apparatus with Flask for Nitrogen analysis		1	
8.	Digesting chamber for heavy metal analysis	No	1	
9.	Refrigerator , 190 litre, Double Door	No	2	
10.	Flame Photometer - Range : Na, K, & Li :1-100 ppm and Ca:15-100 ppm - Sensitivity : Na, K, & Li :0.5 ppm and Ca:15 ppm - Linearity : < 3% - Reproducibility : 2% CV for 20 samples - Detector : Photo Cell - Ignition System : Manual Ignition - Flame System : LPG & Dry Oil Free Air - Gas Control : Adjustable with Knob - Atomiser : Axial Flow Type - Oil free Air Compressor : Supplied with Built-in Air Filter with Pressure - Regulator & Gauge to deliver stable and moisture / oil free air supply. - Power Supply : 230 VAC $\pm$10%, 50 Hz		1	
11.	Dissolved CO ₂ Analyzer	No	1	
12.	Air CO ₂ Analyzer	No	1	
13.	Chlorophyll Fluorescence-meter for Pulse amplitude modulated (PAM), Chlorophyll Fluorometry in combination with saturating pulse analysis of fluorescence quenching. Measured parameters : Fo, Fm, Fo', Fm', Fv/Fm, qP, qL, qN, NPQ, Y(II), Y(NPQ), Y(NO), ETR Software : Win Control-3 software for PAM Fluorometer System should be complete with single fiber (1.5 mm diameter, 40 cm long), leaf clip 60°, magnetic leaf clip, Win Control-Software, Data Acquisition System (PC/Laptop), USB cable and transport case.	No	1	

14.	Portable Photosynthetic System • Portable Photosynthesis System, Light Weight (1.5kg), for measurement of Photosynthesis, Transpiration, Stomatal Conductance /resistance, PAR, RH, Air temp, Leaf Temperature by non contact type infrared leaf temp. sensor by Open as well as Closed system technique. • The instrument should have interchangeable leaf chamber for open system as well as closed system. The leaf chambers should be directly connected to the analyser for fast and accurate measurement.	No	1	
15.	Gel Documentation System Compact dark room, UV Trans-illuminator (25×26cm) housed in convenient sliding drawer, high intensity EPI-illumination, Gel doc XR camera, PCR digitizing card, integrating cable, quantity one software, instruction. White light conversion screen for GEL DOC • High resolution CCD Camera: 1.4 mega pixel resolution With 1360 × 1024 pixel array • Pixel size: 4.6 × 4.6 micron • Motorized zoom lens with f/1.2, 8.5-51 mm lens with Broad range Amber filter. • UV light and White light source: 302 nm source having 25 × 26 trans- Illuminated area. Options for Wave lengths 254 & 365 nm EPI WHITE LIGHT & UV to White conversion screen. • Convenient sliding drawer for easy placement of gels • Visualization of areas as small as 4×5cm • Filters mounted in 3 position sliding filter cassette • Data acquisition: 12 bit and 4096 gray level • Fire wire connectivity with fast data transfer • Up gradable to CHEMI application. SOFTWARE For MW calculation, blot analysis, volume calculation for different method For back ground subtraction	No	1	
16.	ERDAS IMAGINE Image processing software (15 user)	No	1	
17.	Table pH Meter • LED display, 3  digit, 7 segment, 12.5 mm height • Range: 0 to 14.00 pH, mV: 0 to + 1.999 mV with automatic polarity indication (+sign remains blank) • Resolution: pH: 0.01 pH, mV:1 mV • Accuracy: pH: + 0.02 pH + 2 least count, mV: 0.2% + 1least count. • Temperature Range: 0 to 100°C • Power Required: 230 V + 10% 50 Hz, 4 VA • Weight: 1 Kg, Dimension: 85mm (H) × 155mm (W) × 235mm (L) • Electrodes: Provided with the unit, sleeved for protection of glass membrane (suitable stand and clamps for electrode are also provided with the unit) • Electronic Buffer: Equivalent signal output of ideal	No.	2	

	electrode in solution of 9.2, 7.00, 4.00 pH, useful for self diagnostic.			
18.	Bunsen Burner along with Gas cylinder	No	2	
19.	Wire Gauge	No	1	
20.	Inverter 10KVA	No	3	
21.	Milipore Water Distillation Unit EDI Electro Deionisation Module with automatic and continuous deionization • Pump (Variation of pressure in function of temp. • This is to guarantee constant flow rate and low noise • EDI Technology: Constant quality & continuous performance • Check Valve to prevent back flow on RO • Recirculation Loop to save water • Automatic Sanitisation • Alarm signals at low pressure and quality below set point • Wall mounting or bench • Alarm exchange pack • Autodiagnosis of electronics/ auto test of all measurements • RS232 Connection (GLP printout function) • Software based, Memory of actions and quality kept in memory for 1 year • Option of Validation services Progard cartridge: Pretreatment with activated carbon with 3 micron prefilter and antiscaling compound • JMBM01245 Tank 50 litres • PREFILKIT3 Prefilter 2nd Stage : FLOW RATE : 1.5 ml. per minute RESISTIVITY :- 18.2 MΩ.CM BACTERIA : <1 CFU/ML TOC : < 10 PPB (1-5)PPB PARTICLE : <1(0.22 microns per ml.) Electronic Connection : RS-232 port Electrical Requirements: 230 volt Feed water specific Qgard cartridges Quantum (Ionex) cartridge, 1/pk Low noise level DC pump(<40 db)	No	1	
22.	SLR Digital Camera (600 D) with Zoom Lens (up to 600 mm)	No	1	
23.	Micro Oven	No	1	
24.	Sterilizer Dry Heat Glass Beads • Temperature range: fixed at 250°C • Temperature uniformity: ±5°C • Temperature display: Dial Thermometer • Materials of construction: rust resistant chrome-nickel steel	No	1	

25.	Hygrometer - Measures both the actual humidity and temperature displaying the relative humidity. - Memory for MAX/MIN measurements and indoor climate status: dry, comfortable or humid. - Working temperature: 0°C to 50°C (32°F to 122°F). - Accuracy: +/- 5% relative humidity. - Cconditions: Temperature between 15°C to 40°C - Humidity between 40 and 80% - Normal battery voltage.	No	1	
26.	Timer Accuracy of operating time : $\pm 0.3\% \pm 0.05$ s Influence of voltage Influence of temperature Setting error : $\pm 0.5\% \pm 0.05$ s max. Reset time : H3CA-A/-FA: 0.5 s max. H3CA-8H/-8: 0.1 s max Insulation resistance : 100 MΩ min. (at 500 VDC) Dielectric strength : 2,000 VAC, 50/60 Hz for 1 min (between current-carrying and non-current-carrying parts and between contact and control circuit) 1,000 VAC, 50/60 Hz for 1 min (between non-continuous contacts) Impulse withstand : 3 kV	No	1	
27.	Bacteriological Incubator Air circulating fan. - Timer 0-24 hours . - Imported thermostat "EGO/"JUMO" German with the accuracy of $\pm 1^{\circ}\text{C}$ - Digital temp.indicator -cum-controller . - Microprocessor PID digital temp indicator -cum-controller - Digital temp. indicator TECHNICAL SPECIFICATION H W D (Approx) No of Shelves	No	1	
28.	Deep Freezer (-70 degree) - Stainless steel inner chamber, - Insulation of high density expanded polyurethane for minimum temperature loss M.S. sheet made & duly powder coated outer body Solid state digital temperature controller cum indicator	No	1	

29.	Vortex mixer • Speed 100 to 3000rpm • Height Exterior 6 in. • Length (English) Exterior 7 in. • Width Exterior 4.5 in. • Height (Metric) Exterior 15.2cm • Length (Metric) Exterior 17.7cm • Width (Metric) Exterior 11.4cm • Shipping Weight 8 lb. • Shipping Weight (Metric) 3.6kg • Voltage 120V • Platform Material Foam Hertz 50/60Hz Amperage 0.75A • Certifications/Compliance CSA approved Dimensions (L × W × H) • Exterior 7 × 4.5 × 6 in. (17.7 × 11.4 × 15.2cm) • Electrical Requirements 120V 50/60Hz -	No	1	
30.	Vertical Autoclave • Double body construction, single chamber for steam and water, covered externally by outer shell. • Lid made of thick stainless steel, pressure up to 22 PSI factory set at 15 PSI. • Complete unit with automatic air purging, Digital Temperature control & Indication with 0.1°C Accuracy/ Resolution, with electronic Digital timer range 0 to 99 min. • Autoclaving time cycle automatically starts when set pressure is achieved. • Automatic steam release once autoclaving cycle complete. • Complete with pressure gauge, safety valve, steam release valve, extra safety valve. • Incorporated with an Automatic Pressure Control Switch as an additional safety device. • Low Water level cut-off : Low water level cut-off assembly connected to heater which automatically cuts off power to heater if water level is not sufficient thus eliminating heater burn outs. • Foot lifting arrangement included for Capacity 125 Ltr. and above. Not included/required for lower sizes. • Provided with S.S. L-304 grade perforated basket. • Unit works on 230 V Ac, 50 Hz.	No	1	

31.	Colony Counter • Fitted With Automatic 4 Digits Led Digital Display • Counting Plate With Illuminated Standard Wolfhugel Ruling Ensures Clarity Differentiated And Sharply Defined Colonies • Each Touch Of Marking Pencil In The Digits Increments The Colony Count By '1' And The Glowing Led Display Depicts The Total Colony Count • Maximum Colony Count Possible up to 9999 Provided With A Manual Reset Of Digital Display, On / Off Switch, Counting Plate, 100 mm Dia Lens, Cord And Plug • To work on 220 V.A.C	No	1	
32.	Digital Caliper (Maximum 2 mm) Mitutoyo, Japan	No	1	
33.	Kel plus automatic nitrogen analyzer (Classic DX)	No	1	
34.	Brass Test Siever set	No	2	
35.	Soil sampling Auger (3-1/4 hex quick pin sampling kit)	No	2	
36.	Field Scout Direct Soil EC Meter (2265FS)	No	1	
37.	Reduction column filled with Cd filings for nitrate analysis	Set	5	
38.	Hot Air Oven (Oven universal (MSW-211)	No	1	
39.	Soxhlet apparatus 250 ml capacity (3 in series)	No	3	
40.	Orbital Shaking Incubator • Inner Chamber S.S. 304 & Outer chamber M.S. powder coated with Plexi glass inner door • Variable speed from 20 RPM to 250 RPM • Digital display of speed with preset facility • Shaking amplitude 25 mm • Universal Platform to accommodate interchangeable clamps of assorted sizes for different capacity of flasks. (maximum capacity) 100 ml × 40 flasks,150 ml × 34 flasks, 250ml × 23 flasks, 500 ml × 16 flasks, 1000 ml × 9 flasks)		1	
41.	Spectrophotometer (UV-Visible)	No	1	
42.	Flame photometer (Microcontroller Flame photometer Soil Testing G-301)	No	1	
43.	Mini Rotary Flask Shaker (MSW-300)	No	1	
44.	Electrophoresis apparatus for Protein (Large vertical)	No	1	
45.	Aerator -1HP 2PCS Impeller Paddle Wheel Aerator (YC-0.75)	No	6	
46.	Fish Feed Extruder Machine Plant (Gtl. 7500-ffex)	No	1	
47.	Pelletizer-Pulverizer set	No	1	
48.	CHN Analyzer (5E-CHN 2200)	No		
49.	Tube with Rim, Borosilicate Glass, made from heat resistant, Low expansion borosilicate glass Size-15×150	Pcs	50	
50.	Portable Digital Hanging Weigh Scale	No	1	
51.	Triangular folding fishing net Aluminum	No	1	

52.	Centrifuge <u>Bench Top Laboratory Centrifuge</u> 16 x 15ml Tubes Digital Speed Indicator and Timer • Maximum Speed 5250 RPM • Maximum RCF 3600 'g' • Capacity 16 x 15ml Tubes • Power Supply 220-240V 50 Hz Single Rotor Head 16 Tube × 15 ml Capacity Swing Out Head with Graduated Glass Tubes		1	
53.	UV Trans-illuminator	No	1	
54.	Phytoplankton net with towing Holder (20 µm)	No	10	
55.	Zooplankton Net with towing Holder (60 µm)	No	10	
56.	Field Binocular (8×42 and ADSI)	No	5	
57.	Field Binocular (8×50 ADSI)	No	5	
58.	Spotting Scope (20-60×80 ADSI) with tripod with Camera adapter and Digiscoping Bracket	No	1	
59.	Portable Refractometer (Salt 0-100%)	No	6	
60.	Salinity Meter	No	6	
61.	Night Vision Binocular	No	2	
62.	GPS (Latest Model) GARMIN, USA (GPSMAP 62S)	No	3	
63.	Data logger (Temp. & RH)	No	3	
64.	Lux Metre (Intensity of light)	No	5	
65.	Water Quality Analyser	No	1	
66.	Weighing Balance (up till 1 gm)	No	2	
67.	Night Vision Camera (Infrared Enabled)	No	1	

Anthropology :

1	Mechanical Weighing Machine	No	5	
2	Anthropometer Measuring Set These include • Instruments for measuring distances in straight lines • Instruments for measuring curves and circumferences • Instruments for measuring thickness The Anthropometer Measuring Kit has been designed to remain faithful to the original basic rules, but also to include instruments used most frequently. • Anthropometer consisting of 4 pipes, made of brass 0 - 1950mm • Rod Measures, straight rules 0 - 270mm, curved rules 0 - 280mm • Tasterzirkel Callipers, brass 0 - 450mm • Gleitzirkel Martin's Thickness Gauge, stainless steel/brass 0 - 200mm • Stainless steel rule, 0 - 150 mm • Stainless steel tape measure, 0 - 2000mm • Finger Sterilizing Case, and • Sturdy Carrying Case	Set	5	
3	Weighing Scale cum Height Measuring Sale	No	2	
4	Palatometer (Anthropology)	No	2	
5	Girth measuring tape with automatic retraction Measuring range 0-150cm	No	2	
6	Pedometer	No	2	
7	Digi- Walker Professional	No	2	
8	Digital Skinfold Caliper	No	2	
9	Measuring Tapes (anthropology)		5	
10	Real Human Skulls and Skeletons	Set	1	
11	Laminar Air Flow (Horizontal)	No	1	
12	Muffle Furnace	No	1	
13	Magnetic stirrer with hotplate (2 lit)	Ltrs	1	
14	Gel Documentation System	No	1	
15	Table P ^H Meter	No	2	
16	Bunsen Burner along with Gas cylinder	No	2	
17	Wire Gauge	No	1	
18	Inverter 10KVA		3	
19	Milipore water distillation unit	No	1	
20	DSLR Digital Camera with Zoom Lense (AF-S 18-105mm VR Kit Lens)	No	1	
21	Micro oven	No	1	
22	Incubator	No	1	
23	Deep Freezer (-70 degree)	No	1	
24	Vortex mixer	No	1	
25	Vertical Autoclave	No	1	
26	Centrifuge (Normal Micro Tube Centrifuge)	No	1	
27	UV trans illuminator	No	1	
28	Weighing Balance (up till 1mg)	No	1	

29	Micropipette Up to 2.0µl	No	1	
30	Micropipette Up to 10.0µl	No	1	
31	Micropipette Up to 20.0µl	No	1	
32	Micropipette Up to 100.0µl	No	1	
33	Micropipette Up to 200.0µl	No	1	
34	Micropipette Up to 1000.0µl	No	1	
35	Micropipette Up to 5000.0µl	No	1	
36	SPSS 5 user Statistical Software, Statistical Software	No	1	

FINANCIAL BID

Sl No	Name	Unit	Qty	Total Unit Rate (TUR) inclusive of basic cost, freight, taxes, duties etc.	Total Amount (Quantity x TUR) (Rs.)
68.	Vacuum Pump for filtering apparatus with Millipore membrane (0.22µm) along vacuum pump oil	No	1		
69.	Laminar Air Flow • SIZE OF THE WORKING TABLE: 4 × 2 × 2 FT. Microprocessor based switches and speed control. • CONSTRUCTION: Should be made of stainless steel 304 quality, approx. 1.2 mm thickness with mat grid finish. • TABLE TOP: Should be made of stainless steel, approx. 1.2 thickness, mat finish and pressed on 25mm. solid nuwud board. • SIDE DOOR: Should be made of glass with min. 6 mm. thick and encased in S.S. channel. • FROTN DOOR: Spring loaded swinging type made of poly carbonate with at least 6 mm. thick. • MOTOR BLOWER ASSEMBLY: Should be variable speed motor. • VELOCITY: 100 FPM at 6" from face of the filter. • NOISE LEVEL: 60 db at 1 meter from face of the equipment • PRESSURE GAUGE : Minihelic gauge	No	1		
70.	Muffle Furnace • Rectangular electric muffle furnace. • Outer wall made of thick mild steel duly finished in stoving enamel paint. • The furnace is insulated with ceramic fibre blanket of high density for better insulation. • The furnace is quick heating type, light in weight, elegant in design. • The hinged type swing door insulated with ceramic fibre to avoid heat losses from the door. • Air ventilator on both sides at the top. Calibration with validation protocol. • On site validation. The furnace is fitted with digital	No	1		

	temp. controller-cum-Indicator. - Temp. range: 1200°C, 5KW. Working temp 1150° C. - Size of the muffle: 300 × 150 × 150 mm				
71.	Magnetic stirrer with hotplate (2 lit) - Exact temp. and speed setting via digital display. - Microprocessor controlled stirring hot plate with fast heating. - Capacity: 20 ltrs. - Speed range: 50-1500rpm - Temp. range: 50°C -360°C - Top plate material: Aluminum - Dimension of plate: 127mm - Power: 230V - Supplied with external programmable temperature - Sensor with 5ft cord and plug - Speed Display: digital - Temp. display : digital	No	1		
72.	Homogenizer High speed Homogeniser with 1/8 HP motor & Transformer speed regulator with Homonesing cup.	No	1		
73.	MS-AAS-4100 (Atomic Absorption Spectrometer)	No	1		
74.	Khejda Apparatus with Flask for Nitrogen analysis		1		
75.	Digesting chamber for heavy metal analysis	No	1		
76.	Refrigerator , 190 litre, Double Door	No	2		
77.	Flame Photometer - Range : Na, K, & Li :1-100 ppm and Ca:15-100 ppm - Sensitivity : Na, K, & Li :0.5 ppm and Ca:15 ppm - Linearity : < 3% - Reproducibility : 2% CV for 20 samples - Detector : Photo Cell - Ignition System : Manual Ignition - Flame System : LPG & Dry Oil Free Air - Gas Control : Adjustable with Knob - Automiser : Axial Flow Type - Oil free Air Compressor : Supplied with Built-in Air Filter with Pressure - Regulator & Gauge to deliver stable and moisture / oil free air supply. - Power Supply : 230 VAC ±10%, 50 Hz		1		
78.	Dissolved CO ₂ Analyzer	No	1		
79.	Air CO ₂ Analyzer	No	1		
80.	Chlorophyll Fluorescence-meter for Pulse amplitude modulated (PAM), Chlorophyll Fluorometry in combination with saturating pulse analysis of fluorescence quenching. Measured parameters : Fo, Fm. Fo', Fm', Fv/Fm, qP, qL, qN, NPQ, Y(II), Y(NPQ), Y(NO), ETR Software : Win Control-3 software for PAM Fluorometer	No	1		

	System should be complete with single fiber (1.5 mm diameter, 40 cm long), leaf clip 60°, magnetic leaf clip, Win Control-Software, Data Acquisition System (PC/Laptop), USB cable and transport case.				
81.	Portable Photosynthetic System • Portable Photosynthesis System, Light Weight (1.5kg), for measurement of Photosynthesis, Transpiration, Stomatal Conductance /resistance, PAR, RH, Air temp, Leaf Temperature by non contact type infrared leaf temp. sensor by Open as well as Closed system technique. • The instrument should have interchangeable leaf chamber for open system as well as closed system. The leaf chambers should be directly connected to the analyser for fast and accurate measurement.	No	1		
82.	Gel Documentation System Compact dark room, UV Trans-illuminator (25×26cm) housed in convenient sliding drawer, high intensity EPI-illumination, Gel doc XR camera, PCR digitizing card, integrating cable, quantity one software, instruction. White light conversion screen for GEL DOC • High resolution CCD Camera: 1.4 mega pixel resolution With 1360 × 1024 pixel array • Pixel size: 4.6 × 4.6 micron • Motorized zoom lens with f/1.2, 8.5-51 mm lens with Broad range Amber filter. • UV light and White light source: 302 nm source having 25 × 26 trans- Illuminated area. Options for Wave lengths 254 & 365 nm EPI WHITE LIGHT & UV to White conversion screen. • Convenient sliding drawer for easy placement of gels • Visualization of areas as small as 4×5cm • Filters mounted in 3 position sliding filter cassette • Data acquisition: 12 bit and 4096 gray level • Fire wire connectivity with fast data transfer • Up gradable to CHEMI application. SOFTWARE For MW calculation, blot analysis, volume calculation for different method For back ground subtraction	No	1		
83.	ERDAS IMAGINE Image processing software (15 user)	No	1		

84.	Table pH Meter • LED display, 3  digit, 7 segment, 12.5 mm height • Range: 0 to 14.00 pH, mV: 0 to + 1.999 mV with automatic polarity indication (+sign remains blank) • Resolution: pH: 0.01 pH, mV:1 mV • Accuracy: pH: + 0.02 pH + 2 least count, mV: 0.2% + 1least count. • Temperature Range: 0 to 100°C • Power Required: 230 V + 10% 50 Hz, 4 VA • Weight: 1 Kg, Dimension: 85mm (H) × 155mm (W) ×235mm (L) • Electrodes: Provided with the unit, sleeved for protection of glass membrane (suitable stand and clamps for electrode are also provided with the unit) • Electronic Buffer: Equivalent signal output of ideal electrode in solution of 9.2, 7.00, 4.00 pH, useful for self diagnostic.	No.	2		
85.	Bunsen Burner along with Gas cylinder	No	2		
86.	Wire Gauge	No	1		
87.	Inverter 10KVA	No	3		
88.	Milipore Water Distillation Unit EDI Electro Deionisation Module with automatic and continuous deionization • Pump (Variation of pressure in function of temp. • This is to guarantee constant flow rate and low noise • EDI Technology: Constant quality & continuous performance • Check Valve to prevent back flow on RO • Recirculation Loop to save water • Automatic Sanitisation • Alarm signals at low pressure and quality below set point • Wall mounting or bench • Alarm exchange pack • Autodiagnosis of electronics/ auto test of all measurements • RS232 Connection (GLP printout function) • Software based, Memory of actions and quality kept in memory for 1 year • Option of Validation services Progard cartridge: Pretreatment with activated carbon with 3 micron prefilter and antiscaling compound • JMBM01245 Tank 50 litres • PREFILKIT3 Prefilter 2nd Stage : FLOW RATE : 1.5 ml. per minute RESISTIVITY :- 18.2 MΩ.CM BACTERIA : <1 CFU/ML TOC : < 10 PPB (1-5)PPB PARTICLE : <1(0.22 microns per ml.) Electronic Connection : RS-232 port	No	1		

	Electrical Requirements: 230 volt Feed water specific Qgard cartridges Quantum (Ionex) cartridge, 1/pk Low noise level DC pump(<40 db)				
89.	SLR Digital Camera (600 D) with Zoom Lens (up to 600 mm)	No	1		
90.	Micro Oven	No	1		
91.	Sterilizer Dry Heat Glass Beads • Temperature range: fixed at 250°C • Temperature uniformity: $\pm 5^{\circ}\text{C}$ • Temperature display: Dial Thermometer • Materials of construction: rust resistant chrome-nickel steel	No	1		
92.	Hygrometer • Measures both the actual humidity and temperature displaying the relative humidity. • Memory for MAX/MIN measurements and indoor climate status: dry, comfortable or humid. • Working temperature: 0°C to 50°C (32°F to 122°F). • Accuracy: $\pm 5\%$ relative humidity. • Conditions: Temperature between 15°C to 40°C • Humidity between 40 and 80% • Normal battery voltage.	No	1		
93.	Timer Accuracy of operating time : $\pm 0.3\% \pm 0.05 \text{ s}$ Influence of voltage Influence of temperature Setting error : $\pm 0.5\% \pm 0.05 \text{ s max.}$ Reset time : H3CA-A/-FA: 0.5 s max. H3CA-8H/-8: 0.1 s max Insulation resistance : 100 M Ω min. (at 500 VDC) Dielectric strength : 2,000 VAC, 50/60 Hz for 1 min (between current-carrying and non-current-carrying parts and between contact and control circuit) 1,000 VAC, 50/60 Hz for 1 min (between non-continuous contacts) Impulse withstand : 3 kV	No	1		
94.	Bacteriological Incubator Air circulating fan. • Timer 0-24 hours . • Imported thermostat "EGO"/"JUMO" German with the accuracy of $\pm 1^{\circ}\text{C}$ • Digital temp.indicator -cum-controller . • Microprocessor PID digital temp indicator -cum-controller • Digital temp. indicator TECHNICAL SPECIFICATION H W D (Approx) No of Shelves	No	1		
95.	Deep Freezer (-70 degree)	No	1		

	• Stainless steel inner chamber, • Insulation of high density expanded polyurethane for minimum temperature loss - M.S. sheet made & duly powder coated outer body - Solid state digital temperature controller cum indicator				
96.	Vortex mixer • Speed 100 to 3000rpm • Height Exterior 6 in. • Length (English) Exterior 7 in. • Width Exterior 4.5 in. • Height (Metric) Exterior 15.2cm • Length (Metric) Exterior 17.7cm • Width (Metric) Exterior 11.4cm • Shipping Weight 8 lb. • Shipping Weight (Metric) 3.6kg • Voltage 120V • Platform Material Foam Hertz 50/60Hz Amperage 0.75A • Certifications/Compliance CSA approved Dimensions (L × W × H) • Exterior 7 × 4.5 × 6 in. (17.7 × 11.4 × 15.2cm) • Electrical Requirements 120V 50/60Hz -	No	1		
97.	Vertical Autoclave • Double body construction, single chamber for steam and water, covered externally by outer shell. • Lid made of thick stainless steel, pressure up to 22 PSI factory set at 15 PSI. • Complete unit with automatic air purging, Digital Temperature control & Indication with 0.1°C Accuracy/ Resolution, with electronic Digital timer range 0 to 99 min. • Autoclaving time cycle automatically starts when set pressure is achieved. • Automatic steam release once autoclaving cycle complete. • Complete with pressure gauge, safety valve, steam release valve, extra safety valve. • Incorporated with an Automatic Pressure Control Switch as an additional safety device. • Low Water level cut-off : Low water level cut-off assembly connected to heater which automatically cuts off power to heater if water level is not sufficient thus eliminating heater burn outs. • Foot lifting arrangement included for Capacity 125 Ltr. and above. Not included/required for lower sizes. • Provided with S.S. L-304 grade perforated basket. • Unit works on 230 V Ac, 50 Hz.	No	1		

98.	Colony Counter • Fitted With Automatic 4 Digits Led Digital Display • Counting Plate With Illuminated Standard Wolfhugel Ruling Ensures Clarity Differentiated And Sharply Defined Colonies • Each Touch Of Marking Pencil In The Digits Increments The Colony Count By '1' And The Glowing Led Display Depicts The Total Colony Count • Maximum Colony Count Possible up to 9999 Provided With A Manual Reset Of Digital Display, On / Off Switch, Counting Plate, 100 mm Dia Lens, Cord And Plug • To work on 220 V.A.C	No	1		
99.	Digital Caliper (Maximum 2 mm) Mitutoyo, Japan	No	1		
100.	Kel plus automatic nitrogen analyzer (Classic DX)	No	1		
101.	Brass Test Siever set	No	2		
102.	Soil sampling Auger (3-1/4 hex quick pin sampling kit)	No	2		
103.	Field Scout Direct Soil EC Meter (2265FS)	No	1		
104.	Reduction column filled with Cd filings for nitrate analysis	Set	5		
105.	Hot Air Oven (Oven universal (MSW-211)	No	1		
106.	Soxhlet apparatus 250 ml capacity (3 in series)	No	3		
107.	Orbital Shaking Incubator • Inner Chamber S.S. 304 & Outer chamber M.S. powder coated with Plexi glass inner door • Variable speed from 20 RPM to 250 RPM • Digital display of speed with preset facility • Shaking amplitude 25 mm • Universal Platform to accommodate interchangeable clamps of assorted sizes for different capacity of flasks. (maximum capacity) 100 ml × 40 flasks, 150 ml × 34 flasks, 250ml × 23 flasks, 500 ml × 16 flasks, 1000 ml × 9 flasks)		1		
108.	Spectrophotometer (UV-Visible)	No	1		
109.	Flame photometer (Microcontroller Flame photometer Soil Testing G-301)	No	1		
110.	Mini Rotary Flask Shaker (MSW-300)	No	1		
111.	Electrophoresis apparatus for Protein (Large vertical)	No	1		
112.	Aerator -1HP 2PCS Impeller Paddle Wheel Aerator (YC-0.75)	No	6		
113.	Fish Feed Extruder Machine Plant (Gtl. 7500-ffex)	No	1		
114.	Pelletizer-Pulverizer set	No	1		
115.	CHN Analyzer (5E-CHN 2200)	No			
116.	Tube with Rim, Borosilicate Glass, made from heat resistant, Low expansion borosilicate glass Size-15×150	Pcs	50		
117.	Portable Digital Hanging Weigh Scale	No	1		
118.	Triangular folding fishing net Aluminum	No	1		
119.	Centrifuge <u>Bench Top Laboratory Centrifuge</u> 16 x 15ml Tubes Digital Speed Indicator and Timer • Maximum Speed 5250 RPM • Maximum RCF 3600 'g'		1		

	• Capacity 16 x 15ml Tubes • Power Supply 220-240V 50 Hz Single Rotor Head 16 Tube × 15 ml Capacity Swing Out Head with Graduated Glass Tubes				
120.	UV Trans-illuminator	No	1		
121.	Phytoplankton net with towing Holder (20 µm)	No	10		
122.	Zooplankton Net with towing Holder (60 µm)	No	10		
123.	Field Binocular (8×42 and ADSI)	No	5		
124.	Field Binocular (8×50 ADSI)	No	5		
125.	Spotting Scope (20-60×80 ADSI) with tripod with Camera adapter and Digiscoping Bracket	No	1		
126.	Portable Refractometer (Salt 0-100%)	No	6		
127.	Salinity Meter	No	6		
128.	Night Vision Binocular	No	2		
129.	GPS (Latest Model) GARMIN, USA (GPSMAP 62S)	No	3		
130.	Data logger (Temp. & RH)	No	3		
131.	Lux Metre (Intensity of light)	No	5		
132.	Water Quality Analyser	No	1		
133.	Weighing Balance (up till 1 gm)	No	2		
134.	Night Vision Camera (Infrared Enabled)	No	1		

Anthropology :

1	Mechanical Weighing Machine	No	5		
2	Anthropometer Measuring Set These include • Instruments for measuring distances in straight lines • Instruments for measuring curves and circumferences • Instruments for measuring thickness The Anthropometer Measuring Kit has been designed to remain faithful to the original basic rules, but also to include instruments used most frequently. • Anthropometer consisting of 4 pipes, made of brass 0 - 1950mm • Rod Measures, straight rules 0 - 270mm, curved rules 0 - 280mm • Tasterzirkel Callipers, brass 0 - 450mm • Gleitzirkel Martin's Thickness Gauge, stainless steel/brass 0 - 200mm • Stainless steel rule, 0 - 150 mm • Stainless steel tape measure, 0 - 2000mm • Finger Sterilizing Case, and • Sturdy Carrying Case	Set	5		
3	Weighing Scale cum Height Measuring Sale	No	2		
4	Palatometer (Anthropology)	No	2		
5	Girth measuring tape with automatic retraction Measuring range 0-150cm	No	2		
6	Pedometer	No	2		
7	Digi- Walker Professional	No	2		
8	Digital Skinfold Caliper	No	2		

9	Measuring Tapes(anthropology)		5		
10	Real Human Skulls and Skeletons	Set	1		
11	Laminar Air Flow (Horizontal)	No	1		
12	Muffle Furnace	No	1		
13	Magnetic stirrer with hotplate (2 lit)	Ltrs	1		
14	Gel Documentation System	No	1		
15	Table P ^H Meter	No	2		
16	Bunsen Burner along with Gas cylinder	No	2		
17	Wire Gauge	No	1		
18	Inverter 10KVA		3		
19	Milipore water distillation unit	No	1		
20	DSLR Digital Camera with Zoom Lense (AF-S 18-105mm VR Kit Lens)	No	1		
21	Micro oven	No	1		
22	Incubator	No	1		
23	Deep Freezer (-70 degree)	No	1		
24	Vortex mixer	No	1		
25	Vertical Autoclave	No	1		
26	Centrifuge (Normal Micro Tube Centrifuge)	No	1		
27	UV trans illuminator	No	1		
28	Weighing Balance (up till 1mg)	No	1		
29	Micropipette Up to 2.0µl	No	1		
30	Micropipette Up to 10.0µl	No	1		
31	Micropipette Up to 20.0µl	No	1		
32	Micropipette Up to 100.0µl	No	1		
33	Micropipette Up to 200.0µl	No	1		
34	Micropipette Up to 1000.0µl	No	1		
35	Micropipette Up to 5000.0µl	No	1		
36	SPSS 5 user Statistical Software, Statistical Software	No	1		