



SAMBALPUR UNIVERSITY
JYOTI VIHAR, BURLA
SAMBALPUR (ODISHA), PIN - 768 019
(NAAC ACCREDITED WITH 'A' GRADE), Website: suniv.ac.in

WORLD BANK FUNDED, OHEPEECENTRE OF EXCELLENCE (NPT & RDTS)
and CENTRAL INSTRUMENTATION FACILITY

Ref. No: 266/Store

Date: 22/01/2019

QUOTATION CALL NOTICE FOR EQUIPMENT, CHEMICALS,
FURNITURE, FIXTURES, etc.

1. Quotations are invited from suppliers/firms with valid GST certificates and PAN card for the supply of (a) Equipment, (b) Chemicals, Kits and Consumables, (c) Laboratory furniture and fixture for the COE *Natural Products and Therapeutics* on or before Dt: -25.02.2019. EMD- 2% of the quoted price. The sealed quotations may be sent to "The Nodal Officer, COE (NPT), Dept. of Biotechnology & Bioinformatics, Sambalpur University, Jyoti Vihar-768 019, Sambalpur, Odisha".
2. Quotations are invited from suppliers/firms with valid GST certificates and PAN card for the supply of (a) Computer desktop & Laptop, (b) LCD projector, (c) Camera, (d) Software and (e) Laboratory furniture and fixture for the COE *Regional Development and Tribal Studies* on or before 25.02.2019. EMD- 2% of the quoted price. The sealed quotations may be sent to "The Nodal Officer, COE (RDTS), Dept. of Anthropology, Sambalpur University, Jyoti Vihar-768 019, Sambalpur, Odisha".
3. Quotations are invited from suppliers/firms with valid GST certificates and PAN card for the supply of Equipment for the *Central Instrumentation Facility* on or before 25.02.2019. EMD- 2% of the quoted price. The sealed quotations may be sent to "Deputy Coordinator, IDP, Development Section - I, New Administrative Building, Sambalpur University, Jyoti Vihar-768 019, Sambalpur, Odisha".

The sealed quotations may send by speed / registered post only. The details about the list of equipment and their specifications, laboratory furniture and fixture, the chemicals and accessories, etc. and the terms and conditions may be obtained from the **information booklet of each COE and CIF** on the University web site: www.suniv.ac.in.

Memo No. 267/Store

Dated: 22/01/19

Registrar

Copy forwarded for information and necessary action to: -

The Advertisement Manager, **The Samaj, Sambalpur, The Sambad, Sambalpur / The Times of India, Bhubaneswar**. They are requested to publish the quotation call notice once in their respective Dailies in all Odisha edition on or before Dt: - 04.02.2019 by using minimum space and submit the bill in duplicate at Govt. concessional rate along with foolscap of published newspaper for payment.

Registrar

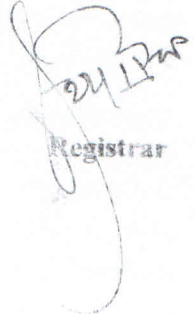
B.T.O

Memo No. 268.../Store

Dated: ...22/01/19

Copy forwarded for information and necessary action: -

1. Nodal Officer, COE- NPT, Dept. BT & BI, SU
2. Nodal Officer, COE- RDTS, Dept. Anthropology, SU
3. Chairman, P.G.C.O., Sambalpur University.
4. Deputy Coordinator, IDP, Development Section - I, SU.
5. Director, e- Governance Nodal Centre for uploading in the University website the detailed advertisement along with the information booklet of each COE and CIF.
6. Secy. to V.C./P.A. to Registrar.
7. S.O., Dev-I Section, Sambalpur University.
8. Notice Board


Registrar

**INFORMATION BOOKLET
ON
QUOTATION CALL NOTICE**

**WORLD BANK FUNDED (OHEPEE)
(CENTRAL INSTRUMENTATION FACILITY)**

(Ref: 266 /Store, Dated: 22.01.19)



**SAMBALPUR UNIVERSITY
JYOTI VIHAR, BURLA-768 019, ODISHA**

**INFORMATION BOOKLET
ON
QUOTATION CALL NOTICE**

**WORLD BANK FUNDED (OHEPEE)
(CENTRAL INSTRUMENTATION FACILITY)**

(Ref: 266 /Store, Dated: 22.01.19)



**SAMBALPUR UNIVERSITY
JYOTI VIHAR, BURLA-768 019, ODISHA**

Ref. No. /Store

Dated:

QUOTATION CALL NOTICE

Sealed quotations in duplicate are invited from the interested Manufacturers/Authorized dealers/Registered firms to supply the following items for the World Bank funded (OHEPEE) CIF to the Sambalpur University, on 'FOR' destination basis. The last date of submission of quotation is 25.02.2019. Valid copy of VAT/PAN/GST No. and a bank draft of 2.0% of the quoted price as EMD, drawn in favor of COF SU OHEPEE of any nationalized bank payable at State Bank of India, Jyoti Vihar Branch, Burla, code No.6672. The EMD should be enclosed along with the quotation; otherwise the quotations will be rejected. The Registrar reserves all right to reject any or all quotations without assigning any reason thereof.

Terms & conditions:

1. The quotation shall be submitted with technical specifications and quoted price in a sealed covers. On the top of the envelope please mention "**OHEPEE- CIF- instrument name**", for which quotation is being submitted in bold.
2. The sealed quotations will be received up to 4.00 P.M. on all working days upto 25.02.2019 by speed post / registered post only at the Development Section – I, New Administrative Building, Sambalpur University, Jyoti Vihar-768 019, Sambalpur, Odisha.
3. The suppliers must be either the manufacturer of the instruments/equipment or the authorized agent/representative of the manufacturer. In the case of agent/representative, certified valid copy of the agency/authorization issued by the manufacturer should be enclosed with the quotation.
4. In the event of any item being available on Rate Contract, the quotation for that item shall not exceed the Rate Contract approved by DGS & D (GoI). The existence, price and terms and conditions of all Rate Contract items shall be disclosed by the tenderers.
5. The quotation should include apart from the price of the instruments/equipment –
 - a) Warranty period details (extended warranty period separately).
 - b) The cost of recommended essential spares.
 - c) List and cost of consumables/standards etc., required from time to time with all necessary details.
 - d) AMC after warranty period (to be shown separately).
6. **The rates/price should be quoted in the currency of the country where the instruments/equipment is manufactured and equivalent Indian currency.**

7. Delivery of the instruments shall be at the "Central Instruments Facility Centre", P.G. Department of Biotechnology & Bioinformatics, Sambalpur University, Jyoti Vihar-768 019 unless otherwise specified. **The price shall be inclusive of all taxes, transportation cost and cost of installation/commissioning, trial operation, comprehensive training and clearance charges.** Necessary documents for clearing the consignment through customs authorities will be provided by us and the supplier or agents of manufacturer arrange the clearance of the consignment on payment basis. **Sambalpur University is granted with DSIR certificate for customs and central excise duty exemption.**
8. The successful tenderer should supply the instruments/equipment within a period of 4-6 weeks from the issuing date of purchase order by the COF, Sambalpur University.
9. The EMD of the successful tenderer will be refunded after completion of the supply and installation of the equipment to the satisfaction of the Deputy Coordinator, IDP, Sambalpur University.
10. Documents such as instrument operation, calibration, maintenance, drawing, descriptive literature etc., if any, along with original instruction and data analysis manual should be supplied by the successful tenderer along with the equipment.
11. Instruments/equipment should be unpacked in the presence of the Deputy Coordinator, IDP, Sambalpur University. The consignment will be accepted only after inspection.
12. **A warranty certificate covering a period of minimum one year** from the date of supply and installation shall be provided. Any additional period towards warranty will be given weightage in evaluation of the quotations.
13. Inspection certificates of the instruments / equipment inspected by the qualified engineer of the manufacturer and packed in accordance with the terms and conditions of this order must be enclosed.
14. During the warranty period or later whenever the firm is called upon to attend to the rectification of the defects/faults in the consignments, the firm shall attend to the repair work within 48-96 hours. They should render timely back up service whenever called upon. **A certificate to the effect should be attached to the tender.**
15. **A certificate to the effect that instruments/equipment supplied is fully operational and no additional accessory or spare is required to make the instruments/equipment run should be issued along with the delivery challans/invoice.** The Deputy Coordinator, IDP, Sambalpur University reserves the right to refuse payment in the event of not furnishing this certificate at the time of supply.
16. The Registrar, Sambalpur University reserves all the right to accept/reject any tender without assigning any reason thereof.
17. **Once the rate is approved by purchase committee, supply order is placed on the successful tenderer for supply of the equipment/instrument.** The decision of the Purchase Committee shall be final and binding.
18. All disputes subject to Court of Law in the jurisdiction of Sambalpur.

P.T.O

A. List of equipments and their general specifications

(1) Precision Ferroelectric Test System (250kHz@10V) along with High Voltage Interface Unit, High Voltage Amplifier to 10KV and High Voltage Test Fixture

Detailed Specifications:

About the equipment:

The P-E Hysteresis measurement setup should be capable for measurement of piezoelectric displacement, strain, polarization measurements (hysteresis loop, remnant polarization, saturation polarization) fatigue, and voltage breakdown as a function of applied electric field and temperature in thin and bulk piezo ceramic materials.

Detailed specification of the equipment:

- Operating voltage in the range: $\pm 0-10$ KV with ± 100 V using built-in amplifiers and ± 10 KV (with external amplifier).
- The system should have High Voltage Interface Unit as a critical safety feature for high voltage built-in amplifier.
- 16-bit arbitrary Wave form generator output.
- 100 points in 10 micro seconds for characterizing thin samples.
- 32000 data points from 16 milliseconds to 30 seconds for measurement of large area bulk piezo ceramic materials.
- Pulse width measurements should be as narrow as 0.5 micro second and up to 1 second or better.
- The minimum required leakage current resolution is 1pA for measuring DC leakage.
- The system should measure 200 fC of charge in a single, 1 second pass.
- Software Controlled output ramp for maximum accuracy.
- Should have 2-4 proper communication channels such as GPIB, RS232, I2C, USB, for controlling high voltage amplifiers and other with accessories.
- The system should have 2 external high-impedance voltage inputs for interfacing with external displacement, temperature sensors.
- The system should have attachment / provision for piezoelectric displacement / strain measurement for bulk ceramic samples.

Polarization Measurement:

- 18-bit resolution with a 2 MHz single pass capture rate and can execute a 10 MHz capture rate using interlace technique.
- 18 bit analog to digital converters 76 μ V sensitivity on 10 pF sense.
- 0.5 μ s capture rate with 100ns interlace facility
- Polarization, output voltage, and sensor inputs captured simultaneously with no more than 10ns skew between channels.
- Minimum charge sensitivity: 1.0 fC or better

- Maximum charge measurement: 5.0 mC or higher. Should capture the charge generated by a 500 micro farad capacitor.
- Minimum area resolution: 0.1 m² or better
- Maximum area resolution: 50 cm² or higher
- Maximum hysteresis loop frequency: 250 KHz @+/-10V Built-in
- Minimum hysteresis loop frequency - 1/30th Hz (30 second period)
- Hysteresis Waveforms should be Sine/Tri/Double/Mono/Arb/Pulse/Zero/Custom type.

Instrument must have minimum 01year standard warranty. Special extended warranty of another 02 years may be included in the offer.

Software:

- The software operating the tester must be programmable and capable of executing all measurement types such as piezoelectric displacement, strain, polarization measurements (hysteresis loop, remnant polarization, saturation polarization), small signal CV, IV, fatigue, and voltage break down from one hardware configuration.
- Software should allow user to create any custom test profile, execute that profile, store the results in a permanent but unalterable database assigned to the experiment, and recall that data at any time in the future to plot or export it as commanded by the user.
- Captured data must be automatically stored and easily transferred to other testers using network protocols.
- The tester software must be adaptable to future changes in the host computer / laptop operating system.

Sample Holder:

- System should work with a dedicated sample holder. The sample holder should accommodate samples of diameter: 10-20 mm, thickness: 0.1-2.0 mm.
- The sample holder should provide a safe operating environment for testing of bulk piezo ceramics at high voltages (10 kV) and high temperatures (230 deg C). The entire voltage system and sample holder should be completely enclosed for safe operation at high voltage.
- The system should provide a completely insulated high voltage path from the high voltage amplifier to the test sample and back. Protection should be there for the tester, the sample and the high voltage amplifier in case of a sample short / break down.

Supported computer:

Branded desktop PC (DELL/Compaq/IBM, HP/equivalent) with following configurations: Intel generation core processor (core i3 or above), 4 GB RAM , 500 GB hard disk, original Intel motherboard, Optical mouse with pad and keyboard,, 21" LED monitor, Microsoft Windows 8 or above operating system. B/W laser printer.

UPS: Suitable capacity UPS to protect the instrument during power failure (from local Bidder).

- Training should offer to 02 scientists for 03 days at site after successful installation.
- **Pre-installation requirement-** Complete technical details of pre-installation requirements should be furnished.

P.T.O

(2) Freeze Dryer

Detailed specifications of Freeze Dryer:

- Pre-freezing and drying should be at the same place.
- The machine should have cascade refrigeration technology
- Silicon oil should be there in the intermediate medium in the shelves for heating to ensure drying material uniformity.
- The shelf temperature should be adjustable and easy to control.
- The square shelf should be easy to operate and clean.
- Minimum 7 inch LCD display and touch screen control system should be provided and it should adopt PID intelligent control system.
- With historical data inquiry function, the machine should store history data for one month.
- The machine should be equipped with USB interface on control panel. It should be able to copy the data and history data directly without additional software.
- Ice condenser and operation panel should be made of stainless steel, corrosion-resistant and easy to clean.
- The cabinet door should be made of transparent colorless organic glass and the test process should be easily observed.

Technical Parameters:

- Type: Standard chamber with 8 port manifolds
- Cold Trap Temperature: $\leq -80^{\circ}\text{C}$
- Cold Trap Capacity: minimum 9 L
- Vacuum Degree: <10 Pa
- Water Capture Capacity: 4 Kg/24h
- Freeze Drying Time: 24h
- Refrigerant: R600a+R290+R23
- Cooling System: Air cooling
- Power Supply: 220V/50Hz, (single phase)

Standard Accessory

- Vacuum pump: Rotary vacuum pump
- Flasks 500 ml x 8
- **Pre-installation requirement-** Complete technical details of pre-installation requirements should be furnished.

P.T.O

(3) FTIR with ATR (Fully Computer Controlled)

- Spectral range should be 6000- 500 cm^{-1} or better with Spectral resolution: 1 cm^{-1} or better freely adjustable
- Wave number accuracy: $<0.05 \text{ cm}^{-1}$ @ 2,000 cm^{-1} or better
- Signal to noise ratio should be better than 45,000:1 for 1-minute peak to peak or higher
- Detector should be room temperature DTGS/DLATGS or better
- Optical design should have gold coated mirrors permanently aligned interferometer and optics with capability to withstand high humidity preferably having humid resistant beam splitter and windows confirming not requiring the unit to be kept electrically ON always and not requiring any special environmental condition for operation.
- Accessory recognition should have continuous monitoring of spectrophotometer components like source, laser, detector, interferometer, sampling modules must be automatically identified and spectral test routines must automatically start to verify accessory performance
- Long life IR Source with continuously optimized light flux having minimum 05 years warranty.
- Accessory: Transmission Unit and Universal Diamond ATR with Pure Diamond Crystal, for direct analysis of solid, liquid, paste, powder and gel samples without sample preparation having minimum 05 years warranty.
- Software specifications: Software for data measurement, manipulation and evaluation with a step by step assistance. Should include a starter library and also include possibility to create user own libraries.
- Instrument must have minimum 01year standard warranty. Special minimum 05 years warranty for Laser, Interferometer should be included in the offer.
- System should not require inert gas purging.
- Sample preparation Accessories to be supplied: All necessary sample preparation accessories are to be supplied from local source for Transmission unit such as 15 Ton Hydraulic Press, High grade Granite Agate Mortar Pestle (8inch dia), KBr Die set, IR grade KBr Powder etc.
- All necessary installation pre-requisites are to be offered under separate head to make the system functional.
- The equipment has to be provided with a Branded computer system (i3 or better processor) of standard configuration with licensed version Operating Software along with Branded B/W laser printer and suitable online UPS with 20 minutes back-up to run the instrument and computer.
- Online UPS for (at least 30 min) power backup.
- Training should offer to 02 scientists for 03 days at site after successful installation.

Pre-installation requirement-

Complete technical details of pre-installation requirements should be furnished.

P.T.O

(4) **Specification for Double Beam UV-Visible Spectrophotometer with Integrated Sphere Accessories**

Detailed Specifications of the instrument

- Double-beam optical system
 - Variable spectral band width from 0.1 to 5 nm
 - Scan speed from 1.5 to 2400 nm/min with multiple steps
 - Changeable Scan speed for the ultra-violet region for reducing noise level
 - Facility for trace sample measurement for measuring nucleic acid with a high S/N ratio
 - Original differential feedback system
 - Adjustment-free deuterium lamp and tungsten iodine lamp
 - Option for wide range of accessories for liquid and as well as solid sample analysis
 - Standard cell holder for Quartz / Glass cell of 10 mm path length of volume 3.5 ml, 2.5 ml, 1 ml, 350 μ l
 - Wavelength range of 190 to 900nm
 - Wavelength accuracy of ± 0.1 nm (at 656.1 nm after wavelength calibration)
 - Wavelength setting reproducibility of ± 0.05 nm
 - High resolution response
 - Variable wavelength scan speed from at least 10 to 2400 nm/min
 - Light source should be adjustment free deuterium lamp D2 Lamp for Ultraviolet region and adjustment free tungsten iodine lamp, 50 W for visible region.
 - Automatic Light source changeover from UV region to visible region
 - Photomultiplier Detector
 - PC (with standard software) for data processing unit with all connection cable
 - Integrated Sphere accessories for solid /powder sample
 - Glass filter holder
 - Film holder
 - Water circulated cell holder
 - Instrument must have minimum 01year standard warranty. Special extended warranty of another 02 years may be included in the offer.
 - Online UPS for (at least 30 min) power backup.
-
- Training should offer to 02 scientists for 03 days at site after successful installation.
 - **Pre-installation requirement-** Complete technical details of pre-installation requirements should be furnished.

**INFORMATION BOOKLET
ON
QUOTATION CALL NOTICE**

WORLD BANK FUNDED (OHEPEE)

**CENTRE OF EXCELLENCE - NATURAL PRODUCTS AND
THERAPEUTICS (NPT)**

(Ref: 266/Store, Dated: 22.01.19)



**SAMBALPUR UNIVERSITY
JYOTI VIHAR, BURLA-768 019, ODISHA**

Ref. No. /Store

Dated:

QUOTATION CALL NOTICE

Sealed quotations in duplicate are invited from the interested Manufacturers/Authorized dealers/Registered firms to supply the following items for the World Bank funded COE-Natural Products & Therapeutics (NPT) to the Sambalpur University on 'FOR' destination basis. The last date of submission of quotation is 25.02.2019. Valid copy of PAN/GST Number and a **bank draft of 2% of the quoted price as EMD**, drawn in favor of **COF SU OHEPEE** of any nationalized bank, payable at **State Bank of India, Jyoti Vihar Branch, Burla, code No.6672**. The EMD should be enclosed along with the quotation; otherwise the quotations will be rejected. The Registrar reserves all rights to reject or accept any or all quotations without assigning any reason thereof.

Terms & conditions:

1. The quotation shall be submitted with technical specifications and quoted price in a sealed covers. On the top of the envelope please mention "**OHEPEE-COE(NPT)-Instrument Name**", for which the quotation is being submitted in bold.
2. The sealed quotations will be received up to 4.00 P.M. on all working days upto 25.02.2019 by speed post / registered post only at the Nodal Centre of COE, P.G. Department of Biotechnology & Bioinformatics, Sambalpur University, Jyoti Vihar – 768 019, Sambalpur, Odisha.
3. The suppliers must be either the manufacturer of the instruments/equipment or the authorized agent/representative of the manufacturer. In the case of agent/representative, certified valid copy of the agency/authorization issued by the manufacturer should be enclosed with the quotation.
4. In the event of any item being available on Rate Contract, the quotation for that item shall not exceed the Rate Contract approved by DGS & D (GoI). The existence, price and terms and conditions of all Rate Contract items shall be disclosed by the tenderers.
5. The quotation should include apart from the price of the instruments/equipment –
 - a) Warranty period details (extended warranty period separately).
 - b) The cost of recommended essential spares.
 - c) List and cost of consumables/standards etc., required from time to time with all necessary details.
 - d) AMC after warranty period (to be shown separately).
6. **The rates/price should be quoted in the currency of the country where the instruments/equipment is manufactured and equivalent Indian currency.**
7. Delivery of the instruments shall be at P.G. Department of Biotechnology & Bioinformatics, Sambalpur University, Jyoti Vihar-768 019 unless otherwise specified. **The price shall be inclusive of all taxes, transportation cost and cost of installation/commissioning, trial operation, comprehensive training and clearance charges.** Necessary documents for clearing the consignment through customs authorities will be provided by us and the supplier or agents of manufacturer arrange the clearance of the consignment on payment basis. **Sambalpur University is granted with DSIR certificate for customs and central excise duty exemption.**

8. The successful tenderer should supply the instruments/equipment within a period of 4-6 weeks from the issuing date of purchase order.
9. The EMD of the successful tenderer will be refunded after completion of the supply and installation of the equipment to the satisfaction of the Nodal Officer, COE (NPT).
10. Documents such as instrument operation, calibration, maintenance, drawing, descriptive literature etc., if any, along with original instruction and data analysis manual should be supplied by the successful tenderer along with the equipment.
11. Instruments/equipment should be unpacked in the presence of the Nodal Officer, COE(NPT), in the P.G. Department of Biotechnology & Bioinformatics, Sambalpur University. The consignment will be accepted only after inspection.
12. **A warranty certificate covering a period of minimum one year** from the date of supply and installation shall be provided. Any additional period towards warranty will be given weightage in evaluation of the quotations.
13. Inspection certificates of the instruments / equipment inspected by the qualified engineer of the manufacturer and packed in accordance with the terms and conditions of this order must be enclosed.
14. During the warranty period or later whenever the firm is called upon to attend to the rectification of the defects/faults in the consignments, the firm shall attend to the repair work within 48-96 hours. They should render timely back up service whenever called upon. **A certificate to the effect should be attached to the tender.**
15. **A certificate to the effect that instruments/equipment supplied is fully operational and no additional accessory or spare is required to make the instruments/equipment run should be issued along with the delivery challans/invoice.** The Nodal Officer, COE(NPT), Sambalpur University reserves the right to refuse payment in the event of not furnishing this certificate at the time of supply.
16. The Registrar, Sambalpur University reserves all the right to accept/reject any tender without assigning any reason thereof.
17. **Once the rate is approved by purchase committee, supply order is placed on the successful tenderer for supply of the equipment/instrument.** The decision of the Purchase Committee shall be final and binding.
18. All disputes subject to Court of Law in the jurisdiction of Sambalpur.

List of equipments to be procured based on availability of funds

1	Automated Flash Purification system
2	High Speed Floor model Cold Centrifuge with Variable Rotors
3	Electrophoresis system (Horizontal)
4	Ultra Cooling Freezer (-80°C), Vertical Type
5	Ultra Cooling Freezer (-20 °C), Vertical Type
6	Ultra Cooling Freezer (-150 °C)
7	Refrigerator (4 °C), Vertical Type
8	Biosafety cabinet- Class II Type A2
9	CO ₂ Incubator
10	Fume Hood
11	Air Sterilizer
12	De-humidifier
13	Online UPS (10 KVA)
14	Upright Microscope for Brightfield, DIC, Fluorescence with dedicated Camera & Software
15	Inverted led microscope for brightfield, epi-fluorescence & phase contrast with image analyser
16	Stereozoom Microscope
17	Muse Cell Analyzer System
18	Scepter Handheld Cell Counter
19	Behaviour tracking system for small animal
20	Spin Microcentrifuge
21	Analytical Balance (weighing up to 0.1 mg)
22	Ice Flaking Machine
23	Microplate Reader (visible range)
24	Single Channel Micropipette set (Volume range: 0.1–2.5µl, 2–20µl, 20–200µl, 100–1000µl)
25	Multi-channel Micropipette (2-20 µl)
26	pH meter
27	Vortex mixture
28	Magnetic Stirrer & Hot Plate
29	Computer Server with High Processing Capacity
30	Air Condition
31	Western Blot Apparatus (complete set)
32	Nanodrop Spectrophotometer & Quartz Cuvettes
33	Upgradation of Microwave Digestion & Extraction System
B.	ANNUAL RATE CONTRACT FOR supply of Chemicals, Glasswares and Labwares
C.	Laboratory Furniture and Fixture

A. General specifications of the equipments

Automated Flash Purification system

- The system should have a flow range of solvent 1- 60 ml/min or above.
- The system should have pump pressure 10 bars/145 psi or above.
- The system should have binary/quaternary gradient pump, with four solvent lines.
- The system software should have simple and easy change of method parameters, automatic method set-up, real time monitoring, etc.
- The system should have a UV-visible Detector of wavelength range of 200-800 nm or better
- Normal phase and reverse phase solvent compatibility.
- Automated and/or user control of fraction collection based on peak or threshold.
- The system should have the facility to load both liquid and solid samples.
- The system should have integrated column holder to hold the flash columns.
- The system should have fraction collector with racks with minimum to have 100 test tubes or above with automatic system of fraction collector to prevent carry-over.
- The system should have safety features like rack sensors to automatic stop of flow / system if Rack is not in exact position or not in the fraction collector
- The Consumables like flash columns such as (a) silica column and (b) C-18 column of the below size and numbers had to be supplied along with the instrument.
 - Pre packed Silica column 35-40 gm or equivalent - 20 no's
 - Pre packed Silica Column 100-120 gm or equivalent - 5 no's
 - Reverse phase C18 column 12-14 gm or equivalent -- 2 no's
 - Reverse phase C18 column 30-35 gm or equivalent -- 2 no's
 - Reverse phase C18 column 100-120 gm or equivalent --2 no's
 - Empty Sample Loader for Liquid & Solids in 3 different sizes (5 gm, 25 gm & 75-100 gm) – 10 nos. each
- Polypropylene (Plastic) self packing refillable Flash column of below sizes should be supplied along with the system.
 - 12-14gm or equivalent ----- 10 no's
 - 35-40gm or equivalent ----- 10 no's
 - 120gm or equivalent ----- 10 no's
- System should have Flexibility to use any make Flash columns available in the market and necessary adapters or holders should be provided.
- Warranty: At least one year
- Any additional features needs to be offered as optional

(2) High Speed Floor model Cold Centrifuge with Variable Rotors

- High Capacity multipurpose centrifuge of Max. speed up to 14,000 to 20,000 rpm.
- Programmable microprocessor-controlled
- Fixed angle rotor: 8x100ml tubes or equivalent and swing out rotor: 4x250ml bottle or equivalent needs to offer
- System should have brushless motor with friction reduction feature
- Temperature range: -9 °C to 40 °C or better
- Non CFC free refrigeration
- Build-in condensation drain to eliminate water accumulation which prevents corrosion.
- Noise level: minimum
- Centrifuge timer should start after the set RPM reached
- Short spin key with selectable rotational speed
- Material of rotor should be metal (not plastic)

- Warranty: Atleast 1 year
- The system should have the provision of variable rotors of different capacity with holder to fit different volume of centrifuge tubes as per the requirement.

(3) Electrophoresis system (Horizontal)

- Should have 7x7 cm tray or 7x10 cm tray
- Gel caster should be included
- System must include buffer chamber, UV transparent tray, safety lid with cable.
- Should come with two 1.5 mm thick fixed height combs (8 and 15 well)

Power supply:

- Max output: 300V, 400mA, 80 watts
- Display: LED
- Safety Features

(4) Ultra Cooling Freezer (-80 °C), Vertical Type :

- Capacity: 400 lt. to 450 lt. internal volume
- Insulation: Polyurethane foam, or any better insulation
- Exterior: Powder coated Steel, scratch and rust resistant
- Interior: polished 304L stainless steel
- Heated Air Vent to prevent vacuum formation
- Casters & Feet: Heavy-duty lockable casters with adjustable leveling feet.
- Temp Range: Programmable temp from -50°C to -80°C, in 1°C increments, at ambient temperature up to 32°C
- Display: Large, bright, digital LED characters.
- System should have microprocessor temperature control
- Battery Back-up: to activate alarms and to display temperature during power outages.
- Cascade Refrigeration: Hermetically-sealed two-stage cascade system compressor with capacity to cope in high-ambient conditions
- Refrigerants: CFC-free
- Compartments and Shelving: Four to Five compartments with three to four adjustable-height, stainless-steel shelves. Four to Five inner doors.
- Built in Diagnostic Software to provide fault codes to trace and solve system errors
- Audible & Visual Alarms: High/low temperature, power failure alarm, battery low, LED lamp for remote control operation
- Complete CO₂ back up system with 30 kg CO₂ cylinder as optional
- Warranty: At least 1 Year
- Certificate : System should have CE and ISO certification

(5) Ultra Cooling Freezer (-20 °C), Vertical Type

- Double wall. Exterior made of sheet steel with powder coated. Inner made of non corrosive material.
- Microprocessor based temp. control with LED display with alarm system.
- Temp. range : -17° C to -24° C
- Capacity : 340 litres or more
- No. of Shelves : 5 or more
- Upper half should be drawer and lower half shelves
- Hermetically sealed Noise less compressor CFC free coolant
- Lockable door, uniform cooling inside the cooling chamber
- Alarm: High/low temperature alarm, sensor error alarm
- Air tight door gasket
- Solid single door

- Faster temp. recovery after door opening and maintains stable temp. throughout.
- Automatic restart after power failure
- Pure copper tubing comes with the machine
- To be supplied with suitable Voltage Stabilizer
- System should have CE and ISO certification
- Warranty at least one year

(6) Ultra Cooling Freezer (-150 °C)

- Temp. range: -126°C to -150°C
- Alarm system: User programmable high and low temperature alarm set points, power failure, sensor error, etc.
- Alarm types: audible buzzer and visible flashing
- Microprocessor control: allows an adjustable range of -126°C to -150°C
- Environmentally safe refrigerants
- Permanently lubricated fan systems
- Large LED display for easy viewing
- Remote monitoring
- System should have low power consumption feature
- Capacity : 110 Liters or more
- Cooling Type: Direct
- Defrost : Manual
- Certificate: System should have CE and ISO certification
- Warranty at least one year

(7) Refrigerator (4 °C)

- Temp. range : 1°C to 8°C,
- Capacity: 400 liters approx.
- No of wheels: 2 (Rear)
- No. of Shelves : 5
- Single glass door with locking system,
- Frost free to be Supplied with stabilizer
- Air tight door gasket
- Controller : Microprocessor type
- Display : LED

(8) Biosafety cabinet- Class II Type A2

- Digital display real time monitor with motorized door
- Outer body galvanized iron sheet with epoxy powder coating.
- Inner made of stainless steel with round joint less corner
- Table top: Made of stainless steel, approx. 1.5mm thickness
- Front door: Frame less auto sliding glass door of toughened glass 5 or 6mm. thickness
- Wheels and leveling legs: Should be PU solid wheels with plated brackets and metallic powder coated leveling legs.
- Design classification: Class II Type A2 complaint and approximately 30% of the air volume exhausted as sterile air back into the environment & approximately 70% of the air is recirculated inside the work area.
- Cleanless class: ISO Standard
- Supply HEPA filter 0.3 μm with efficiency ≥99.9995%.
- Exhaust HEPA filter 0.3 μm with efficiency ≥99.9995%.
- Motor blower assembly: variable speed motor mounted on PU coated FRP blowers.

- System should have audible and visible alarms for window height limit, filter blocked, inflow and down flow velocity etc
- Average down flow velocity: 65-80 FPM at 4" from work table or better
- Average in flow velocity: 100-110 FPM at work access opening
- Fluorescent light: 30 to 36 watts, 3 nos.
- UV Light: 30 watt 3 nos
- Size : 4' x 2' x 2'
- Work Area Dimension : 1180 x 650 x 660 mm
- External dimension : 1355 x 990 x 2115 mm (l x w x h)
- Warranty at least one year

(9) CO₂ Incubator

- Should have 150 liter or more of internal capacity.
- Temperature management: 4 °C above ambient to 50 °C with increment of 0.1 °C
- Temperature accuracy: ± 0.4 °C at 37 °C
- Temperature stability: ± 0.1 °C at 37 °C
- Temperature uniformity: ± 0.3 °C at 37 °C
- CO₂ gas range: 0.1 – 20% with control increment of 0.1%,
- CO₂ gas accuracy: ± 0.3% at the specified Relative Humidity at 37 °C and ambient 22 °C
- CO₂ gas stability: ± 0.1% at 37 °C and ambient 22 °C
- CO₂ gas uniformity: ± 0.1% at 37 °C and ambient 22 °C across the chamber
- CO₂ recovery rate: atleast ≤ 6 min after door closing to attain 5% CO₂.
- Temperature Recovery: Door open 30s, recovery to 37 °C ≤ 8min
- Six-sided direct heating elements to ensure even distribution of heat throughout the entire incubator chamber.
- Removable humidity tray for easy cleaning and refilling of distilled water.
- The CO₂ IR sensor should have a long-life.
- Shelves: standard 3 perforated stainless-steel shelves
- Display: LCD/ LED display for control of temperature and alarms
- Inline pressure regulator to ensure less gas consumption and prevent overshooting of pressure which shortens life span of incubator.
- Should have optional incubator software command which allows tracking key operational information such as time, temperature, CO₂ concentration and humidity.
- 3 KVA Servo Stabilizer, CO₂ gas cylinder with 30kg CO₂ gas capacity & CO₂ gas regulator must be supplied
- Warranty at least one year
- System should have CE and ISO certification.

(10) Fume Hood

- Must be fabricated out of thick wooden board. Designed so as to throw-out all toxic/harmful vapors & fumes.
- Outer is finished with sunmica and inner epoxy painted.
- Working table top should be acid/alkali resistant.
- A small wash basin with connections to be provided for inlet and outlet of water.
- The front door moves vertically up and down with concealed counter balanced weights.
- The unit should be fitted with fluorescent light and a gas cock for gas/air supply.
- The front facing panel is fitted with 15/5 Amp socket with switches for exhaust system and fluorescent light.
- It works on 220/230 volts A.C. supply.

- Working chamber size: 4'x2'x2', High CFM exhaust System

(11) Air Sterilizer

- Material of construction: Epoxy antimicrobial coated
- External dimensions: 676L x 510B x 900H MM
- Rated flow in CFM:1000
- Design & Classification: Both side loading pre filters /back loading HEPA filters
- Cleanliness Class: ISO Standard, class 5
- Noise Level: minimum
- Stages of filtration:
 - Pre-Filters = 10μ with an efficiency of 90%
 - Mini pleat HEPA Filter = 0.3μ with an efficiency of 99.995%
- Power Supply & Service: Single phase 230V, 50Hz power supply

(12) De-humidifier

- Coverage area: more than 360 sq.ft. (two ton)
- Water storage capacity: Greater than 5 liters.
- Should extract up to 35 lts/day or more
- Setting of the humidity level should be controllable.
- Compressor should be rotary
- Ambient temperature: 15-30 °C
- Noise level: Less than 60 dB
- Should be portable
- Power supply: 220/240 V
- Working of Environment Controller (De-humidifier Dimensions Horizontal Model overall Size: 30”H x 18”W x 18”D Vertical Model overall Size: 42”H x 22”W x 24”D.
- Dehumidifier System: Hermetically sealed compressor, evaporation coil and fan cooled Condenser.
- Humidity Range: 40%RH to 60%RH

(13) Online UPS (10 KVA)

10KVA online UPS system with (3PH-3PH) inbuilt isolation and battery backup of 60 minutes with rack.

**Technical Parameters
Technology**

Specifications

Double conversion based on IGBT Technology with galvanized input and output Isolation.

Input

Voltage Range	360-470V AC (3 phase)
Frequency Range	46 to 54 Hz
Phase	Three phase
Power Factor	0.992 unity
Input THD	< 5%

Output

Voltage	230V AC
Voltage Regulation	±1%
Frequency (Synchronized range)	46 to 54 Hz
Harmonic (Distortion THD)	< 3% (linear load) 5% (non-linear load)
Output wave form	Pure sine wave
Crest Factor	3:1
Efficiency (AC-AC)	> 90%

Power Factor	0.9
Overload capacity	125% for 1 minute 150% for 10 seconds
Charger	Built-in solid state float-cum-boost charger with automatics boost/trickle charge modes with current limiting features.
Transfer Time	0 ms
General	
Operating Temperature	10 to 45 ⁰ C for UPS system
Relative Humidity	10 to 95% RH, Non-condensing
Noise Level	minimum

(14) Upright Microscope for Brightfield, DIC, Fluorescence with dedicated Camera & Software

Magnification	40x-1000x for observation
Optical system	infinity corrected optical system. Special lens for in-built uniform illumination upto periphery in imaging.
Eyepiece tube	siedentopf design three-way trinocular tube, should be inclined at 25 ^o angle with fov. 25mm. Should be anti-fungus type. Light path should be 100:0, 0:100, 20:80.
Eyepiece lens	10x (2pcs) with both side diopter adjustment f.o.v. 22mm or better).
Objective	4x 10x ph n.a.0.25 40x, spring-loaded n.a.0.75 60x, spring-loaded n.a.0.85 100x, spring-loaded n.a.1.3
Nose piece	sextuple dic nosepiece
Coarse / fine focusing	coarse & fine focusing along with torque adjustment
Condenser	turret type dic condenser
Illumination	12v-100w halogen (five additional bulbs to be quoted)
Control	image should be captured directly from microscope button also apart from software & image should be stored directly in pre-defined folder in computer.
Dic	Dic observation in 40x, 100x
Fluorescence	130w fluorescence with 2000 hrs. Lamp-life, with band-pass filters for dapi (ex361-389, dm415, em430-490); fitc(ex465-495, dm505, em512 558); tritc(ex537-552, dm565, em582-637). One additional mercury bulb to be quoted
Digital camera	original 16mp (without interpolation) or more color cmos/ccd camera with 6-45f/p/s speed, usb3.0 based; sensitivity: iso200-iso12800; pixel size >7 micron; chip size 36.0x23mm, exposure time:100µsec-120sec or more.
SOFTWARE	Acquisition, Documentation, Auto-Measurement, Annotation, AVI Live-stream (Video Recording) capture, Time-lapse imaging, Calibration, Intensity profiling & Histogram exportable to excel shit, Count, length, area, angle, circle and ellipse & camera control, Channel Merging etc. Module for focused image of uneven samples.

Note: Microscope, camera & software should be from same manufacturer.

(15) Inverted led microscope for brightfield, epi-fluorescence & phase contrast with image analyser

Microscopy body on/off switch should be in front of the body with **100:0/0:100** camera port with 0.7x relay lens should be placed at side of microscope body for ease of use. System should be upgradable to pseudo three-dimensional observation of thick samples with both glass & plastics holders. Special lens system for uniform illumination in reflected (fluorescence) & transmitted observation.

Magnification	100x-400x for observation.
Optical system	infinity optical system.
Eyepiece tube	binocular tube with 45° inclination angle f.o.v. 22mm
Eyepiece lens	10x (2pcs) with both side diopter adjustment f.o.v. 22mm or better). Interpupillary distance: 50-75mm
Objectives	4x DIC 10x DIC 40x, DIC 40x, Fluorescence 63x, oil spring-loaded, Fluorescence All objectives should be good enough to reduce halo.
Nose piece	must be quintuple nosepiece to accommodate all objectives.
Coarse / fine focusing	fine 0.2mm per rotation; coarse 37mm or more/per rotation. Coarse motion torque should be adjustable.
Stage	mechanical stage & universal holder to accommodate different holders slide etc. Optional: Stage for using labtek chambers
Condenser	high w.d. condenser should be quoted (min.75mm)
Illumination	white led illuminator with lamp-life of at least 60,000 hrs
Fluorescence	in-built led fluorescence for dapi (ex361-389, dm415, ba430-490); fitc (ex465-495, dm505, ba512-558); tritc (ex510-560, dm575, ba580 & above). Facility for memorizing illumination intensity for same wave length & noise terminator mechanism should be in-built
Image analyser	usb 3.0 based 3.0mp or more ccd/cmos camera with at least 65% q.e. for better fluorescence imaging, full frame speed of at least 15fps, exposure time: 110µsec-25sec or better, analog gain should be more than 60db, variable exposure control should be available. With software for live imaging, measurement, video capturing, image editing etc. There should also be option for fluorescence channel merging & time-lapse imaging.

Microscope, camera & software should be from same manufacturer for best compatibility & upgradability.

(16) Stereozoom Microscope

Optics	Parallel optical system
Total Magnification	3.15X - 480X (depending upon Auxillary objective and Eyepiece)
Eyepiece Tube	Standard Trinocular (Fixed Type)
Eyepiece inclination	20° or more
Interpupillary distance	52-75mm
Eyepiece adjustment	10X (FOV 22mm) with both side Diopter
Zoom range	0.63X - 8X
Zoom ratio	6.7:1 OR MORE
Zoom steps	0.63, 1, 2, 3, 4, 6, 8
Objective	1X

Working distance	70mm or more
Illumination	LED for Transmitted and bifurcated reflected illumination
Microscope stand	Special contrast system for colorless & transparent samples to be observed in high relief. Should have coarse & fine focusing facility.
Digital camera	USB 3.0 based 5 MP or more ccd/cmos camera with at least 65% q.e. for better fluorescence imaging, full frame speed of at least 15fps, exposure time: 110µsec-25sec or better, analog gain should be more than 60db, at least 3 types of exposure control should be available. With software for live imaging, measurement, video capturing, image editing etc. Option for fluorescence channel merging & time-lapse imaging.

Microscope, camera & software should be from same manufacturer for best compatibility & upgradability.

Warranty at least one year

(17) Muse Cell Analyzer System

- Excitation source should be a Green Laser (532nm)
- Emission ranges from Yellow: 28nm bandwidth at 576nm; Red: 30nm bandwidth at 680nm
- Running time should be Less than 2 minutes per sample
- Cell concentrations required should be of 10,000–500,000 cells/mL with final concentration of 1×10^4 to 5×10^5 particles/mL
- Sample volume required should be 200 µl or less.
- Sample loading via capillary Flow cell using positive displacement pump
- Sample flow rate: 7 µL/min to 36 µL/min
- Able to do different assays such as cell counting, viability and antibody based detection.

Software and handling

- The unit should be integrated with computer and software for quick setup and handling
- Preferably with touch screen control for easy handling
- Binary data storage in Flow Cytometry Standard (FCS) 3.0, CSV and PDF formats

Warranty & Maintenance

- Integrated cleaning & waste bottles for easy handling
- Minimal waste generation of < 40 mL or less
- Dead volume should not be more than 50 µL
- Atleast 1year warranty

(18) Scepter Handheld Cell Counter

- It should be convenient & handheld device.
- It should be based on Coulter Counter principle.
- Cell Concentration: 10,000-1,500,000 cells/mL
- Cell Size: 3-36 µm
- Sample Volume Required: ≥ 120 µL
- It should be CE certified.

(19) Neurobehavioral Testing System for small animal

The system should have the following features:

- Video Camera based activity monitoring system for small animal for the assessment of memory, anxiety, depression and other type of behaviour of the animal.
- The behaviour tracking system can able to work with sixteen cameras and thirty-two apparatus simultaneously i.e analogue, digital, fire wire, USB CMOS and webcam camera.

- The system should consist of video-tracking software, USB CMOS camera with lens, USB cable of 15ft and can track any animal in any mazes with experimental protocol editing facility.
- The behaviour tracking software protocol should have the following options for selection like video source, apparatus, zones, ports, sequences, keys, switches, test settings & options, fields, stages, events & actions, calculations, analysis and result, report & data.
- The software should have the facility to create password protected individual id to comply with GLP and the save data should also be password protected.
- Should generate report in graph, text, excel spread sheet, track and occupancy plotting (heat map) for centre, head and bodyseparately with immobility and freezing episode count.
- The tracking software should run at least ten years without any updating charges after the activation of the software license key.
- Software should have the ability to track the animal's head, centre and tail and can also covered the animal with colour with animal movement orientation during animal behaviour tracking
- It should have the facility for sequence setting to detect specific transitions of the animal with in the apparatus and also have the facility to identify specific location in the apparatus.
- System should automatically score over hundred different parameters like total distance absolute turn angle, total distance travelled by animal's head, animal body clock wise and anti-clockwise rotation, visited zone list, , no of rearing episode, grooming of the animal and Overall: distance, speed, direction, Zones: Latency to enter, time in, distance from. Mobility: Latencies, time mobile, mobile bouts, Sequences: Rotations, visit to zone in an order. Behaviours: Counts, durations, frequencies.
- Rota-rod apparatus for rat and mice should also come having the facility for at least four running drums for showing angular speed, running time of each animal and the time at which animal falls
- Animal fall should be detected through infrared beam sensor attached perpendicular to the rotating rod when the animal is out of rod assembly with facility to communicate with PC.
- It should also be able to detect the animal if it is not rotating but holding on to the rod with grooving facility in the rotating rod for providing better grip to the animal.
- Acceleration speed should be from 0.1 RPM/sec to 20 RPM/sec & increments should be there.
- System should provide angular speed from 0-99.9 RPM with separate spindle for rat and mice.
- It should come with software to score the cumulative running from the rats and mice.
- The software should have facility to record the passive rotation time, running duration, speed at the time of fall and distance travelled with facility for selfcheck and diagnostic for GLP validation
- One software should be able to attach multiple system with standalone run without software Grip Strength Meter for rat and mice should come with the system for assessing neuromuscular function by sensing the peak amount of force an animal applies in grasping specially designed pull bar assemblies.

- It should be able to measure forces of both the limbs simultaneously without changing the mesh assemblies and easy for manual handling.
- It should have software compatible for recording force(s) individually or simultaneously.
- It should give force in different units i.e.pounds, kilograms, or newtons with all values should be accurate to within $\pm 0.25\%$ of full scale capacity.
- System should come with computerized sensor with standard pull bar, mesh for fore and hind limb pull bar assemblies and force sensor for rat/mice.
- Base plate dimension should be 79 cm X 28 cm X 33 cm and Size of the fore & hind limb pull bar assembly should be 76 mm X 50 mm & 127 mm X 127 mm

(20) Spin Microcentrifuge

- Compact centrifuge of Max speed upto 12000 rpm or more
- Digital display for easy setting
- Rotor for 12 X 1.5 or 2ml tubes
- Automatic lid opening at the end of the run to prevent sample warming
- Speed can be set in rpm & rcf
- Low sample heating
- Metal rotor bowl

(21) Analytical Balance (weighing up to 0.1 mg)

- Complete with glass wind shield and one touch
- Function key having sliding door opening/closing system.
- Overload Protection: Yes
- Unit conversion facilities.
- Maximum Capacity: 220 gm.
- Readability : 0.1 mg.
- Repeatability : 0.1 mg.
- Linearity : 0.2 mg.
- Response time : 2 sec.
- AC Adapter 230 Volts.
- Tare range full
- Platform dimension : 90 mm.
- Balance dimension : 347x204x345 mm (L X W X H)
- Diagnostics: Easy running of balance diagnostics test e.g. key pad test & repeatability test
Other inbuilt application: Piece counting Percentage weighing, Dynamic weighing, Statistics weighing, Totaling, free factors, recall, High performance mono block weighing cell for fast and accurate result.

(22) Ice Flaking Machine

- Type of ice: Flakes.
- Ice making and crushing done simultaneously and collected for ready use.
- Consists of double walled and PUF insulation.
- The interior and outer body is made of corrosion resistance stainless steel.
- Adjustable legs to keep the machine in level.
- Production capacity up to 20 kg of flake ice production per day
- Electronically controlled operation, with self diagnostic functions with external alarm lights.
- Providing operational information for early alert and fast diagnosis of operating issues
- Ergonomically convenient, slanting & disappearing storage bin door
- Front Access for easier maintenance

- Front-in, front-out airflow allows for built-in installations
- CFC Free R-134a Refrigerant
- 90 mm (3 1/2") or equivalent legs included: 230 V/50 Hz/ single ph.
- Alarms: Water low, sensor failure, water interruption, Bin full alarms. Over cooling Protection, air cooled refrigeration/ condenser system with internal protection against overvoltage
- Warranty: At least one year
- System should have ISO and CE certification

(23) Microplate Reader (visible range)

- On board software, featuring an intuitive user interface, preset or customized end point and kinetic analysis protocols, powerful curve fittings routines and statistical analysis.
- Ability to read flat U, V bottom and micro-plate 80 x12 channel strips.
- Automatic calibration before each reading.
- Single and dual wave length detection.
- Motorized door for plate loading & retrieval.
- Integral thermal printer
- Built in variable speed plate shaking capability, Spectral range: 400 – 750 nm, Photometric method: Single/dual wave length, Photometric range: 0 – 3.5 OD., Bandwidth: 10 nm, Resolution: 0.001 OD, Measurement range: 0 – 2.5 at 405 nm, Accuracy: $\pm 1\%$, Linearity: $\pm 1\%$, Light source: Tungsten halogen lamp (20W), Warm up time: 3 min. Shaking speed: 3 speeds (low, medium, high), Data storage: Calendar / clock function, 64 assay protocol. Filters:415, 450,490, 595, 655, 750, Reading speed: 6 seconds/96 well plate, Interfaces: Serial Interfaces RS-232 & parallel interface, Shaking: Linear shaking, 3 speeds
- Easy-access 8-position filter wheel with 4 standard filters
- USB2 port for external computer control and suitable PC
- Data and protocol presentation on LCD display
- Self-diagnostic capabilities to detect lamp burnout at startup
- Motorized door for plate loading

(24) Single Channel Micropipette set (Volume range: 0.1–2.5 μ l, 2–20 μ l, 20–200 μ l, 100–1000 μ l)

- Pipette should be extremely light weight, highly resistant to heat, acids & alkalies.
- Spring Loaded Tip Cone: Improved ergonomics, Tight fit to the tip
- Facility should be available to adjust the pipettes for High viscous fluids and high vapor pressure solution.
- Control Button: Very low operating force, Color indicates pipette volume.
- Ejector: Very low operating force, positioned for perfect ergonomics.
- It should be IVD Conformation and CE certified.
- Volume Display: 4 Digits. Magnifying shape.
- Piston System: Ultra light system made up of Fortron.
- Quick Connection Clip: Remove lower part easily.
- Fully Autoclavable
- Pipette Calibration facility should be available accredited by NABL(National Accreditation Board for Testing & Calibration Laboratories)
- Warranty- 3 Years

(25) Multi-channel Micropipette (2-20 μ l)

- 8-channel Pipette should be extremely light weight, highly resistant to heat, acids & alkalies.
- Spring Loaded Tip Cone: Improved ergonomics, Tight fit to the tip
- Facility should be available to adjust the pipettes for High viscous fluids and high vapor pressure solution.

- Control Button: Very low operating force, Color indicates pipette volume.
- Ejector: Very low operating force, positioned for perfect ergonomics.
- It should be IVD Conformation and CE certified.
- Volume Display: 4 Digits. Magnifying shape.
- Piston System: Ultra light system made up of Fortron.
- Quick Connection Clip: Remove lower part easily.
- Space between the channels can be adjusted to position different plate format.
- Fully Autoclavable
- Pipette Calibration facility should be available accredited by NABL(National Accrediation Borad for Testing & Callibration Laboratories)
- Warranty- 3 Years

(26) pH meter

- Range (pH) : -2.00 to 16.00
- Range (mV) : ±2000
- Range (Temperature °C) : -10 to 110
- Resolution (pH) : 0.1/0.01
- Resolution (Temperature) : 0.1
- Resolution (mV) : 0.1/1
- Accuracy (pH) : ±0.01 pH
- Accuracy (Temperature) : ±0.5°C
- Accuracy (mV) : ±0.2 mV or 0.05%, Whichever is greater
- Temperature compensation : Automatic or manual
- Display : LCD
- Calibration : Up to 6 points
- Connections : BNC, Temp 2.5mm
- Buffer recognition : USA, NIST
- Power : 100 to 240 VAC, 50/60 Hz
- Data logging (points) : 100

(27) Vortex mixture

- Continuous or touch-start feature
- Variable speeds up to 3000 rpm for applications from gentle mixing to vigorous vortexing
- Max Speed (rpm) 3000
- Spare cup attachment
- Spare microtube insert
- Spare one hand insert

(28) Magnetic Stirrer & Hot Plate

- Ceramic-coated top plate
- Capacity : 10 ltrs
- Speed range : 100-1200 rpm
- Temp. range : 50°C - 400°C or more
- Dimension of plate : 180mm or more
- Speed Display: digital
- Temp. display : digital
- Power VAC: 240
- Power (Hz): 50

(29) Computer Server with High Processing Capacity

Processor	2 x Intel® Xeon® Gold 6130 Scalable Processor (16C, 2.1GHz,22MB)
RAM	256GB ECC DDR4 2666 MHz RAM (upgradable to 512 GB or more)
Controller	Hard ware RAID controller Supports RAID 0, 1, 5, 6, 10, 50 & 60
HDD(s)	8 x 4TB Enterprise SATA 7.2K RPM 3.5" fixed HDD
Optical Drive	DVD RW
Graphic Card	2 x GeForce GTX 2080 Ti 11GB with GeForce RTX NVLink Bridge
Network	2x RJ45 Gigabit Ethernet LAN ports
Audio	RealTek ALC888 7.1 High Definition Audio without speakers
Power Supply	1200W High Efficiency Power Supply Platinum Level Certified
OS	None
Monitor	24" LED Monitor
Peripherals	USB Keyboard & Optical Mouse
Warranty	3 years Comprehensive Warranty (onsite/parts/labour)

Other Accessories

- 24 port unmanged gigabit ethernet switch – 1
- 8 port unmanaged gigabit ethernet switch -1
- 42 U RACK with 2 cabinet shelves
- 4 port KVM switch (with usb and VGA support) – 1
- Intel quad port GbE PCI-e ethernet network card-1

(30) Air Condition

- Type: Split A.C. (100% copper)
- Capacity: 1.5 ton
- Energy rating: 3 star inverter A.C
- Warranty: atleast 1.0 years

(31) Western Blot Apparatus (complete set)

Vertical gel electrophoresis

- Mini format vertical electrophoresis (4 GEL), No. of gels: 1-4, Case cassette size: Precast 10 x 8.3cm, Glass plate size: Short plate 10.1 x 7.3 cm, Spacer plate: 10.1 x 8.2 cm, Total buffer volume for 4 gels: 1000ml, Typical run time: 35-45 mint. 10 well,1.00mm Thickness; 4-gel system Includes 5 combs, 5 sets of glass plates, 2 Casting stands, 4 casting frames, sample loading guide, electrode assembly, companion running module, tank, Lid with power cables, mini cell buffer dam.

Power Pac Basic

- Power Supply includes power cord instruction, 220/240 V Volts : 10 - 300 V Current : 4 - 400 mA Power : 75 W (Max) Type of Output : Constant Voltage, constant current Output terminals : 4 pair in parallel. Timer : 1 - 999 min Display : 3 digit LED Operating condition : 0-40 deg C, 0- 95% humidity.

Semi dry transblot

- Include module electrode assembly
- Compatible to power pac universal stable power supply

Gel Rocker

- Adjustable RPM
- Microprocessor controlled

(32) Nanodrop Spectrophotometer & Quartz Cuvettes

- Full spectrum micro-volume UV-Vis spectrophotometer with 200nm to 900 nm wavelength measurement range.
- Sample volume 1.0 to 2.0 microliter
- Direct solution measurement without need for consumables such as cuvettes or slides.
- Auto-range pathlength from 0.03mm to 1.0 mm to ensures optimal data quality for every measurement without need for dilution.
- System should allow measurement of samples in two options of 1-2 μ l for all range of concentrations and 0.3 μ l for highly concentrated samples
- Should also provide a Cuvette based performance for Protein colorimetric assays such as Bradford, Lowry, Biuret & BSA, OD 600 measurements, Kinetics and more options such as Wavelength, Wave Scan, Absorbance Ratio, Concentration, Standard Curve & Custom options

Low Volume Performance:

Detection Range dsDNA: 1 – 16,500 ng/ μ l

Detection Range BSA: 0.03 – 478 mg/ml

Photometric Range: 0.02 – 330 A (10mm equivalent)

Path lengths: 0.67 and 0.07 mm

Dilution Factor: 15 and 140

Sample volume for all concentrations: 1-2 μ l (any range)

Sample volume for high concentration: 0.3 μ l

Cuvette Performance:

Detection Range dsDNA: 0.1 ng/ μ l to 130 ng/ μ l

Detection Range BSA: 0.003mg/ml to 3.7mg/ml

Photometric Range: 0 – 2.6 A

Path lengths: 10mm, 5mm, 2mm, 1mm, 0.5mm

Center Height (Z-Height): 8.5 mm

Cell Types: Outside dimension 12.5 X 12.5 mm

Heating: 37°C +/- 0.5°C

Optical Specifications:

Wavelength Scan range: 200 – 900 nm

Measurement time for full scan range: 3.5 to 6 seconds

Wavelength Reproducibility : +/- 0.2nm

Wavelength Accuracy: +/- 0.75 nm

Absorbance Accuracy : < 1.75 % @0.7 A (0.67 mm path) @280 nm of the reading

Absorbance Reproducibility: < 0.002A (0.67mm path) @ 280nm

Zero Stability: +/- 0.003 A/hour after 20 min warm up @ 280nm

Noise: 0.002A rms at 0 A @ 280nm

Lamp: Xenon flash lamp with life time of 10⁹ flashes, up to 10 years

Detector: 1 x 3648 CCD array

(33) Upgradation of Microwave Digestion & Extraction System

- Evaporation and Concentration Unit: The evaporation rotor should includes rotor body, evaporation kit, blind stopper, etc.
- Vessel Set: Full set compatible with evaporation rotor.
- Temperature sensor
- Warranty: atleast 1 year

B. ANNUAL RATE CONTRACT FOR supply of Chemicals, Glasswares and Labwares.

The Firms, Suppliers and Authorized dealers are requested to submit their proposal for annual rate contract for the academic Year 2018-2019. They should mention company profile, Authentic authorization to be a supplier, % of discount on catalogue price (Catalogue of the current financial year should be enclosed), transportation and taxation etc. for following manufacturers, while submitting the proposal:

Chemicals (Including media and Kits):

Sigma, Invitrogen Life Technologies; E-merck (Both Indian and Germany), Qualigen, Himedia, SRL, Life Technologies, GENEI-Bangalore (Merck Bioscience), Genetix, SD-Fine Chem, LOBA, Sigma Aldrich, Genaxy, Imagenex, Helini Biotech etc. with molecular biology grade etc.

Glass Wares:

Borosil, Corning, Qualigen, Merck, Riviera, Schott Duran etc.

Lab Wares:

Tarsons, Kasablanka, Polylab, Himedia, Merck Biosciences, etc.

Term and conditions for Rate Contract:

- That the freight, insurance charges, if any, will be borne by the supplier. Similarly shortage, pilferage in transit will be sole responsibility of the supplier and the same will be intimated to the supplier on receipt of goods by the purchaser to make good the loss caused on this account. The defective supply be replaced by the supplier within 7 days without freight/transport charge.
- That the delivery/supply will be made on F.O.R. basis to COE, Natural Product & Therapeutics, Sambalpur University.
- Sales Tax (Trade Tax), GST and other Govt. levies will be paid extra, as applicable.
- That the delivery of goods will be taken at the risk and cost of the supplier from railway/transport to the destination.
- That the supply of material will have to be completed within 30 days from date of issue of purchase order. The liquidated charges @ 0.5% per week shall be imposed if supply made after expiry of delivery period subject to maximum 1.0% of the total value of or after 10 weeks orders shall stand cancelled.
- That the payment of the bill will be made within 30 days on receipt of the goods in satisfactory conditions.
- No revision in rate (on higher side) will be accepted during contract period.
- That the order will be placed as per requirement irrespective of value of the order.
- The firm may supply the required items as per unit price mentioned in the price list.
- No payment will be made for unsatisfactory supply.
- The articles should be securely packed to avoid damages etc. (in transit).
- Supply be made from the latest batch of production with the maximum life period & original packing.

**INFORMATION BOOKLET
ON
QUOTATION CALL NOTICE**

WORLD BANK FUNDED (OHEPEE)

CENTRE OF EXCELLENCE

Regional Development and Tribal Studies (RDTS)

(Ref: 266/Store, Dated: 22/01/19)



**SAMBALPUR UNIVERSITY
JYOTI VIHAR, BURLA-768 019, ODISHA**

Ref. No. /Store

Dated:

QUOTATION CALL NOTICE

Sealed quotations in duplicate are invited from the interested Manufacturers/Authorized dealers/Registered firms to supply the following items for the World Bank funded COE-Regional Development and Tribal Studies (RDTS) to the Sambalpur University on 'FOR' destination basis. The last date of submission of quotation is 25.02.2019. Valid copy of PAN/GST Number and a **bank draft of 2% of the quoted price as EMD**, drawn in favor of **COF SU OHEPEE** of any nationalized bank, payable at **State Bank of India, Jyoti Vihar Branch, Burla, code No.6672**. The EMD should be enclosed along with the quotation; otherwise the quotations will be rejected. The Registrar reserves all rights to reject or accept any or all quotations without assigning any reason thereof.

Terms & conditions:

1. The quotation shall be submitted with technical specifications and quoted price in a sealed covers. On the top of the envelope please mention "**OHEPEE-COE(RDTS)-Instrument Name**", for which the quotation is being submitted in bold.
2. The sealed quotations will be received up to 4.00 P.M. on all working days upto 25.02.2019 by speed post / registered post only at the Nodal Centre of COE, P.G. Department of Anthropology, Sambalpur University, Jyoti Vihar – 768 019, Sambalpur, Odisha.
3. The suppliers must be either the manufacturer of the instruments/equipment or the authorized agent/representative of the manufacturer. In the case of agent/representative, certified valid copy of the agency/authorization issued by the manufacturer should be enclosed with the quotation.
4. In the event of any item being available on Rate Contract, the quotation for that item shall not exceed the Rate Contract approved by DGS & D (GoI). The existence, price and terms and conditions of all Rate Contract items shall be disclosed by the tenderers.
5. The Quotation should include apart from the price of the instruments/equipment –
 - a) Warranty period details (extended warranty period separately).
 - b) The cost of recommended essential spares.
 - c) List and cost of consumables/standards etc., required from time to time with all necessary details.
 - d) AMC after warranty period (to be shown separately).
6. **The rates/price should be quoted in the currency of the country where the instruments/equipment is manufactured and equivalent Indian currency.**
7. Delivery of the instruments shall be at P.G. Department of Anthropology, Sambalpur University, Jyoti Vihar-768019 unless otherwise specified. **The price shall be inclusive of all taxes, transportation cost and cost of installation/commissioning, trial operation, comprehensive training and clearance charges.** Necessary documents for clearing the consignment through customs authorities will be provided by us and the supplier or agents of manufacturer arrange the clearance of the consignment on payment basis. **Sambalpur University is granted with DSIR certificate for customs and central excise duty exemption.**
8. The successful tenderer should supply the instruments/equipment within a period of 4-6 weeks from the issuing date of purchase order by the COF, Sambalpur University.

9. The EMD of the successful tenderer will be refunded after completion of the supply and installation of the equipment to the satisfaction of the Nodal Officer, COE (RDTS).
10. Documents such as instrument operation, calibration, maintenance, drawing, descriptive literature etc., if any, along with original instruction and data analysis manual should be supplied by the successful tenderer along with the equipment.
11. Instruments/equipment should be unpacked in the presence of the Nodal Officer, COE (RDTS) in the P.G. Department of Anthropology, Sambalpur University. The consignment will be accepted only after inspection.
12. **A warranty certificate covering a period of minimum one year** from the date of supply and installation shall be provided. Any additional period towards warranty will be given weightage in evaluation of the quotations.
13. Inspection certificates of the instruments / equipment inspected by the qualified engineer of the manufacturer and packed in accordance with the terms and conditions of this order must be enclosed.
14. During the warranty period or later whenever the firm is called upon to attend to the rectification of the defects/faults in the consignments, the firm shall attend to the repair work within 48-96 hours. They should render timely back up service whenever called upon. **A certificate to the effect should be attached to the tender.**
15. **A certificate to the effect that instruments/equipment supplied is fully operational and no additional accessory or spare is required to make the instruments/equipment run should be issued along with the delivery challans/invoice.** The Nodal Officer, COE (RDTS), Sambalpur University reserves the right to refuse payment in the event of not furnishing this certificate at the time of supply.
16. The Registrar, Sambalpur University reserve the right to accept/reject any tender without assigning any reason thereof.
17. **Once the rate is approved by purchase committee, supply order is placed on the successful tenderer for supply of the equipment/instrument.** The decision of the Purchase Committee shall be final and binding.
18. All disputes subject to Court of Law in the jurisdiction of Sambalpur.

A. List of equipments and their general specifications

1. Black HP/DELL/ Equivalent Desktop Computer with Hard Drive Capacity 1TB, Ram 8GB, Processor Speed 2.50GHz, Intel Pentium G2020T/Equivalent (2 Nos.)
2. HP 15 DA0326TU / DELL Inspiron 15/ Equivalent Laptop with 15.6 inch Screen, Intel Core i3 Processor, 4GB Memory, 1TB HDD (2 Nos.)
3. HP LaserJet Pro MFP M126nw / Equivalent Multifunctional Printer (2 Nos.)
4. SONY VPL-DX220/ Equivalent LCD Projector (1 No.)
5. Nikon D5300 (Body) Digital SLR / Equivalent Camera with minimum 24 MP Resolution, 1080p HD Video, CMOS Sensor, Rechargeable (2 Nos.)
6. Computer Software- SPSS/Equivalent

B. List of Furniture

S. No.	Name of Furniture	Quantity
1.	Office tables	2
2.	Computer tables	2
3.	Chairs	10
4.	Almirah (Godrej/ equivalent)	1
5.	Book shelf	1