

**RAJIV GANDHI UNIVERSITY  
RONO HILLS: DOIMUKH**

No.ST-399/Food Tech/2021

Dated the 13<sup>th</sup> Sept, 2021

**CORRIGENDUM**

Please refer to the Tender Notice No.ST-399/Food Tech/2021 dtd. 7<sup>th</sup> Sept., 2021 regarding procurement of laboratory instruments for Dept. of Food Technology of this University. The page 1 of the Annexure-I was not uploaded inadvertently in the website. The omitted page is now uploaded in the website for the Item Sl. No. 1 & 2. The other information of the Tender Notice will remain unchanged.

The bidders are requested to quote the rates accordingly.

  
13/09/2021  
Estate Officer

# RAJIV GANDHI UNIVERSITY

## RONO HILLS: DOIMUKH

No.ST-399/Food Tech/2021

Dated the 2<sup>nd</sup> September, 2021

### NOTICE INVITING QUOTATION

Rajiv Gandhi University, Rono Hills, Doimukh (Itanagar) invites sealed quotations for supply of equipments for Dept. of Food Technology as per Annexure-I & II.

#### MINIMUM ELIGIBILITY CRITERIA FOR PARTICIPATING BIDDERS:

- (1). Bidder should quote with tender specific authorization letter from respective manufacturer. This authorization letter should be valid till the warranty period exists.
- (2). Documents like GST Registration, PAN Card, Bank Details, Company Registration, Trading License copy should be submitted along with the quotation.
- (3). Bid Security/Earnest Money 5% of total cost of the quoted equipments should be submitted along with the quotation in the shape of Demand Draft favoring Registrar, Rajiv Gandhi University, payable at SBI Itanagar/ Naharlagun or Bank of Baroda Itanagar/ Naharlagun or Bid Security Declaration (Annexure –II).
- (4). The rate & tax, discount etc. should be mentioned separately and rates quoted should be F.O.R destination (Rajiv Gandhi University, Doimukh). Vague /Ambiguous terms like "Packing, forwarding, clearing, installation charge etc. Extra" without mentioning the specific amount should not be accepted. The taxes / discounts, if applicable, are to be explicitly and separately shown in the quotation and under no circumstances these components shall be added to the basic price and shown as single price. All the components of taxes, if applicable, should be shown explicitly and separately (**It is to be noted that RGU has DSIR Certificate for GST rate of 5%**). Bidders shall indicate their rates in clear/ legible figures as well as in words and should not contain overwriting.
- (5). The quoted rates must be valid for 90 days from the last date of submission of quotation.
- (6). The equipment and its components under the purchase order, when installed, shall be warranted for the quality, workmanship, trouble free operation and performance for a period of at least 1 year from the date of putting the system into operation at Rajiv Gandhi University, (A signed Bidder's Warranty has to be submitted along with the Bid Document) If any item covered under warranty fails, the same shall be replaced free of cost including all the applicable charges including shipping cost both ways.
- (7). All the quotations must be supported by the printed technical leaflet/ literature and the specifications mentioned in the quotation must be reflected/ supported by such printed technical leaflet/ literature. For easy reference the model and specification quoted should invariably be highlighted in the leaflet/ literature.
- (8). The bidder should clearly state the after sales service centre and detail address in India, without which their quotations shall be liable for rejection.
- (9). Dealers or agents quoting on behalf of Manufacturer must enclose valid dealership certificate.



- (10) The offers received through telex / tele-fax / e-mail will not be accepted by the University under any circumstances.
- (11) The University shall not be responsible for any delay / loss or non-receipt of tenders by post / courier service.
- (12) No unsolicited correspondence shall be entertained after the submission of the offer. No enquiry shall be made by the bidders during the course of evaluation of the tender till a final decision is conveyed to the successful bidder. However, the purchase committee or its authorized representative can make any enquiry/seek clarification from the bidders. In such a situation, the bidder shall extend full cooperation. The bidders may also be asked to arrange demonstration of the offered items, in a short notice, as such the bidders have to be ready for the same.
- (13) All aspects of safe delivery shall be the exclusive responsibility of the vendor. For sophisticated equipments the package will be opened only in the presence of University representative and vendor's representative.
- (14) Part delivery is not allowed,
- (15) All the terms and conditions mentioned herein must be strictly adhered to by all the bidders. Conditional tenders shall not be accepted on any ground and shall be rejected straightway. Printed conditions mentioned in the tender bids submitted by vendors will not be binding on the University.
- (16) Up-to-date Tax clearance certificate. GST registration certificate indicating also the TIN, PAN number of the firm must be clearly mentioned in the quotation. The bidder may also attach documents of IT returns to the concerned Income Tax authority/ submit the exemption certificate. Taxes as applicable may be deducted from the bill(s) as per the instructions of the Government. Concessional Form C & D is not applicable to this University.
- (17) Late and delayed tender will not be considered. In case any unscheduled holiday occurs on the prescribed closing/opening date the next working day shall be the prescribed date of closing/ opening.
- (18) Tender is not transferable.
- (19) Timely supply of the ordered items, installation, commissioning (wherever is applicable) and training etc. is the essence of the contract. In the event of delayed delivery, installation and commissioning i.e. after the expiry of the period as agreed by both the parties, the vendor shall be liable for a penalty deduction at a percentage on the value of the undelivered equipment subject to a maximum of 10% as detailed below.  
@ 2% up to one week  
@ 3 % up to two weeks  
@ 5% up to three weeks  
@ 10% for four weeks and above subject to approval given by RGU Doimukh.
- (20) Extra charge for installation & demonstration shall not be paid by Rajiv Gandhi University.
- (21) The offer must be in English. The rates should be indicated both in figures and words. The rates and units shall not be over written, amount shall be both in figures and words. All corrections must be signed in full by the Firm
- (22) The prices quoted shall remain firm /valid until equipment/instruments are supplied.
- (23) In case of any dispute in respect of the tender, all legal matters shall be instituted within the jurisdiction of the place where the purchaser ordinarily resides.



- (24) The University may terminate the contract/ supply order in whole / part and forfeit the EMD/ PBG incase the supplier/ vendor fails to meet the contractual obligations.
- (25) A self attested copy of valid PAN Card, GST Certificate Trading License and Bank details must be enclosed along with the tender.
- (26) Quotations received without Bid Security/EMD amount by way of DD in the favour of Registrar, Rajiv Gandhi University or Bid Security Declaration will not be considered at all.
- (27) Payment shall be made after installation of the equipment. No payment shall be made for unsatisfactory supply and installation.
- (28) Additional terms and conditions will be incorporated in the purchase order, if needed, to safe guard the interests of the University.
- (29) Any offer containing incorrect and incomplete information shall be liable for rejection. Rajiv Gandhi University, Doimukh, Itanagar reserves the right to accept / reject any offer in full or in part or accept any offer other than the lowest offer without assigning any reason thereof.
- (30) Performance Security 3% of total cost of the equipment(s) should be submitted by the successful bidder in the shape of Demand Draft favoring Registrar, Rajiv Gandhi University, payable at SBI/Bank of Baroda Itanagar/ Naharlagun or Performance Bank Guarantee (covering warranty period of the equipments) 3% of total cost of the equipment(s) before releasing the payment. The Performance Security amount shall be released after expiry of warranty period of the equipment(s).
- (31) GST should be applicable at the lower rate of 5% for educational research institution based on DSIR Certificate.

Note :

- i. The sealed quotation envelope should be super scribed quotation reference no.
- ii. Last date and time of receipt of quotation : 30/09/2021 up to 16.00 hours.

Sd/- Registrar

Memo No.ST-399/Food Tech/2021 /0287

Dated the .07. Sept, 2021

Copy to:

1. All authorized dealers/ suppliers.
2. The Head, Dept. of Food Technology for information.
3. The Jt. Director, Computer Centre for information and uploading the quotation on **Central Public Procurement Portal and in the University website.**
4. Notice Boards.
5. Guard File.
6. Office copy.



REGISTRAR

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**A. List of laboratory instruments for Department of Food Technology**

SI No	Items (s)	Detailed specifications	Qty (Nos.)
01	Ultrasonic cleaner	<p>Tank Capacity: 10 liters</p> <p>Tank size: 300 x 240 x 150 mm (L X W X H)</p> <p>Encloser size: 325 x 270 x 400 mm (L X W X H)</p> <p>Tank material: SS 304</p> <p>Tank encloser: SS 304</p> <p>Total Solvent Capacity: 10 Ltrs. Approx.</p> <p>Power Output (Ultrasonic): 200 Watts</p> <p>Power Input: 230V AC, 50Hz Single Phase</p> <p>Timer: Digital Display with 0-99 min settable.</p> <p>Frequency: 40 kHz +/- 2 KHz</p> <p>Transducers: Imported make PZT type bonded at the bottom of the tank with weld bond technique.</p> <p>Ultrasonic Generator: Advanced latest MOSFET based SMPS</p> <p>PSP: Pulse Sweep Mode for uniform distribution of ultrasonic energy</p> <p>Heater: 200W for efficient heating.</p> <p>Sensor: PT-100 for accurate temperature sensing.</p> <p>Digital Temp Controller: Digital temperature controller with setting max-60°C</p> <p>Drain: ½" BSP with a ball valve</p> <p>Solvent: Aqua/Solvent Based</p> <p>Accessories: SS 304 lid, SS 304 Basket, Drain valve, Power Cord &amp; User-friendly operation manual.</p>	01
02	Hot air oven	<p>Size: 18" x 18" x 24" (WxDxH)</p> <p>Inner Chamber: Mild steel Material, Thickness 20 swg.</p> <p>Exterior: Fabricated from Mild Steel material, Thickness 01MM.</p> <p>Construction: Powder coating in attractive shades.</p> <p>Insulation: 70mm to avoid thermal loss</p> <p>Side Mounting: Blower with continuous duty motor for better uniformity inside chamber.</p> <p>Temperature range: Ambient +5 °C to 250°C.</p> <p>Temp Controller: Dual Display Auto-Tune PID Digital Temperature Controller Cum Indicator Cum Indicator with soak time.</p> <p>Temp Accuracy: ± 0.5 °C</p> <p>Temp Resolution: 0.1 °C</p> <p>Temp sensor: PT-100 Sensor</p> <p>Temp Display: Digital LED Display</p> <p>Power Required: 230 Volts, 1 Phase, 50 Hz, AC Supply.</p> <p>Heating element: U Type Heater</p> <p>Ratings: 3KW, two side heater</p>	01

Received  
24/08/21

		Tray: 06 Tray with oven S.S Round Bar	
03	Shaking water bath	<p>Size: 16"x12"x10"</p> <p>Loading Capacity: 100 ml x12 Nos.; 250ml x 6 Nos.</p> <p>Maximum shaking Capacity: 1.5ltr</p> <p>Inner: Double Walled construction, Argon welded Leak proof Inner tank made of Stainless steel- 304 grade</p> <p>Power: 1000 W</p> <p>Heater: Heating by long life Immersion Heaters</p> <p>Exterior: Exterior made CRCA Steel - Powder coat finished loss and ensure constant temperature.</p> <p>Insulation: High density Glass wool insulation to prevent the heat</p> <p>Construction: Hinged Pyramid shape lid provided avoids Evaporation of water and makes condensed water fall back in the bath.</p> <p>Shaking tray: Shaking Tray consist of Lotus Clamps to hold Erlenmeyer Flash Reciprocal Shaking mechanism comprises of Variable speed PMDC geared motor fixed on right side and coupled Shaking Tray which shake linearly. shaking stroke 25mm</p> <p>Speed: Shaking speed can be controlled by means of electronic speed controller cum Digital RPM Indicator between 50 RPM to150 RPM</p> <p>Temp Range: Ambient +5 °C to 95°C</p> <p>Temp Control: Temp. control by Dual display Microprocessor based PID Temperature control</p> <p>Power Required: Operates on 230 Volts AC Single phase 50Hz</p> <p>Temp sensor: PT-100</p>	01
04	Digital Refractometer	<p>Brix and Temperature Range: 0 to 85% Brix / 0 to 80°C</p> <p>Resolution: <math>\pm 0.1\%</math> Brix / <math>\pm 0.1^\circ\text{C}</math></p> <p>Accuracy: <math>\pm 0.2\%</math> Brix / <math>\pm 0.3^\circ\text{C}</math></p> <p>Automatic Temperature Compensation: between 10 and 40°C</p> <p>Enclosure Rating: IP65</p> <p>Measurement Time: Approximately 1.5 seconds</p> <p>Minimum Sample Volume: 100 <math>\mu\text{L}</math> (to cover prism totally)</p> <p>Light Source: Yellow LED</p> <p>Sample Cell: Stainless steel ring and flint glass prism</p> <p>Auto-off: After 3 minutes of non-use</p> <p>Battery Type / Battery Life: 9V / Approx. 5000 readings</p>	01
05	Water activity meter	<p>Water activity range: 0.030–1.000 <math>a_w</math>, Resolution: 0.0001 <math>a_w</math>,</p> <p>Accuracy: <math>\pm 0.003</math>, Repeatability: 0.001 <math>a_w</math></p> <p>Temperature: Range: 15-50 °C, Resolution: 0.01 °C, Accuracy: <math>\pm 0.1^\circ\text{C}</math></p>	01
06	Tray Dryer	<p>Capacity of dryer: 6 to 8 trays</p> <p>Number of Tray: SS 304, 6 to 8 trays</p> <p>Construction: Interior and exterior fabricated from SS 304</p>	01

		material with proper insulation Temperature range: Ambient +5 °C to 100°C. Display: Digital type Power Source: Electric Power Required: Operates on 230 Volts AC Frequency 50Hz Temp sensor: PT-100 No of Doors: one No of Blowers: one No of motors / HP: 1 / 0.5 HP Electrical Heating Load: 3-5kW	
07	Muffle furnace	Chamber volumes: 6 liters approx. Power Source and supply: Electric, 230 V, 50 Hz 3 phase Power: 2.0 - 3.0 kW Material: Stainless Steel Maximum operating temperature range: upto 900 ± 5°C Thermocouple type: K Temperature controller: PID controller with SCR power control Hard ceramic hearth fitted as standard Accessories: One pair of furnace gloves One crucible steel tong	01
08	Spectrophotometer	<b>General</b> <ul style="list-style-type: none"> <li>• Microplate types: 6-, 12-, 24-, 48-, 96-, and 384-well microplates</li> <li>• Integrated Standard cuvette configuration.</li> <li>• Cuvette path length 1cm, Material of cuvette: Quartz.</li> <li>• Read modes: Endpoint, kinetic, spectral scanning and well area scanning</li> <li>• Wavelength selection: Monochromator</li> <li>• Wavelength range :200 – 1000 nm, selectable in 1 nm increments</li> <li>• Light source Xenon flash lamp</li> <li>• Dynamic range: 0.0 - 4.0 OD</li> <li>• Band pass :2-5 nm</li> <li>• Shaking: linear</li> <li>• Temperature control: Ambient +2 °C to 45 °C with condensation control</li> <li>• Touch screen (preferable) /Non-touchscreen configurations: and with compatible Software</li> <li>• User interface: touch screen as well as PC control.</li> </ul> <b>Performance</b> <ul style="list-style-type: none"> <li>• Monochromator wavelength accuracy: ± 2 nm</li> <li>• Monochromator wavelength repeatability: ± 0.2 nm</li> <li>• Linearity :0 to 2.0 OD ± 1% ± 0.010, 2.0 to 2.5 OD ± 3% ± 0.010</li> <li>• Accuracy: 0 to 2.0 OD ± 1% ± 0.010 ,2.0 to 2.5 OD ± 3% ± 0.010</li> <li>• Repeatability :0 to 2.0 OD ± 1% ± 0.005, 2.0 to 2.5</li> </ul>	01



		<p>OD <math>\pm 3\% \pm 0.005</math></p> <ul style="list-style-type: none"> <li>• Stray light :0.03% at 230 nm</li> <li>• Read speed :96 wells sweep read: 8 seconds, 384 wells sweep read: 14 seconds</li> </ul> <p><b>Physical characteristics</b></p> <ul style="list-style-type: none"> <li>• Connectivity 1 USB for external PC control 1 USB for peripheral devices</li> <li>• Power 100 – 240 Volts AC 50/60 Hz Dimensions 15.5" D x 12.5" W x 8" H (39.3 x 32 x 20.3 cm)</li> <li>• Comes with a computer to store and analyse data with Data Analysis compatible Software for interface usage.</li> <li>• Applications: Routine spectrophotometric readings for components, ELISA, cytotoxicity, food safety and quality, enzyme kinetics, nucleic acid and protein estimation, spectral scanning, nucleic acid purity.</li> </ul>	
09	Rotatory vacuum evaporator with chiller and pump	<p>Indigenous or imported</p> <ul style="list-style-type: none"> <li>• Operating voltage: 220 V, Power: 180 Watt, Frequency: 50 Hz</li> <li>• Lifting set-up: 0-150 mm (automatic i.e. press button type),</li> <li>• Motor: induction motor, output power: 60W</li> <li>• Rotation speed: 20-300 rpm, stepless speed setting with dial control and speed display</li> <li>• Heating water/oil bath: temperature RT-180° C with digital control and display, Bath type: bath aluminum alloy/ceramic coated with 4.5 L capacity.</li> <li>• Condenser: vertical type, double return integrated spherical neck condenser, which is made of high temperature resistant quality glass, 1500 cm<sup>2</sup> cooling surface</li> <li>• Spherical neck receiving flask to accomplish the effect of quickly loading and unloading. Evaporating flask: eggplant-shape flask (1L) round flask (0.5L-2L), Receiving flask: round-shape flask (1L). Flask clamping mechanism with integrated push-off function for easy exchange of evaporation flasks.</li> <li>• Seal circle: PTFE or composite or PTFE composite + fluoro-elastomer dual seal circle.</li> <li>• Should come with oil-free pump</li> <li>• Circulating chiller with motor, Chiller temperature: 0-10°C</li> </ul>	01
10	Ultra high water purification system	<p>Indigenous or imported</p> <ul style="list-style-type: none"> <li>• Water Purification system capable of independently dispensing both Type I and Type II water. The equipment should be compact and be bench-top type</li> </ul>	01



requiring mini. space.

- Type II able to use tap water as feed (able to accept upto 2000 micro Siemens conductivity)
- Tap water should be treated in a pre-treatment cartridge for efficient removal of particles, colloids, free chlorine and hardness. Should come with a pre-filter.
- Reverse osmosis step should be water conservative and should ensure constant flow rate and optimal water quality
- All the cartridges used should have considerable life.
- Should have electro deionisation or other equivalent or superior technology for removal of ions.
- The resin beads used should be of superior quality and should not degrade by exposure to harsh chemicals.
- The Resin beads should be able to be continuously regenerated without affecting its quality
- The module should be able to continuously regenerate its beads used. Thereby effectively reducing operational cost
- The cartridges should be easily replaceable
- The replacement cartridges should not be very expensive
- The Equipment should have a low maintenance cost
- The generated water should be treated with UV to destroy bacteria, before it is stored in the storage tank
- The storage tank should be capable of maintaining the purity of stored water
- A vent filter should be there for preventing airborne contamination.
- Biofilm formation should be prevented.
- The water dispenser should be designed such that various small filters/cartridges can be connected for obtaining specific quality water for different research needs (Ultra pure water free of particulates, pyrogens, nucleases, VOCs, endocrine disruptors and organics for LC.
- Should be able to dispense pre assigned volume of water
- Production rate minimum 5L/h
- Should have calibrated meters for continuous monitoring and display of water quality parameter
- Should have customisable alert and alarms.
- Should have certificate of calibration from

		<p>recognised international agencies.</p> <ul style="list-style-type: none"> <li>• Should have certificate of conformity from recognised international agencies</li> <li>• Should meet internationally recognised safety norms</li> <li>• Type I water with the following properties: Resistivity (<math>M\Omega\text{-cm}</math>) = <math>18.2M\Omega\text{-cm}</math> @ 25 deg C, Conductivity (<math>\mu\text{S/cm}</math>) &lt; <math>0.055 \mu\text{S/c}</math>, TOC <math>\leq 5\text{ppb}</math> o Bacteria (<math>0.22\mu\text{m}</math>) &lt; 1, Chloride (ppb) &lt; 1, Total Silica (ppb) &lt; 3, Flow rate = 2L/min</li> <li>• Type II water with the following property, Resistivity (<math>M\Omega\text{ cm}</math>) = 12-15 <math>M\Omega\text{-cm}</math> @ 25 deg C, or more, Conductivity (<math>\mu\text{S/cm}</math>) (<math>0.22\mu\text{m}</math>) &lt; 5, Chloride (ppb) &lt; 5, Total Silica (ppb) &lt; 3, Flow rate = 2L/min</li> </ul>	
11	Deep freezer (-18 to -22 C)	<ul style="list-style-type: none"> <li>• Robust construction for heavy duty use, has lock and key system and recessed handle for durability</li> <li>• Refrigerant, enhanced power saving</li> <li>• Heavy duty castor wheels at bottom of freezer</li> <li>• Color white</li> <li>• Height: 83.9 cm</li> <li>• Length :194.5 cm</li> <li>• Width: 82.5 cm</li> <li>• No. of doors: 2</li> <li>• Volume: 700 liters</li> <li>• Corrosion resistant body, energy efficient compressor, heavy duty casters, high density PUF insulation.</li> </ul>	01
12	Trinocular microscope with camera	<ul style="list-style-type: none"> <li>• Total magnification: 40X-100X-250X-400X-1000X-2500X; Eyepieces: wide field WF10X and WF25X; Objective: achromatic DIN 4X, 10X, 40X(S), 100X(S, Oil); Viewing head: 45 degrees inclined 360 degrees swiveling trinocular; Sliding adjustable interpupillary distance: 2-3/16inch ~ 2-15/16inch(55mm ~ 75mm); Ocular diopter adjustable on both eyetubes</li> <li>• Nosepiece: revolving quadruple; Stage: mechanical double layer size: 4-1/2inchx 4-15/16inch (115mm x 125mm); Stage x-y stroke (travel range): 2-13/16inch x 1-3/16inch (70mm x 30mm); Condenser and diaphragm: NA1.25 Abbe condenser with iris diaphragm</li> <li>• Transmitted (lower) illuminator: LED light, intensity adjustable; Focus adjustment: Coaxial coarse and fine knobs on both sides; All metal mechanical components; Power supply: AC/DC adapter, 100V-240V (UL approved)</li> </ul>	01

		<ul style="list-style-type: none"> <li>Digital camera: - true color 4096x3288 pixels (between 10-14M pixels) - 0.5X reduction lens to get larger field of view - 0.01 mm calibration slide: 1mm/100 division - Frame speed: 1.8fps at 4096x3288, 10fps at 2048x1644, 27fps at 1024x822</li> <li>- Software compatible with Windows XP/Vista/7/8/10, Mac OS and Linux operating system - Capturing microscope images, recording live video, measuring lengths, angles, areas, editing images - USB cable included.</li> <li>Computer included for data storage and for user interface</li> </ul>	
13	Biological safety cabinet BSL-2	<ul style="list-style-type: none"> <li>Working area: 3' x 2'x 2' with stainless steel bench which is anti-corrosive. BSL-II type. SS grade 316.</li> <li>Application can include isolation and identification of plant/human pathogens, work in virology, tissue culture etc. Operator protective from low to moderate risk biological agents (or chemical carcinogens) while providing a sterile work environment for the procedure.</li> <li>The cabinet is under negative pressure with partial quantity of reticulated air exhausted through a HEPA filter with Preferable External exhaust from the laboratory. Powerful exhaust system. Built-in-positive Air curtain. Exhaust ducting to carry the air outside.</li> <li>Front sliding slash type see through window (25 cm sash opening), U.V. C-light (germicidal) and fluorescent lighting for working area., Manometer, cock for gas, air or vacuum.</li> <li>Horizontal air flow with air flow velocity of <math>90 \pm 20</math>FPM can be maintained and controlled. Blower motor at least 1/5 HP Digital interface and switches.</li> </ul>	01
14	Vortex shaker	<ul style="list-style-type: none"> <li>Designed for mixing liquids in schools, laboratories and factories.</li> <li>Touch/Continuous operation mode selection through bi-directional switch.</li> <li>Speed regulation through knob on control panel.</li> <li>Interchangeable mixing heads for use with variety of tubes.</li> <li>Supplied with all interchangeable mixing heads.</li> <li>Power: 32 Watt</li> <li>Shaking movement: orbital</li> <li>Orbital diameter: 4mm</li> <li>Motor type: shaded pole motor</li> <li>Permission on time: 100% power 30 min</li> </ul>	01

		<ul style="list-style-type: none"> <li>• Speed range: 0-2500 rpm</li> <li>• Run type: continuous/touch operation</li> <li>• Dimensions: 185mm x150mm x165mm</li> <li>• Weight: 2.8kg</li> <li>• IP26, Supply: 220-240 Volts, 50Hz single phase.</li> </ul>	
15	Autoclave	<ul style="list-style-type: none"> <li>• Type: Digital, Vertical, portable is desirable.</li> <li>• For Sterilization of culture media, glassware, utensils instruments etc. in steam under pressure. Steam lined construction.</li> <li>• Outer body stainless steel. Inter Chamber. Inner chamber is made of Stainless Steel. The chamber is absolutely leak proof for steam &amp; is operated at any selected point in between 5 to 20 pound per sq. inch (psi). Provided with safety valve, pressure setting, s.s. basket &amp; water level indicator with cord &amp; plug.</li> <li>• Lid is made of Stainless Steel &amp; is provided with radial locking systems, worked by a paddle at the bottom provided with Silicon gasket, hydraulically tested up to 40 psi.</li> <li>• To work on 220/230V AC supply.</li> <li>• Capacity: 50 liter.</li> <li>• Temperature controlled by Digital Temp. Controller for Temperature indication and setting.</li> <li>• Low Water level cut off device for safety of heaters</li> <li>• Work on 220/230V AC supply.</li> </ul>	01
16	Incubators with shaker	<ul style="list-style-type: none"> <li>• Castor wheel mounted cabinet is double walled with inner chamber of stainless steel and outer casing of M.S. sheet duly painted / S.S. The gap of 75 mm between the outer and the inner wall filled with special grade glass wool to prevent thermal losses.</li> <li>• Back of the unit to be fitted with air circulation fan for maintaining the temperature uniformly throughout the chamber.</li> <li>• Heating elements of nichrome /SS wire placed in the air path and duly insulated from the body.</li> <li>• With Variable speed and Digital Temperature Controller</li> <li>• Inner Stainless Steel &amp; Outer M.S. / S.S. with Acrylic Hood</li> <li>• Temperature range: ambient to 70°C.</li> <li>• Digital RPM Indicator</li> <li>• Microprocessor Based PID Controller</li> <li>• Shaker to hold 12 flasks of 250 ml OR Mix (Size of platform 600 x 600 mm)</li> </ul>	01
17	Incubator 5-50 °C	<ul style="list-style-type: none"> <li>• Size: 455x410x610mm, 4 CU ft.,</li> </ul>	01



		<ul style="list-style-type: none"> <li>• Capacity: 112L,</li> <li>• Temp. Controlled by Digital Temperature Controller Inner,</li> <li>• Stainless steel outer body M.S. Duly powder coated, with minimum 3- trays to keep samples. See through door with glass window.</li> <li>• Temp. Range: 5°-50°C.</li> <li>• CFC Free Compressor.</li> <li>• The inner chamber can be properly insulated with special grad,</li> <li>• PUF to prevent thermal losses. Air Circulating Fan for Uniform temperature.</li> <li>• Lock &amp; Key Arrangement.</li> <li>• Caster wheel mounted cabinet</li> </ul>	
18	Precision Analytical balance	<ul style="list-style-type: none"> <li>• Type: Precision Analytical balance</li> <li>• Capacity: 220 gm.</li> <li>• Minimum Display: 0.1 mg.</li> <li>• Linearity: <math>\pm 0.2\text{mg}</math></li> <li>• Repeatability (Standard deviation): <math>\leq 0.1\text{mg}</math></li> <li>• Stabilization time: Approx. 3.0 seconds</li> <li>• Operating temperature and humidity limits: 5-40°C 20-85%</li> <li>• Pan size: <math>\varnothing 91</math> mm approx.</li> <li>• Sensor: high performance aluminium alloy mass sensor</li> <li>• Body weight: 6kg approx.</li> <li>• Input/output terminal: RS232</li> <li>• Temperature Coefficient for Sensitivity (10-30°C): <math>\pm 2 \text{ ppm/ } ^\circ\text{C}</math></li> <li>• Calibration: Internal and with external standard weight box</li> <li>• Main Body Dimension (mm) approx: 213(W) x 356(D) x 338(D)</li> <li>• Power Requirement: 12V, 1A</li> </ul>	01
19	Analytical balance	<ul style="list-style-type: none"> <li>• High Precision Lab Scale Digital Analytical Electronic Balance, g, kg, oz, lb, Auto Backlight(optional), Auto Zero Tracking</li> <li>• Max Capacity: 600 gm.</li> <li>• Minimum Display: 0.01 gm.</li> <li>• Equipped with a High Precision Strain Gauge Sensor System</li> <li>• Internally calibrated or calibration set provided.</li> <li>• Works with adapter plug as well as with battery</li> <li>• Automatic shut-off feature</li> </ul>	01
20	Hand Held	<ul style="list-style-type: none"> <li>• Pocket type conductivity meter, Large, upright LCD</li> </ul>	01

	conductivity meter	<p>with parameter display (3. digit single display) and battery, level indicator, Easy push-button calibration. Microprocessor powered tester requires no screwdriver for calibration.</p> <ul style="list-style-type: none"> <li>• Range: .. to 1990 <math>\mu</math>S</li> <li>• Resolution: 10 <math>\mu</math>S</li> <li>• Accuracy: 1 % full scale</li> <li>• Sensor type: Dip</li> <li>• Operating temperature: 0-50°C</li> <li>• Temperature compensation: ATC (0 to 50 °C / 32 to 122 °F)</li> <li>• Power: 4 x 1.5 V 'A76' micro alkaline batteries (included), battery life &gt;150h. Auto off after 8.5 min of key pressed.</li> <li>• Dimensions: 16.3 x 4.5 cm ; 90 g</li> </ul>	
21	pH meter	<ul style="list-style-type: none"> <li>• Economical, user-friendly and accurate, for routine applications in laboratories.</li> <li>• Ability to measure pH along with ORP, °C &amp; Fahrenheit</li> <li>• Large, comprehensive screen that displays readings, calibration points and electrode indicator. Custom dual-display LCD (5.6 x 7.5 cm)</li> <li>• Input: DC socket, BNC, 2.5 mm phono (ATC), phono (reference)</li> <li>• Ready indicator alerts when readings are stable</li> <li>• Calibration points: Up to 5-point push button calibration with auto-buffer recognition USA, NIST</li> <li>• Non-volatile memory holds up to 100 data points</li> <li>• Integral electrode holder</li> <li>• pH range: -2.00 to 16.00 pH, Resolution: 0.01 pH, Accuracy: 0.01 pH</li> <li>• ORP range: 2000 mV, relative mV Range: 2000 mV, Resolution: 0.1 mV (199.9 mV) / 1 mV (beyond), Accuracy: 0.2 mV (199.9 mV) / 2 mV (beyond)</li> <li>• Temperature range : 0.0 to 100.0 °C / 32.0 to 212.0 °F, Resolution: 0.1 °C / 0.1 °F , Accuracy: 0.3 °C / 0.5 °F (0 to 70 °C) Compensation: ATC / MTC (0 to 100 °C) (pH only)</li> <li>• Power: 9 V DC adapter, 1.3 A (100 / 240 VAC, SMPS)</li> <li>• Applications: Educational: Useful for most laboratory, ecological studies and other applications. Laboratory: Environmental studies, chemical labs, titrations and quality assurance testing. Use in all types of food processing.</li> </ul>	02

22	Heating mantles	<ul style="list-style-type: none"> <li>• Made of Knitted Glass Yarn, heaters are fitted beneath it, which provides uniform heating of flasks upto 400°C.</li> <li>• The mantles are fitted in a nicely painted sheet metal case, filled with Glass Wool insulations, provided with an energy regulator, indicator and a cord.</li> <li>• Capacity 1000 ml, Power: 300 Watts</li> </ul>	02
23	*Centrifuge normal	<ul style="list-style-type: none"> <li>• Max speed: 6000 rpm</li> <li>• Max. RCF: 5070 g</li> <li>• Max. capacity: 400 ml</li> <li>• Digital timer: 0-99 min</li> <li>• Dimesnions: 380mmx470mmx300mm</li> <li>• Supply voltage: 220-240 volts, 50Hz single phase.</li> <li>• Automatic rotor identification</li> <li>• LCD/LED display</li> <li>• Microprocessor controlled digital display</li> <li>• Stainless stell centrifuge chapter and easy to clean</li> <li>• Brushless induction motor with variable requency drive.</li> <li>• Selection of acceleration and deceleratipon profile</li> <li>• Safety lid interrlock</li> <li>• Dynamic brake</li> <li>• Motor overaload protection</li> <li>• Emergency lid lock release</li> <li>• Included with : <ul style="list-style-type: none"> <li>a) Angle rotor suitable for 6 tubes of 50 ml each with plastic tubes</li> <li>b) Angle rotor suitable for 24 tubes of 15 ml each with plastic tubes.</li> </ul> </li> </ul>	01
24	Hot plate with Magnetic stirrers	<ul style="list-style-type: none"> <li>• Capacity: 1 L</li> <li>• Heating capacity: 150 Watts</li> <li>• External dimensions: 200mmx225mmx185mm</li> <li>• Stirring paddles length : 9x25 mm</li> <li>• Supply 220-240 Volts, 50Hz single phase.</li> </ul>	02
25	Micro kjeldahl system complete	<p><b><u>Part A. Automatic Digestion System</u></b></p> <ul style="list-style-type: none"> <li>• Four Place 250 ml capacity PC Compatible Block Digestion System. Supplied with 8 nos. digestion tubes.</li> <li>• Aluminium Block with Casted Aluminium Alloy Heaters , RS 232 interface for PC/Laptop Connectivity</li> <li>• Temperature Controller should be isolated separately in a control tower to protect electronics from</li> </ul>	01

digestion heat zone and acid reaction zone

- Temperature Control Range: Room temperature to 450 ° C, Temperature Accuracy :  $\pm 0.5$  ° C
- Digital display, Integrated auto-sequencing time/temperature domain of 2 programs and 8 sequencing steps,
- Auto over temperature protection, Auto Sensor break protection, Auto Error Indication,
- All essential accessories like Digestion Tubes, SS Insert Rack, Exhaust Manifold, Suction assembly for safe removal of acid fumes

#### **Part B. Automatic Distillation System**

- Autosequencing Microprocessor based PC Compatible Distillation System with in-built software with 30 predefinable user storage programs
- Automatic sequencing with auto Intelligent run of programmable steps, Automatic Dilution, Automatic Alkali Addition, Automatic Steam Processing, Process over indication with alarm with delay time feature, Automatic titration connectivity feature for future upgradation
- Two line alpha numeric digital LCD display, RS 232 interface for connectivity to PC
- Tube insert error indication, Auto door open warning indication, Auto deactivation of System on error diagnosis, Adjustable steam power, Auto online water saving mechanism, Stainless steel non corrosive steam Generator, Fully Automatic water level monitoring with centrifugal refilling pump & Peristaltic pump for reagents addition, I Electrical Requirement – 220 - 230V/50Hz.
- The control panel unit along with inbuilt temperature controller, timer, mother board and SMPS should be isolated in separate compartment to protect electronics from wet chemistry & acid/ alkali process area for longevity and safety of all electronic components.
- Nitrogen level : 0.1 to 200 mg Nitrogen (Min / Max Detection Limit)
- Nitrogen Reproducibility:  $\pm 0.1\%$  RSD, Nitrogen Recovery :  $> 99.5\%$
- Electrical Requirement: 220-230V single phase 50Hz A.C



		<ul style="list-style-type: none"> <li>• Frost –free, Double door refrigerator with LET lighting</li> <li>• Smart Inverter Compressor – Energy efficient, less noise &amp; more durable</li> <li>• Energy rating: 2 star</li> <li>• Refrigerant :R600A</li> <li>• Shelf Type: Trimless tempered Glass; No. of Shelves: 03 and a lower shelf for keeping fruits and vegetables.</li> <li>• Manufacturer Warranty: 01 year on product; 10 years on compressor (T&amp;C)</li> <li>• Works at 230 Volts supplied with plug and cord.</li> </ul>	
27	Distillation Unit	<ul style="list-style-type: none"> <li>• High purity pyrogen free distilled water</li> <li>• Distillation output capacity : 2.5 L/h</li> <li>• Silica sheated quartz heater</li> <li>• Boiler and efficient condenser made of borosilicate.</li> <li>• Supplied with power supply. Voltage: 220/240 V with 50/60Hz single phase supply.</li> <li>• Comes with stand for rust free operations</li> <li>• Built in safety cutoff device</li> <li>• Conductivity : 1-2 <math>\mu</math>s/cm, pH:5.5-6</li> </ul>	02
28	Vacuum Pumps	<ul style="list-style-type: none"> <li>• Materials of Construction</li> <li>• Body: Die-cast aluminum</li> <li>• Diaphragm: Neoprene</li> <li>• Seals: Stainless steel</li> <li>• Filter Elements: Polyurethane foam</li> <li>• Dimensions Overall Length: 20 cm (7.9 in.) Overall Height: 27.5 cm (10.8 in.) Width: 16.5 cm (6.5 in.)</li> <li>• Free Air Flow 230 V: 472 cm<sup>3</sup>/s (1.0 cfm) (50 Hz), 613 cm<sup>3</sup>/s (1.3 cfm) (60 Hz)</li> <li>• Vacuum: 61 cm Hg (24 in. Hg)</li> <li>• Pressure 4.2 kg/cm<sup>2</sup> (60 psig)</li> <li>• Motor :1/8 hp</li> <li>• Current 230 V: 1.9 A (50 Hz), 2.2 A (60 Hz)</li> <li>• Vacuum/Pressure Connection: 3/8 in. hose barb</li> <li>• Cost-Effective, Reliable Pumps, Smaller and Lighter Weigh, Reduces the risk of sample contamination. An air seal between the pump and cylinder provides oil- and dust-free vacuum/pressure delivery, Compact design saves laboratory space.</li> </ul>	01

29	Standard BSS sieves	<ul style="list-style-type: none"> <li>• Round brass BSS sieves :</li> <li>• Size: 200 mm diameter</li> <li>• Various BSS sieves needed to be provided with the following BSS sieve size numbers: BSS 16, BSS 25, BSS 52, BSS 100, BSS 150, BSS 200, BSS 500</li> </ul>	01
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**BID SECURITY DECLARATION**

I/we hereby understand and accept that if I/we withdraw or modify my/our bids during the period of validity, or if I/we are awarded the contract and on being called upon to submit the Performance Security/ Security Deposit, fail to submit the Performance Security/Security Deposit before the deadline defined in the request for bid document/Notice Inviting Tender, we shall be debarred from exemption of submitting Bid Security/Earnest Money Deposit and Performance Security/Security Deposit for a period of 6(six) months, from the date we are declared disqualified from exemption from submission of EMD/SD, for all tenders issued by Rajiv Gandhi University, Arunachal Pradesh published during this period.

(Signature with date)

(Full name, designation & address of the person duly authorized sign on behalf of the bidder)

(Name, address and stamp of the tendering firm)