

Sealed quotations from reputed manufacturers/dealers/suppliers are invited for supply and installation of the items given below in the Department of Bioengineering and Technology, GUIST, Gauhati University Under AICTE-NEQIP scheme

SR. NO	INSTRUMENTS	SPECIFICATION	Quantity
1	<b>Vortex</b>	<ul style="list-style-type: none"> <li>• Vortex Mixer with standard top cup (Adjustable speed)</li> <li>• Should have touch and continuous operations</li> <li>• Speed range should be 0-2500 rpm, step less speed regulation</li> </ul> <p>It should have the facility to used for various mixing applications with optional adapters, handles up to 48 tubes</p> <ul style="list-style-type: none"> <li>• Permissible ambient temperature range should be 5-40°C</li> <li>• Permissible relative humidity should be 80%</li> </ul>	3
2	<b>Hot Air Oven With Digital Temperature controller cum indicator</b>	<ul style="list-style-type: none"> <li>➤ Capacity: 45 Liter.</li> <li>➤ Inner Chamber Made: S.S. &amp; Outer body M.S.</li> <li>➤ Inner Dimension: 350 x 350 x 350 mm.(14'' x 14'' x 14'')</li> </ul> <p>Temp. Range: 50<sup>0</sup>C to 250<sup>0</sup>C. Heating elements are placed ribs at the bottom and sides. Two indicators and on/off switch. To work on 220/230 volts A. C. With or without one number.</p>	2
3	<b>Colorimeter</b>	Complete with digital firing unit, digital differential thermometer, Vessel with bomb support, water jacket, Oxygen Cylinder (10 kg approx.)	1
4	<b>Soxlet apparatus</b>	<ul style="list-style-type: none"> <li>➤ Temp. Range 50<sup>0</sup>C to 350<sup>0</sup>C</li> </ul> <p>The complete soxhlet apparatus consists of solvent reservoir extraction assembly with 3/6 extraction places of various diameter to suit 100ml flasks to 250ml flasks and built in steam generator. Complete with stand, clamp holder soxhlet extraction (condenser) .</p>	1
5	<b>pH meter -5</b>	pH, mV and temperature measurement. Automatic or Manual temperature Compensation⊙ 3 point pH calibration, Automatic buffer recognition.Buffers	5

		selectable from 1.68pH, 4.00pH, 4.01pH, 6.86pH, 7.00pH, 9.18pH, 9.20pH, 10.01pH and 12.45pH Bi directional RS232 interface. Baud rate selectable from 1200, 2400, 4800 and 9600. Single and continuous print out of measuring parameters. Multiple Printout types. Combinations selectable from Sr. No., pH, mV, Date, time and temperature. Real Time Clock. Calibration report as per GLP requirements. Electrode Slope and mV offset display. Memory storage of 100 pH measurements. Data logging facility up to 500 results. Data logging interval selectable from 5S, 10S, 20S, 30S, 1M, 2M and 5M. mV accuracy $\pm 1$ mV or less, pH accuracy $\pm 0.02$ (minimum), mV resolution 1mV or less. mV range $\pm 1999$ mV or more Temperature calibration with respect to solution of known temperature.	
6	<b>Water bath</b>	<ul style="list-style-type: none"> <li>➤ Capacity: 25 Ltrs.</li> <li>➤ Tray size : 425 × 300 × 150 mm ( 12 Flask of 250 ml)</li> <li>➤ Shaking Speed Range: 40 to 140 RPM.</li> <li>➤ To work on 220/230 volts A.C. Supply.</li> </ul> <p>Temperature range from Room temperature to 100 Degree C. Temp. Controlled by Digital Temp. Controller. Controller/ PID with an accuracy of <math>\pm 0.5</math> Degree C. Double Walled inside made of stainless steel 304 qualities and outside M.s Duly powder coated.</p>	1
7	<b>Balance (upto 3 decimal place)</b>	<p>The Balance is compact in design &amp; Windshield 3 sides accessible.  The balance is Fully Microprocessor based with in-built Internal weight.  Compact and ergonomic design.  Built in Application : Formulation, Totalling , Piece Counting, Percent weighing, Check weighing, Dynamic weighing, Statistic &amp; Free Factor.  ISO 9001/ISO 14001 Certified For Quality And Environmental Standard.  RS232 Interface for Printer/ Computer is built in as standard.  Maximum Capacity : 220 gm  Readability : 0.001g  Repeatability : 0.01g  Linearity : 0.002g  Weighing Pan Size : Dia. 120 mm  Setting Time : 1sec  OVERLOAD PROTECTION : Protects the weighing cell against excess weight overload.  Auto Calibration : Fully Automatic Calibration with internal weight.  Warranty - 5 years</p>	2
8	<b>Balance (upto 2 decimal place) -3 Nos</b>	Max. ( Capacity ): 600 g	3

		<p>Readability: 0.01 g. Repeatability: ( ± ) 0.1 g Linearity: ( ± ) 0.2 g. Calibration: Automatic External .Display: Red Light. Make: WENSAR. Pan Size (mm): 120 Ø mm. Tare Range Full: Full Operating Temperature: +10°C to +40°C Power Supply: AC 220V / 50-60 Hz Dimension (LxWxH) mm :360 X 230 X 140 , Weight: 2.5 Kg Warranty - 5 years</p>	
9	<b>Dancing shaker</b>	<p>speed &amp; tilt is adjustable for a wide range of applications. Flat Upper surface to provide speed &amp; tilt angles Tilt angle: 0° - 30°, Variable Shaking Movement : Rocking (3 Dimensional) Speed range 2-30 rpm, Variable Frequency (Hz) : 50 Voltage (AC) : 220~240 Volt Permissible ambient Temp. : 4 to +45°C Permissible Relative humidity: 80%</p>	1
10	<b>Autoclave</b>	<p>➤ <b>Capacity: 35 Ltrs.</b> ➤ <b>Size : 300 x 500 mm</b> Inner body S.S 304 Outer body is M.S</p> <p>The chamber is absolutely leak – proof and can be operated at any selected point in between 5 to 20 pounds per sq. Inch. It is provided with Silicon Gasket, pressure gauge, pressure release valve S. S. Basket, safety valve, water level indicator &amp; Pressure Control Switch. <b>With Digital Temp. Controller</b></p>	1
11	<b>PCR (normal non gradient)</b>	<p>Block format :96-well, 0.2 mL . -Blocks provide independent temperature zones, offering better accuracy than gradient thermal cyclers. -Blocks range:10°C (5°C zone-to-zone, with 3 Different Temp. zones) -Large color LCD touch screen simplifies operations -PCR volume range:10–100 µL -Temperature accuracy:±0.25°C (35–99.9°C) -Controllable ramp rate -Max block ramp rate:4°C/sec -Max sample ramp rate:3°C/sec -Temperature range:0–100.0°C -Temperature uniformity: &lt;0.5°C (30 sec after reaching 95°C) -Enabled to run Fast chemistry. -Programmeoverwrite protection.</p>	1

		<ul style="list-style-type: none"> <li>-Edit program during experiment.</li> <li>-One-touch incubation.</li> <li>-Auto restart (After power outages)</li> <li>-WiFi-enabled for remote monitoring—conveniently monitor your instrument from anywhere with our free PCR Essentials mobile app.</li> <li>- Ready to use USB drive to easily back up your data—simply plug in a USB drive and follow the on-screen prompts to back up your data simply and effortlessly.</li> </ul>	
12	<b>Distilled water plant 4L/hr capacity with power supply</b>	<ul style="list-style-type: none"> <li>➤ Output Capacity: 4L/hr</li> <li>➤ Total power Consumed: 3.5 KW</li> <li>➤ Conductivity S/cm : <math>&lt;3 \times 10^{-6}</math></li> <li>➤ Distillate Temp : 65-75°</li> <li>➤ Water requirement :2Lit/min</li> </ul>	1
13	<b>Multimode reader</b>	<p>Compact, affordable system to read 6- to 384-well microplates and different Micro-Volume Plates with temperature incubation capacity upto 50 °C</p> <p>Absorbance, fluorescence, luminescence and AlphaScreenJ AlphaLISA measurements capabilities</p> <p>Absorbance wavelength range 200 to 999 nm in 1 nm increments</p> <p>Data analysis software for reader control and all data reduction, needs a color laser printer, a desktop computer with core i5 processor, 8GB RAM, 1TB hard disk</p> <p>Flexibility of monochromator based absorbance with high performance filter-based fluorescence/luminescence</p> <p>Low volume (2 p,L) nucleic acid and protein quantification with available Micro-Volume Plates</p> <p>Cell friendly orbital and linear shaking and advanced incubator design to 50 °C with proper control</p> <p>Optional dual reagent injector module with angled tips, for inject/read applications, such as enzyme kinetics and Dual-Luciferase Reporter</p> <p>Modular and upgradable.</p> <p>Detection modes: UV-Vis absorbance, Fluorescence intensity,Luminescence,Time-resolved fluorescence (secondary mode),Alpha</p> <p>Read methods: End point, kinetic, spectral scanning and well area scanning.</p> <p>Microplate types: 6- to 384-well plates</p> <p>Other labware supported: PCR plates, Petri and cell culture dishes,Micro-Volume Plates.</p>	1

		<p>Temperature control: Incubation temperature upto 50 oC with proper Control +0.2 °C at 37°C Shaking: Linear, orbital</p> <p>Wave length range: 200 - 999 nm. 1 nm Fluorescence Wave length range: 200-850 nm Luminescence Wave length range: 300-700 nm Alpha Detection capability</p>	
14	<b>Incubator</b>	<p>➤ Size : 455 x 410 x 610mm Temp. Controlled By Microprocessor based PID temp. Inner Stainless steel. Outer body M.S duly powder coated. Temperature Range: 5-50°C. CFC free Compressor. Full View inner glass door. Lock &amp; Key Arrangement. Caster Wheel Mounted cabinet</p>	1
15	<b>Hot air Oven</b>	<p>Inner body s. s &amp; Outer M.s Duly powder Coated. Capacity: 45 Liter. Inner Chamber Made: S.S. &amp; Outer body M.S. Inner Dimension: 350 x 350 x 350 mm. (14'' x 14'' x 14'') Temp. Range: 50°C to 250°C. Heating elements are placed ribs at the bottom and sides. Two indicators and on/off switch. To work on 220/230 volts A. C. With or without one number.</p>	1
16	<b>Orbital Shaker</b>	<p>have high capacity of <u>upto</u> 24 x 125 ml, 14 x 250 ml, 9 x 500 ml, 5 x 1l and 2 x 2l flasks and bottles and orbital shaker should be supplied Adjustable spring platform for unique vessel <u>types</u>, should have horizontal circular 19 mm orbit for aeration and mixing, Speed Range - 30 – 300 rpm, Variable with Speed Increment of 1 rpm, LED display with push button for <u>easy</u> and convenient fixture of <u>parameter</u>.</p> <p><b>Warranty : 5 years</b></p>	1
17	<b>Tissue Homogenizer</b>	<p>Motor rating input [W] 125, output [W] 75 Volume range min. (H2O) 0.5ml to 100ml Viscosity max. [mPas] 5000 Speed range [rpm] 8000 - 30000 Speed display scale and Speed control steeples</p>	

		<p>Noise without element [dB(A)] 65 or better  Extension arm diameter [mm] 8 and length [mm] 100  Power-on time ON [min] 10 and of time OFF [min] 5  <b>Protection class according to DIN EN 60529 IP 30</b>  Voltage [V] 230, Frequency [Hz] 50/60  Should be compatible with plastic disposable Dispersing element  Accessories: Stainless Steel Dispersing element 0.5-10ml and 1-50 ml, Plate stand and Boss head Clamp, Clamp rod and stand  Warranty: 3 years</p>	
18	<b>Ultrasonicator</b>	<p>The Sonicator of sample volumes from 0.1 to 1000ml. sonotrode Ultrasonicator  Probe made of Titanium, tip diameter 3 mm, approx length 100 mm, male thread M8 x 1, for samples from 5 ml up to 200 ml</p> <p><b>Features</b> :It is designed for stand- mounted operation 200 watts, ultrasonic frequency 24 kHz Automatic frequency tuning system. Amplitude adjustable from 20 to 100% Dry running protected, with 9 – pin DSUB interface. In portable case for use with stand ST1- 16 or sound protection box, with mounting tools. Ip40 grade, Titanium horn with female thread MB x 1 demensoions (L x W x H): 290mm x 210mm x100mm .Weight: 2.3kg.</p> <p><b>With Sonotrode</b> Ultrasonicator Probe made of Titanium, tip diameter 3mm, approx length 100mm, male thread M8 x 1, for samples from 5ml up to 200ml</p>	1
19	<b>Lyophilizer</b>	<p>Equipment should be table top mode  Equipment should have Ice Holding trap Capacity of atleast 2liter  Cold Trap Temperature Should be atleast -40° C  Drying chamber size Should be atleast Ø160 x 230mm, Cylindrical made of thick gauge 304 Grade Stainless Steel or SS 316  Cold trap size should be 160mm x 100mm , cylindrical, made of thick gauge 304 / 316 grade stainless steel should be beneath the drying chamber itself to reduce space  Should be supplied with an External Vacuum Pump: 2 stage direct drive, atleast 100 ltrs per minute  Should have Vacuum Indication using Pirani gauge  Ultimate Vacuum Level of 0.5 to 0.002 mbar should be achievable  Microprocessor based controller with Digital Display, PT 100 sensor should be</p>	

		<p>present  Temperature resolution: 1° C  Control operation should done using individual switches Refrigeration ON/OFF, Vacuum ON/OFF  Equipment Exterior should be a sturdy Powder coated mild steel panel.  Refrigerants used should be CFC free  Facility for water draining should be present  Accessories like Conical Flask atleast 250ml with bend adaptors to be supplied along with the instrument for immediate operation and testing  Power supply: 230 V, 50 Hz, single phase  Warranty: atleast 5 years to be provided</p>	
<b>20</b>	<b>Rotary evaporator with Vaccum pump, digital vacuum controller and chiller</b>	<ul style="list-style-type: none"> <li>• DC brushless motor drive with speed range of 20-280 rpm</li> <li>• 1500 cm2 or higher cooling surface area for better solvent recovery rate.</li> <li>• Clock-Wise &amp; Counter Clock-Wise Rotation with interval option for faster powder drying and evaporation</li> <li>• Motorized lift with safety stops function</li> <li>• Timer function and RS 232 interface for software connectivity</li> <li>• IR communication with heating bath which auto power off and avoids wired communications</li> <li>• Provision to connect vertical, diagonal, reflux and dry ice condenser on same drive if necessary.</li> <li>• Heating temperature range of RT to 180°C</li> <li>• Heating bath should have heat control accuracy of ±1 K or better</li> <li>• Bath capacity of 3 liters or more.</li> <li>• Safety temperature circuit and Dry Run protection of heating bath.</li> <li>• Locking function of heating bath for avoiding accidental changes of settings</li> <li>• Should have a solvent trap ahead of vacuum pump.</li> <li>• <b>Warranty : 5 years</b></li> </ul> <p><b>Vaccum pump</b></p> <ul style="list-style-type: none"> <li>• Two stage diaphragm pumps made of PTFE for protection against aggressive solvents</li> <li>• Transparent front cover for detection of solvent build up</li> <li>• Pump rate or flow rate of 1.7 m3/h or more</li> </ul>	1

		<ul style="list-style-type: none"> <li>• Ultimate vacuum level should be equal or less than 8 mBar</li> <li>• Should have provision to connect a solvent trap ahead of vacuum pump</li> <li>• To be supplied with Vacuum Valve controller to Allows for adjusting the set vacuum value on the digital manometer</li> <li>• <b>Warranty : 3 years</b></li> </ul> <p><b>Chiller:</b></p> <ul style="list-style-type: none"> <li>• Temperature range : -20°C to RT</li> <li>• 4 liters bath volume with level indicator</li> <li>• 400 W cooling capacity at 20°C</li> <li>• Flow rate should be 18 liters per minute or more with pump pressure control</li> <li>• Speed regulated compressor for temperature stability of <math>\pm 1</math> K and low noise level</li> <li>• Pump pressure flow and suction should be closer to 0.3 and 0.2 bar respectively</li> <li>• Safety drains and filters in front of the device for easy handling and cleaning</li> <li>• Should have acoustic and optical warning signal</li> <li>• <b>Warranty : 5 years</b></li> </ul>	
21	Colorimeter	<p>Complete with digital firing unit, digital differential thermometer, Vessel with bomb support, water jacket, Oxygen Cylinder (10 kg approx.)</p> <p><b>Warranty : 5 years</b></p>	1
22	Magnetic stirrer	<p>Number of stirring positions 1, <b>clockwise and anticlockwise rotation option should be available</b></p> <p>Stirring quantity max. per stirring position (H<sub>2</sub>O)800ml of higher</p> <p>Motor rating output [W] 3</p> <p>Speed range [rpm] 15 – 1500 or better</p> <p>Stirring bar length max. [mm] 25</p> <p>Set-up plate material polyester</p> <p>Set-up plate dimensions [mm] Ø 100</p> <p>Dimensions (W x H x D) [mm] 117 x 12 x 180 or less</p> <p>Weight [kg] 0.3 or less</p> <p>Protection class according to DIN EN 60529 IP 65</p> <p>Voltage [V] 100 – 240, Frequency [Hz] 50/60</p> <p><b>Warranty : 5 years</b></p>	6

23	<b>Magnetic stirrer with hot plate</b>	<p>Number of stirring positions 1  Stirring quantity max. per stirring position (H<sub>2</sub>O) [l] 5  Motor rating output [W] 1.5  Direction of rotation left  Speed control scale 0 - 6  Speed range [rpm] 100 - 1500  Heat output [W] 250  Heating temperature range [°C] 50 - 500  Heat control LED  Heating rate heating plate [K/min] 2.5  Fixed safety circuit [°C] 550  Set-up plate material ceramic 100 x 100 mm  Protection class according to DIN EN 60529 IP 21  Voltage [V] 230 / 120 / 100, Frequency [Hz] 50/60  <b>Warranty: 5 years</b></p>	2
24	<b>Mini spin</b>	<ul style="list-style-type: none"> <li>• Maximum capacity: 6 x 1.5 mL tubes</li> <li>➤ Maximum speed/RCF: 6,000 rpm/2,000 x g</li> </ul> <p>Voltage [V] 100 – 240. Frequency [Hz] 50/60  Cover opening automatic&amp;Rotor exchange without tool  Should supply Protective cover  Adapter set 0.2 ml x 6  <b>Warranty : 5 years</b></p>	2
25	<b>Microtome</b>	<p>A very popular and standard but economically priced sectioning device providing all advantages of a precision Rotary Microtome. The interior mechanism is seated on a heavy cast iron base and completely covered with a metal cover for protection from dust and grit. The Microtome is equipped with a ball and flange type object holder to get exact centring of specimen, knife holder with lateral movement permitting use of complete knife edge and has a feed range from 1-25 microns in steps of one micron each. All components are fabricated from Standard alloys/metals. The knife supplied with the Microtome is forged from imported fine grain tool steel, tested for micro-structures and it is also heat treated for optimum rigidity and sharpness. Supplied with following accessories in Wooden Storing Cabinet.</p> <ul style="list-style-type: none"> <li>➤ Free adjustments :1-25 microns</li> <li>➤ Minimum thickness : one Micron</li> </ul>	1

		<ul style="list-style-type: none"> <li>➤ Total feed Excursions : 28mm</li> <li>➤ Overall Dimensions : 30 x 33 x 28cm</li> </ul> Net Weight: 35kg. Approx. <b>Warranty : 5 years</b>	

**All Interested vendors are requested to send their seal quotation citing the respective NIQ No. Over the envelope for supply of the above item to Director, GUIST, Gauhati University within Ten (10) days i.e on or before 16/03/17**

**Rates must be shown in the following order**

<b>Sl. No</b>	<b>Item</b>	<b>Detail specification</b>	<b>Unit Price</b>	<b>Tax</b>

**Note:**

- **All quotation to be deposited with 3% EMD**
- **DSIR certificate will be provided , Road permit, custom duty clearance should be taken care by the suppliers**
- **Vendor to mention details of their after sale support available with Name and designations**
- **All Prices are inclusive of all charges and VAT as applicable UPTO Gauhati University to be quoted as per format**
- **All items are 5 years warranty**
- **Gauhati University reserve the rights to modify/cancel the requirements**

**(Director GUIST)**