

File no.01 (03)/2016-SESD

Subject: Invitation- Quotation for Scientific items/ Equipment

Quotations are invited for the following scientific items:

Sr. No.	Instruments	QTY	Technical Specification
1.	Water Bath	1	Annexure-I
2.	Autoclave	1	Annexure-II
3.	Mini Vortex for Eppendrof	1	Annexure-III
4.	Oven	1	Annexure-IV
5.	Sonicator Bath	1	Annexure-V
6.	Magnetic Stirrer	2	Annexure-VI
7.	Point Source Sampler	1	Annexure-VII
8.	Freeze Double Door	1	Annexure-VIII
9.	Vacuum Desiccator	2	Annexure-IX
10.	Vacuum filtration Unit	1	Annexure-X
11.	Water Sampler	1	Annexure-XI

The technical specification of each item given in the Annexure I to Annexure XI. The quotation will be accepted in compliance with following terms and conditions:

1. The quotation should be submitted for each item separately.
2. The quotation will be considered in compliance with the technical specification.
3. The quotation should indicate the guaranty and warranty period including the proper working of the equipment.
4. The equipment will be accepted if it is meeting the technical specification and found working in good condition in the laboratory. The delivery charges will be borne by the supplier.
5. The quotation should reach to the Dean, School of Environment and Sustainable Development, Central University of Gujarat, Sector-30, Gandhinagar on or before **9th August, 2016** (3:00 pm).
6. The quotation will be opened on the same day at 4:00 pm in the office of Dean, School of Environment and Sustainable Development, Central University of Gujarat, Gandhinagar. The quotation received after 3:00 pm will not be considered.
7. The quotation if any regarding acceptance of quotation or non-acceptance quotation will not be entertained.
8. Inviting Quotation does not give any guarantee for consideration and placing the orders.

Prof. M.H. Fulekar,
Dean, SESD

Annexure-I

Technical Specification

Sr. No.	Items	Technical Specifications
1.	Water bath	<ul style="list-style-type: none">• Size: LxWxD (500x300x180mm)• Double Wall: The water bath should be made up of double walled. The inside wall made of Stainless Steel and outside of Mild Steel Sheet coated with epoxy powder.• Lid cover: Lid of water bath should be made of Stainless steel 304 quality.• Insulation: The proper insulation should be provided on all sides except on top.• Temperature range: The temperature range from ambient to 100 °C with an accuracy of 0.5 °C.• Temperature controller: The Temperature is controlled by Microprocessed PID controller/Electronic Digital Temperature Controller-cum-Indicator.• Timer: Provided with Automatic electronic timer.• Heating Elements: Heating elements should be copper Nickel plated tabular type extend approximately the full length of the bath.• Temperature Display: LED.• Shelves: The bath provided with perforated and removable diffuser shelves.• Available voltage: 220/230 volts A.C.• Stirrer: The bath should be provided with Stirrer High Speed motor with stainless steel stirring rod and blade provided with speed regulator with 1/20 H.P.

Technical Specification

<p>2.</p>	<p>Autoclave</p>	<ul style="list-style-type: none"> • Dimension: Chamber Dimensions (450 x 600 mm) 98 L • Automatics cutoff: Automatic Low water cut off device for element • Wall: Sturdy double wall construction with boiler made of Stainless Steel 304 (16 gauge sheet) • Outer shall also make of Stainless Steel Sheet. Boiler and outer shell provided with air insulation. • Lid is made of Stainless Steel Sheet and tightened around by radial locking. • Sterilizers are fitted with water level arrangement to indicate water position inside the boiler. Pressure gauge, Air/Steam release cock two safety valve are also provided. The autoclave is fitted with indfoss pizzostat and can be set between 10 to 20 PSI. • Operating temperature & pressure Sterilizing Temp.: 121 °C Sterilizing pressure: 1.2 to 1.3 kg/cm (15 to 17 psi) Power Requirement: Suitable to operate on 220 Volts, single ph, 50 Hz, AC • Warranty: The instrument should be provided with One year warranty.
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Technical Specification

Mini Vortex for Eppendorf	<ul style="list-style-type: none">• Attachment: Provided with 3 attachments for shaking tubes, flasks & micro centrifuge tubes.• Speed Regulator: Provided with speed regulator & switch for constant on & touch on.• Base: Heavy metal base & rubber feet prevent movement of the shaker during use.• Speed: 3000 RPM maximum
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Technical Specification

3.	Oven	<ul style="list-style-type: none">• Size inside (WxHxD): (605 X 455 X 910mm)• Wall: Double walled inside made of thick stainless steel and outside mild steel furnished in Epoxy Powder Coating.• Door: Door should be provided with better grip with suitable synthetic gasket.• Insulation: The double walled chamber of hot air ovens should be filled with high grade insulation to prevent heat loss.• Heating elements: Heating Elements should be at the bottom and in both the side ribs for uniform temperature.• Ventilators: Should be provided with adjustable air ventilators.• Temperature control: The temperature should be controlled by Electronic Digital Controller cum Indicator from ambient to 250°C.• Temperature sensitivity: Temperature Sensitivity of plus minus 0.5°C.• Electrical Supply: 220/230V AC• Air circulation: Complete with air circulating fan.• Warranty: The instrument should be provided with minimum one year warranty or more.
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Technical Specification

4.	Sonicator Bath	<ul style="list-style-type: none">• Tank Volume (litres):• Ultrasonic Wattage:• Ultrasonic Frequency: 40 ± 3 KHz• Tank Dimension (Taper) LxWxH (mm):• Outer Dimension LxWxH (mm):• Heating: Digitally Controlled ambient to 80°C• Digital Timer: 5 to 60 Minutes• Tank Drain• Inner Tank and outer Material: Stainless steel• Power Supply: 220 Volt, Ac 50 Hz• Warranty: Instrument should provide with minimum one year warranty
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Technical Specification

5.	Magnetic stirrer	<ul style="list-style-type: none">• Name of the Instrument: Hot Plate Magnetic Stirrer• Work plate material: The stirrer top plate should be provided with Glass ceramic• Maximum stirring quantity: 10 ltrs water• Speed range: 0-1500 rpm with ± 1 rpm speed display resolution• Speed display: LCD display for actual speed• Heating temperature range: Room Temperature to 500°C or more• Temperature display accuracy: ± 1 °C• Motor: The instrument should be provided with noise free Brushless motor• Power Supply: 200-240 Volt AC, 50/60 Hz• Warranty: Minimum one year
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Technical Specification

6.	Point Source sampler	<ul style="list-style-type: none"> • Stack Temperature Range: Ambient to 600 °C read on a Digital Pyrometer. • Stack Velocity Range: 3 to 60 m/sec • Thermocouple: T/C sensor in SS 304 casing, length of insertion: 1 m/ 2 m with 2 m long cable. • Manometer: Digital manometers capable of measuring the pressure with 0-1300 mm of H₂O range • Pitot tube: Calibrated S-type fabricated -SS 304, extendable upto more than 1m long • Particulate Sampling: 0 –30 lpm collection on thimble type filter up to 0.3-micron rating. • Gaseous Sampling: 0 – 3 lpm collection in a set of Borosilicate glass impingers. • Rotameter: Acrylic body with 2% FSD accuracy, 0 – 30 lpm for PM and 0-3 lpm for GAS. • Sampling Probe: 1m long SS tube with inside lining of Teflon & provision for controlled at 120 °C heating. • Filter Holder: Glass filter holder with heating provision suitable to hold either cellulose filtration thimble (size 28mm ID X 100mm long) or glass fibre thimble (size 19mm ID X 90mm long). • Nozzles: A set of 3 glass nozzles. • Digital Clock: 0-60 minutes, 1 second readout with start and stop switches. • Dry Gas Meter: Range 0 to 40 LPM connected to SPM line. • Sampling Train: 3 Nos. of 240 ml cap glass impinger, 1 No. condenser glass coil, 1 No. moisture bottle 400 ml & 1 No. cartridge tube accommodated in separate ice tray with instrument panel with a provision to cool down flue gas temperature.
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		<ul style="list-style-type: none">• Vacuum Pump: Monoblock Rotary Vane type, oil free, 0.5 HP single phase motor (230V) with more than 50 lpm free flow capacity.• Warranty: The instrument should be provided with minimum one year warranty
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Annexure-VIII

Technical Specification

7.	Double Door Refrigerator	<ul style="list-style-type: none">• Model Type: Double Door• Capacity- 275 L• Defrosting: Fully Automatic• Voltage Range: 140V - 260V• Shelves: No. of shelves in the main compartment: 2-3• Rating: Minimum 4 star rating• Warranty: Should be provided with minimum one year warranty
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Technical Specification

8.	Vacuum Desiccator	<ul style="list-style-type: none">• Material: Made up of polycarbonate cover, polypropylene body• Exterior Dimensions: (" W) 10.75, (" H) 12.25, (" D) 9.1• Diameter: 240 mm• Flange OD: 10.75" (273 mm)• Clearance above plate: 198 mm• Plate size: 230 mm
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Technical Specification

9.	Vacuum Filtration Assembly	Type: Three-branch Vacuum Filter <ul style="list-style-type: none">• Main Base: Made up of Stainless steel construction• Valve: Each filter holder should be controlled by valve separately.• Funnel: Unbreakable polysulfone funnel with 300ml capacity• Flask: 1000ml capacity• Clamp: Made of aluminum alloy• Holder: Holder should accommodate 47 mm membrane filter• Tubing: Flexible tubing one meter• Vacuum Pump: Vacuum pump diaphragm type-oil free• Warranty: Should be provided with minimum one year warranty
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Annexure-XI

Technical Specification

10.	Water sampler	<ul style="list-style-type: none">• Chamber: Collecting is transparent acrylic plastic with lead collar and rubber end caps• Furnished with 20 meters of calibrated nylon line• In use, sampler is lowered to desired sampling depth and brass weight is released to trigger mechanism which pulls in rubber end caps to seal sample in chamber.• Outlet for removal of water sample is mounted on the side of the cylinder.
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