Gautam Buddha University

Greater Noida – 201 310

Website : www.gbu.ac.in

BID FORM

FOR THE SUPPLY OF EQUIPMENTS FOR

ENVIORNMENTAL ENGINEERING LABORATORY (I&II)

OF

SCHOOL OF ENGINEERING

Gautam Buddha University
Greater Noida – 201 310

TENDER FOR SUPPLY OF EQUIPMENT FOR ENVIORNMENTAL ENGINEERING LABORATORY (I&II) OF SCHOOL OF ENGINEERING

Tender	**Supply of Equipment for Environmental Engineering Laboratory (I & II)**
Opening Date	13th May 2011
Closing Date	13th June 2011 upto 3.00 p.m.
Last date of Bid Submission	13th June 2011 upto 5.00 p.m.
Technical Bid Opening Date, Time & Place	14th June 2011 at 3.00 p.m. Venue : Conference Room of the Registrar Office, 1st Floor, Administrative Building, G.B.U., Gr. Noida.
Earnest Money Deposit	2% of the offered cost
Completion Period	Within 10-12 weeks from the date of Purchase Order issued
Bid System	Two Tier : 1) Technical Bid 2) Financial Bid
Technical Bid Shall Contain	i. Technical specifications of each equipment quoted ii. All documents in support of commercial terms & conditions and eligibility criteria. iii. Bidders Proforma iv. EMD & Tender Fee demand drafts / pay orders.
Financial Bid	The Financial Bid shall contain rate schedule only. The price shall be in words as well as in numeric numbers.

"TECHNICAL BID (BIDDER'S PROFORMA)"
(To be submitted in separate envelope)

1. Name of the firm: ……
2. Date of incorporation……..
3. Name of the company – Government / Public Ltd. / Private Ltd. / Partnership / Proprietorship : ……
4. Specify the number of years in this line of activity by the company:……..
5. Sales Tax/VAT registration No. (please attach certificate) : ……
6. Experience (in year) of supplying & installation for similar software to IITs, NIT's or Central Universities or any Academic Institute of National Repute (please attached certificate/P.O.) : ……..
7. Turnover in the last three financial years (Figures should be in Indian Rupees in Lakhs; please attach the certified copies of balance sheet with trading, profit & loss account) : (if the figures for 10-11 are not available then they may furnish balance sheet of year 07-08)

2008-09	2009-10	2010-11

8. Provide the postal address, telephone & fax numbers, and email address of the nearest service center : ……
   ……..
9. Mention delivery period from the date of the placement of an official purchase order : ……..
10. Enclose the list of customers to whom you have supplied /serviced during the last 3 years ending 31/03/2011 with full postal address and name of the contact person with phone, FAX numbers, and E-mail-id, billing amount etc. Certificate regarding satisfactory performance from the minimum three end users should be furnished.
11. Are you the manufacturer / authorized dealer / distributor/ reseller for the product quoted (please attached relevant certificate): ……..
12. Was there any lapse or delay in supplying the goods ordered or any service related issue during the warranty period for the products supplied by your firm to different Institutes/Universities during last three years? If yes, provide details.
13. Deviations in specifications, if yes, please mention in separate sheet.
14. Whether technical specification are attached with Technical Bid or not. Yes/No

DECLARATION

1. The rates quoted in financial bid are inclusive of all taxes, packing, handling and installation charges.
2. The information given in the financial bid by the undersigned is correct.

(SIGNATURE OF THE BIDDER)
WITH SEAL

NAME : ……

ADDRESS : ……

: ……

: ……

Tel./Mobile No. : ……

Note: The financial bid is required to be submitted separately in a sealed cover super scribing as 'Supply of Equipments for Environmental Engineering Lab. (I&II) of School of Engineering.

Annexure : 'A'

Gautam Buddha University

School of Engineering

TECHNICAL SPECIFICATIONS: ENVIRONMENTAL ENGINEERING LABORATORY (I & II)

S. No.	Experiments	Equipment	Specifications
1	Shaking & Mixing	Incubator Shaker	- Large LED display for speed and time settings - Controls with antimicrobial coating for reduction of bacteria - Integrated PID temperature control (use of temperature sensors) - Junction box in the workspace for connection of an additional temperature sensor - Electronic temperature and speed control - Electronic timer switch: 0 - 999 h (set by the minute or by the hour) - Unit switches off automatically if disturbed - Unit stops automatically when hood is lifted - Collecting tray with drain hose on rear of unit - Simple operation - All functions can be controlled and documented using the Software Technical Data Type of movement orbital Shaker diameter [mm] 20 Permissible shaking weight (incl. attachment) [kg] 20 Motor rating input [W] 82 Motor rating output [W] 24 Permissible ON time [%] 100 Speed min (adjustable) [rpm] 10 Speed range [rpm] 10 – 500 Speed display

			LED Timer yes Timer display 7 segment LED Time setting range [min] 1 – 59940 Operating mode timer and continuous operation Heating temperature range [°C] room temp. +5° - 80 Heat output [W] 1000 Temperature display yes Temp. stability (0,2l H2O; RT 25°C, T=37°C) [±K] 0.1 Permissible ambient temperature [°C] 15 – 32 Permissible relative moisture [%] 80 Protection class according to DIN EN 60529 IP 30 RS 232 interface yes Voltage [V] 230 / 115 / 100 Frequency [Hz] 50/60 Power input [W] 1120
2	Stirring	Whirlmatic Motorless Magnetic Stirrer	Size……..400 x 400 x 70 mm Display……16 Character, Dual Line, Black.Lighted LCD Weight……16 Kgs Stirring Speed…Settable from 100 to 800 RPM through.Keyboard. Programmable count down Timer stirring up to 99 hrs 59 mins. Stirring Volume...Up to 1 Liter - 6 points or .Up to 200 ml - 15 points Housing……..FRP Stirring points….6 Nos for 1 Liter or 15 Nos. for 200 ml Distance between points…….128 mm for large vessels &.64 mm for small vessels Optional Accessories : Stirring Paddle – 13 x 15 mm (set of 6 Nos) Stirring Paddle – 10 x 40mm (Set of 15 Nos)

Glasswares

S. No.	ITEM DESCRIPTION	CAPACITY
1	Beakers	10ML
2	Beakers	50ML
3	Beakers	100ML
4	Beakers	250ML
5	Beakers	500ML
6	Beakers	1LIT
7	Beakers	2LIT
8	Bottles	300ML
9	Bottles Reagent	500ML
10	Boottles Reagent	1LIT
11	Bopttles Raegent	125ML
12	Bottles Raegent Wide M	100ML
13	Bottles Raegent Wide M	250ML
14	Bottles Raegent Wide M	500ML
15	Bottles Reagent Amber	500ML
16	Bottles Reagent Amber	1LIT
17	Burettes Boroflo	10ML
18	Burettes Boroflo	25ML
19	Burettes Boroflo	50ML
20	Burettes Boroflo	100ML
21	Cones, Imhoff	439MM
22	Condensers Allihn	400MM
23	Condensers Allihn	500MM
24	Cylinders Graduated (A)	5ML
25	Cylinders Graduated (A)	10ML
26	Cylinders Graduated (A)	25ML
27	Cylinders Graduated (A)	50ML
28	Cylinders Graduated (A)	100ML
29	Cylinders Graduated (A)	250ML
30	Cylinders Graduated (A)	500ML
31	Cylinders Graduated (A)	1LIT
32	Cylinders Graduated (A)	2LIT
33	Desiccators,Vacuum	200MM
34	Desiccators,Vacuum	300MM
35	Dishes, Culture Petri	100X15MM
36	Trays, Drying	320X180X51
37	Trays, Drying	404X257X61
38	Extraction Appartus Soxhlet	100MEDIUM
39	Flasks Boiling Florence	250ML
40	Flasks Boiling Florence	500ML
41	Flasks Boiling Flat Bottom	250ML
42	Flasks Erlenmeyer Graduated	50ML
43	Flasks Erlenmeyer Gradured	100ML
44	Flasks Erlenmeyer Gradured	250ML
45	Flasks Erlenmeyer Gradured	500ML
46	Flasks Erlenmeyer Gradured	1LIT

47	Eflasks Erlenmeyer Coniacl Narrow Mouth	250ML
48	Eflasks Erlenmeyer Coniacl Narrow Mouth	500ML
49	All Glass Filter Holder 47mm	500ML
50	Flasks Volumetric With Interchang	500ML
51	Flasks Volumetric With Interchang	10ML
52	Flasks Volumetric With Interchang	25ML
53	Flasks Volumetric With Interchang	50ML
54	Flasks Volumetric With Interchang	1ML
55	Flasks Volumetric With Interchang	2ML
56	Flasks Volumetric With Interchang	100ML
57	Flasks Volumetric With Interchang	250ML
58	Flasks Volumetric With Interchang	1LIT
59	Flasks Volumetric With Interchang	2LIT
60	Funnels ,Plain 60 Angle	25ML
61	Funnels ,Plain 60 Angle	50ML
62	Funnels ,Plain 60 Angle	100ML
63	Funnels Separating,Pear Shape	250ML
64	Funnels Separating,Pear Shape	500ML
65	Pipettes Gerber Milk	0.1ML
66	Pipettes Gerber Milk	0.2ML
67	Pipettes Gerber Milk	1ML
68	Pipettes Gerber Milk	*1ML
69	Pipettes Gerber Milk	2ML
70	Pipettes Gerber Milk	*2ML
71	Pipettes Gerber Milk	5ML
72	Pipettes Gerber Milk	*5ML
73	Pipettes Gerber Milk	10ML
74	Pipettes Gerber Milk	25ML
75	Pipettes Serological (A)	0.1ML
76	Pipettes Serological (A)	0.2ML
77	Pipettes Serological (A)	1ML
78	Pipettes Serological (A)	1ML
79	Pipettes Serological (A)	2ML
80	Pipettes Serological (A)	2ML
81	Pipettes Serological (A)	5ML
82	Pipettes Serological (A)	5ML
83	Pipettes Serological (A)	10ML
84	Pipettes Serological (A)	25ML
85	Pipettes Trasfer Volumetric	10ML
86	Pipettes Trasfer Volumetric	25ML
87	Pipettes Trasfer Volumetric	50ML
88	Pipettes Trasfer Volumetric	100ML
89	Pipettes Trasfer Volumetric	1ML
90	Tube ,Culture Media Flat Bottom	30ML
91	Tube ,Test(Culture) Without Rim	12X100
92	Tube ,Test(Culture) Without Rim	15X150
93	Tube ,Test(Culture) Without Rim	25X150
94	Watch Glass	100MM
95	Crucibles , Without Lid	50ML

96	Crucibles , Without Lid	80ML
97	Electronic Micropipettes Single Channel	0.2-10.0
98	Electronic Micropipettes Single Channel	5.0-120.0
99	Fixed Volume Miniature Micropipettes	5UL
100	Fixed Volume Miniature Micropipettes	10UL
101	Fixed Volume Miniature Micropipettes	20UL
102	Fixed Volume Miniature Micropipettes	25UL
103	Fixed Volume Miniature Micropipettes	50UL
104	Fixed Volume Miniature Micropipettes	100UL
105	Fixed Volume Miniature Micropipettes	200UL
106	Fixed Volume Miniature Micropipettes	250UL
107	Fixed Volume Miniature Micropipettes	500UL
108	Fixed Volume Miniature Micropipettes	1000UL
109	Dispensers Bottle Top Research Model	2.5-30.0ML
110	Dispensers Bottle Top Research Model	5.0-60.0ML
111	Centrifuge Tubes	50 SKIRT
112	Centrifuge Tubes	15CONICAL

Annexure : 'B'

Gautam Buddha University

School of Engineering

TECHNICAL SPECIFICATIONS: ENVIRONMENTAL ENGINEERING LAB. (I & II)

S. No.	Name of Experiment	Equipment	Specifications
1	Deionized water/ Distilled water	Double Distilled Water Unit conventional system	The assembly should have facility of glass flask with embedded heating elements fused in spiral with type glass coil internally at bottom. A double wall coiled condenser has standard ground glass joints. Complete with glass metallic stand, rings clamps and electrical fitting. The unit supplied is as per NPL patent design. To work on 220/230 volts AC. Supply. Capacity should be 5 liter double stage.
2	Sampling : Organization of Sample Collection Programme & Sampling Techniques	Sampler conventional type	Dissolved Oxygen Sampler Weighted sampler used to procure a 60-mL sample from as deep as 3 m (10') below water surface Sample bottle, instructions and other supporting apparatus included Specification Sampler should have below specification - •Weighted sampler used to procure a 60-mL sample from as deep as 3 m (10') below water surface •Sample bottle, instructions and other supporting apparatus included Bottle, , 60 mL Capacity, marked 30 mL graduation line
3	Heating	Hot Plate with stirrer	High power hot plate for medium-high, Volumes (up to 25 liters). ARED has a 900W heating Plate made of aluminium alloy, coated with a special black protection that ensures even heat distribution over the entire surface with excellent resistance to chemical reagents.
4	Sample treatment & Cooling	Water Bath	Specification:- Temperature Range……..10 deg C above ambient to 95 deg C Temperature resolution…….0.1 deg C Temperature accuracy……± 0.2 deg C Controller……..Pannel Mounted PID with timer - LED display Timer ……24 hrs in steps of 5 min. Audio alarm ……by buzzer after set time Material of construction …….SS Inner tank, outler MS powder coated

			Level control ……SS float switch with solenoid valve Power Consumption…….1000W Usable Volume ……420 X 320 X 155 mm Usable Area……420 X 320 X 155 Lid……SS flat detachable lid Operating Voltage ……230VAC/50Hz Overall dimensions…….534 X 354 x 210 mm Optional Accessories Beaker Positioner tray for 6 Nos. 500 ml beaker Evaporating Ring Type Tray
		Ultrasonic Cleaning Bath	Tank Capacity……10 Liters Tank Size…… .30.5 X 23 X 15 cm (L x W x H) Ultrasonic Power……..250 Watts / 40KHz Overall Dimensions…..35.5 X 30.5 X 32 cm / 13 Kg Heater Rating……500 Watts / Cut Off at 45 deg C Timer……60 minutes - Digital Power……230 v, 50Hz Material of Constr…….SS 316 Inner / Outer SS 304 Optional Accessories Beaker Positioner
		Mini Cooling System	Specifications: Principle of operation : Peltier effect Capacity : To accommodate 500 ml vessel. *(Vessel dia 90 mm max.)* Temperature Range : 10ºC to 80 ºC Minimum Temperature 10 ºC can be maintained provided the ambient temperature is 27 ºC. Temperature Accuracy : + 0.2 ºC Temperature Controller : PID Temperature Sensor : PT 100 Power Supply: 230V AC + 10V, 50Hz. Dimensions: 270 X 290 X 235 mm *(L X W X H.)* Weight : 7 Kg Accuracy : + 0.2 ºC Optional Accessories :- Adapter for Test Tubes : To accommodate 14 Test Tubes *(Tubes of 16mm OD)*
5	Solids Separation	Centrifuge	Versatile benchtop unit for sample prepration such as settieometer test.stainless steel motor shaft and permanently lubricated ball bearings provides long, trouble free services life. Centrifuge dimensions of 13 to17 mm diameter x 100 to 133mm long. Centrifuge should be come with poly carbonated round bottom tubes with caps
6	Determination of Solids (SS, DS, VS, TS) Determination of MLSS & MLVSS, F/M ratio	Oven with Thermostatic Control	Oven, Laboratory, 240 VAC, 50 Hz For drying, baking, annealing, conditioning, sterilizing, evaporating, and dehydrating. Factory-tested. Sturdy welded steel construction. Ample insulation. Two nickel-plated shelves adjustable at 12.7 mm (0.5") increments. Thermostatically controlled with damper-controlled, gravity convection air

			circulation. Red pilot light indicates heater action. Graygreen, hammerloid, baked enamel finish. Three-wire cord and plug standard. Inside dimensions: 30w x 25d x 25h cm (11.8 x 9.8 x 9.8”). Outer dimensions: (19h x 14w x 12d). Temperature range is ambient to 200°C Control is ± 15°C. W. Grieve.
		Furnace, Muffle	240 Vac, 50/60 Hz, digital control Standard Methods - Method 2450 Solids Digital temperature control; 1050 Watts Insulation made of high-purity alumina-silica with a low thermal mass for faster heat-up time and reduced electrical consumption Embedded heating elements for structural strength and longer life, Perforated bench case design keeps bench top cool, Accurate percentage input control Chamber dimensions (W x H x D), 10 x 10 x 11 cm (3.9 x 3.9 x 4.3") Outer dimensions, 20 x 32 x 22 cm (7.9 x 12.6 x 8.7"), Maximum operating temperature: 1093°C Thermolyne.
7	E-coli, Total Coliform	Telescopes	Binocular, sturdy, stable base body with focus adjustment controls in a position comfortable for prolonged use. The body should have a durable finish. Eye Piece Paired, high quality, (the image of the object as seen through the binocular eyepiece should be well defined centrally in least 2/3 field of view), achromatic, wide field, 10x without in built pointer. The eyepiece should be aplanatic and have a minimum field number of 18. Diopter adjustment must be present for one /both eye pieces. Three objectives : 10x, 40x, 100x, 10x and 40x objectives should have numerical apertures of at least 0.25 and 0.65 respectively. 100x should have numerical aperture of at least 1.25 be of oil immersion and spring loaded type. Unbreakable containers to be provided for storing the objectives. All objectives should be widefield, achromatic and parfocal. Each objective should be engraved with the following information :- a) Name / insignia of the manufacturer b) Magnification and numerical aperture c) 100x objective should be engraved with the word ‘Oil’ In the changing from one objective to another or reintroducing the same objective by rotation of the nosepiece, the center of the field should not appear displaced by more than 0.02 mm in the object plane.
8	Weighing of chemicals &	Analytical Balance	Capacity: 220 gm, Readability: 0.1 mg Standard Features High contrast, Large Backlite LCD display for easy viewing with A.E.P.

	experimental work		(Advanced Eye Projection) (NEW), Standard RS 232 Interface, Hanger for below balance weighing, Automatic External calibration Conforms GLP/GMP and ISO 9001 Standard Dye cast aluminum design for long term stability and accurate results Various weighing units like gm, mg, ct, oz, dwt, mom, GN User selectable stability and filter level Spacious draft shield interior Improved Repeatability for Better Results
		Analytical Balance	CAPACITY: 200gm READABILITY: 0.01 mg PAN SIZE(mm/inch): 85Ø/3.3"Ø, Easy to read Large backlite GRAPHICAL LCD display with A.E.P. (Advanced Eye Protection) (NEW) Standard RS-232 C interface / Ps2 output. Hanger for below Balance Weighing Fully automatic Internal calibration with built in weight Complies GLP/GMP. Dye cast aluminium design for long term stability and accurate results, Various weighing units like gm, mg, ct, oz, dwt, mon, GN User selectable stability and filter level Spacious draft shield interior Improved Repeatability For Better Results
9	Determination of pH	pH meter	Microcontroller based PH Meter 5 pt. pH calibration & averaging facility. General Specifications : * Control Module : Advance Microcontroller * Input impedance : > 10 12 ohms' * Display : 128 x 64 Dots Blue – White Colored Graphic LCD Module * Keyboard : Soft touch membrane type * Power Supply : 230v + 10% AC 50 Hz or + 9v, 4 Ah, Rechargeable Battery * PC Interface : RS 232 Comm * Real Time Clock : Date / Time indication with report * Storage Manual Logging : 40 Reports each with maximum 5 Reading * Storage Auto Logging : 25 Reports each with maximum 25 Reading * Time Interval Auto Logging : to 999 minutes * Housing : Corrosion resistant fibre body
10	Determination of Turbidity	Turbidity Meter	Lab Turbidity Meter should be microprocessor controlled for accurate, reliable lab testing for samples having turbidity upto 4000 NTU without any dilutions. Meter should have two-detector optical system to measure turbidity in colored samples, light fluctuations, and stray light to achieve reliable results. System should have pre-programmed calibration procedure, with microprocessor controlled adjustment of calibration curve with selectable signal averaging mode to compensate for fluctuations in readings caused by movement of large particles in the light path. Should have easy mode for spot calibration with primary & secondary standards during the life time of

			instrument with Built-in diagnostics. Specification : - Range NTU Mode : RATIO ON: Manual 0-0.999, 0-9.99, 0-99.9, 0-4000; Auto 0-4000 Resolution : 0.001 on the lowest range Accuracy : +/-2% of reading plus 0.01 NTU from 0 to 1000 NTU +/-5% of reading from 1000 to 4000 NTU Repeatability : +/-1% of the reading of 0.01 NTU, whichever is greater Measurement Modes : NTU, EBC or Nephelo Detectors : Two-detector optical system Stray Light : Less than or equal to 0.02 NTU Response time : 6.8 sec. with signal avg. off or 14 sec. with signal avg. on Construction : High-impact ABS plastic shell Light Source : Tungsten Lamp. Typical lamp life is 8800 hours Temp Range : Operating (inst. Only): 0 to 40ºC Storage (inst only) : -40 to 60ºC Sample Volume/temp : 30 ml (1 oz) / 0 to 95ºC, System should come with Primary standards, Secondary standards, nine sample cells, 455nm filter, silicon oil, oiling cloth, rugged carrying case, manual.
		Portable Turbidity Meter	Portable Turbidity Meter should be microprocessor controlled for accurate, reliable field testing for samples having turbidity upto 1000 NTU without any dilutions. Meter should have two-detector optical system to measure turbidity in colored samples, light fluctuations, and stray light to achieve reliable results under field conditions. Scope of supply of meter should include Primary standards, Secondary standards, nine sample cells, silicon oil, oiling cloth, rugged carrying case, manual. Meter should have the following features: -Pre-programmed calibration procedure, with microprocessor controlled adjustment of calibration curve. -Meter should have facility to detect rapidly settling samples. -Meter should have on screen assisted calibration facility. -Selectable signal averaging mode to compensate for fluctuations in readings caused by movement of large particles in the light path. -Should have two detectors to help in compensation for background color, light fluctuation or dust and haze on the optics -Should have easy mode for spot calibration with primary & secondary standards during the life time of instrument -Built-in diagnostics -Resolution: 0.01 on the lowest range

			Specifications: Measurement Modes : NTU Range NTU Mode : 0-1000 NTU in auto range or 3 selectable ranges 0-9.99, 0-99.9 and 0-1000 NTU in manual model Accuracy: +/-2% of reading or +/- 1 least significant digit from 0-500 NTU; +/-3% of reading between 500 – 1000 NTU Repeatability: +/-1% of the reading of 0.01 NTU, whichever is greater Stray Light: Less than or equal to 0.02 NTU Data storage: 500 records Response time: 65 sec. For full step change (signal avg. off) in constant reading mode Display: 4-character LCD with custom icon Construction: High-impact ABS plastic shell Light Source: Tungsten Lamp. Typical lamp life >100,000 readings Temperature Range: Operating (inst. Only): 0 to 50 deg C Storage (inst only): -40 deg to 60 deg C Sample : 15 ml volume & temperature = 0 to 95 deg C Power Requirements: 4 AA Alkaline batteries & optional 230 V battery Eliminator
11		Conductivity/TDS meter	Multiparameter Monitoring Instrument, Parameter : pH, conductivity, TDS, DO & temperature Compact, table top unit operates on Mains as well as battery. Complete with sensors for pH, conductivity, DO & temp. User friendly operation & large graphic LCD display. General Specifications : Control Module Advance Micro controller Input impedance : > 10 12 ohms' Display : 128 x 64 Dots Blue – White Colored Graphic LCD Module Keyboard : Soft touch membrane type Power Supply : 230 Volt + 10% AC 50 Hz or + 9 volt, 4 Ah, Rechargeable PC Interface : RS 232 Comm Real Time Clock : Date & time indications with report Storage Manual Logging : 40 Reports each with maximum 5 Readings Storage Auto Logging : 25 Reports each with maximum 25 Readings Time Interval Auto Logging : 1 to 999 minutes Housing : Corrosion resistant fibre body Optional Accessories Conductivity Cell (Cell Constant = 0.1) For Range 0.02 µS – 2 µS
12		Flame Photometer	Microprocessor based Flame Photometer Simultaneously analyze Na, K, Li, Ca, B, Optional PC compatibility with RS232 interface Sample data storage facility Interface with Air compressor, Automatic Ignition Optional Accessories a) Spare Filter - Na, K, Ca & Li (each) b) Air

			Compressor, RANGE Sodium (Na) 1-100 ppm 0-200 mEq Potassium (K) 1-100 ppm 0-100 mEq Lithium (Li) 1-100 ppm 0-10 mEq Calciuum (Ca) 15-100 ppm 0-5 mEq Barium (Ba) 50-1000 ppm mEq values are claimed with appropriate dilution LINEARITY --2% FLAME SYSTEM - LPG & Oil-free dry air DETECTOR PhotoDiode
13		Biological Oxygen Demand Analysis System	SPECIFICATION: Microprocessor-controlled and Mercury-free Biological analysis system, compact enough to fit inside the BOD incubator with six independent channels to set different starting times and duration times for six samples. Should have in-built electromagnetic stirrers for continuous stirring of samples through out test duration. Should have a built-in back it graphical display to continuously track BOD during the test like start date, sample number and duration. The graphical display should be able to tell about Any air leakage, Less nutrient, Less seeding, Nitrification inhibitor to be added and Proper experimental process. Should be able to store the complete set of date automatically in non-volatile memory. Should have an RS-232 port to download data to PC. System should come along with compact incubator for biological oxygen demand(BOD) analysis, and easily fits under standard lab benches. Digital temperature display with high-limit warning light. TECHNICAL SPECIFICATIONS: -BOD Apparatus - Range: Selectable 0 to 35 mg/L, 0 to 70 mg/L, 0 to 350 mg/L, 0-700 mg/L Test Duration: Selectable, 5-, 7- or 10-days test Computer Interface: RS 232 Capacity: Six 473 ml BOD amber colored bottles Dimensions: 30.5 x 30.5 x 12.7 cm (12 x 12 x 5”); should fit inside BOD incubator Power : 230 Vac, 50/60 Hz Compliant: External power supply should be approved by Underwriters Laboratory (UL); Canadian Standards Agency (CSA); CE mark
		BOD , Reagent Set W/Bottles	Spatula scoop, 50 nutrient buffer solution pillows, 25 g bottle Potassium hydroxide pellets
		BOD Incubator	Incubating cultures of microorganisms, storing samples, determining enzymatic activity, and all uses requiring that products be kept at a

			constant and precise temperature. Continuous ventilation and the special microprocessor controlled AUTO-TUNING thermoregulation system ensure temperature uniformity in all points inside the chamber with continuous monitoring of the room temperature so the Set Point set is kept precisely aligned. The internal temperature is programmed and displayed digitally, with selection of the tenth degree Celsius from 3 to 50°C (stability ±0.5°C). Can be connected to a PC using an RS232 connector for use with dedicated software. FEATURES Total volume: 207 liters, Usable internal volume: 196 liters (6.92 Cu Ft) Number of sockets: 2 internal electrical current socket Number of shelves included: 4 Max number of shelves: 12 (distance of 40 mm between one shelf and the next) Electronic thermoregulation system: AUTO - TUNING Transparent internal door, yes, Power: 350 W, Power supply: 230 V / 50-60 Hz Weight: 40 Kg, Dimension (WxHxD): 540x1300x560 mm PERFORMANCES Temperature range:, from 3,0 to 50,0°C, Internal temperature stability: ± 0,5°C , Internal temperature homogeneity: ± 0,5°C , Internal temperature visualization: display, Temperature
14	Determination of Iron, Manganese, Sulphate & Phosphorous, Nitrogen (Ammonia, Nitrite, Nitrate), Chemical Oxygen Demand Analysis, Colour	UV-Visible Spectrophotometer	The spectreophotometer instrument shall be a multi-wavelength, UV-Visible split beam scanning spectrophotometer designed for laboratory analysis of multiple analytes. System should be preprogrammed (230-methods & 50-user generated methods) for environment parameter application like alcohol; aluminum; arsenic; barium; benzotriazole; boron; bromine; cadmium; chloramines; chloride; chlorine dioxide; chlorine; chromium; cobalt; color; copper; cyanide; fluoride; formaldehyde; hardness; hydrazine; iodine; iron; lead; manganese; mercury; metolachlor; molybdenum; molybdate; nickel; nitrogen(as ammonia, nitrate, nitrite, total nitrogen); oxygen; chemical oxygen demand; oxygen scavengers; ozone; pcb(polychlorinated biphenyls); phenols; phosphonates; phosphorus; potassium; quaternary ammonium compounds; selenium; silica; silver; sulfate; sulfide; sulfite; surfactants; suspended solids; tannin and lignin; total organic carbon(TOC); tolyltriazole; total petroleum hydrocarbons (TPH);trihalomethanes (THM); toxicity; volatile acids; and zinc and other elemental analysis (in ppm /ppb ranges) etc.

			Technical Specification :- WAVELENGTH RANGE: 190 to 1100 nm; Accuracy: +/-1nm; Resolution: 0.1nm - OPTICAL SYSTEM: SEYA-NAMIOKA SPLIT-BEAM MONOCHROMATOR - SPECTRAL BANDWIDTH: 2 nm - PHOTOMETRIC READOUT: ABS, %T & Concentration; Linearity: 0.005 ABS maximum - STRAY LIGHT: KI-solution at 220nm: greater then 3.3 Abs. -- LAMP/LIGHT SOURCE : Deuterium (UV), gas filled tungsten (VIS) - PHOTOMETRIC RANGE: +/-3.00 ABS or 0.1 to 1,00,000%T - DISPLAY: Backlit LCD, Touch screen graphical. - READOUT MODES: Concentration. Absorbance, Transmittance(%).- Self-test at power up including wavelength calibration and automatic Lamp alignment, Should be capable of working as a stand-alone and as well as possess a PC Interface facility, Function modes:(a)Single wavelength quantization; (b)Spectrum-Scale expansion (Zoom facility), Automatic peak/valley picking, Repeat scan. System should come with multi-cell holder, manual, power cord(230V), 1-inch matched glass sample cells, 1-cm matched quartz sample cell
		Microprocessor Pre-Programmed Portable Spectrophotometer	*Technical Specification :-* WAVELENGTH RANGE: 190 to 1100 nm; Accuracy: +/-1nm; Resolution: 0.1nm - OPTICAL SYSTEM: SEYA-NAMIOKA SPLIT-BEAM MONOCHROMATOR - SPECTRAL BANDWIDTH: 2 nm - PHOTOMETRIC READOUT: ABS, %T & Concentration; Linearity: 0.005 ABS maximum - STRAY LIGHT: KI-solution at 220nm: greater then 3.3 Abs. -- LAMP/LIGHT SOURCE : Deuterium (UV), gas filled tungsten (VIS) - PHOTOMETRIC RANGE: +/-3.00 ABS or 0.1 to 1,00,000%T - DISPLAY: Backlit LCD, Touch screen graphical. - READOUT MODES: Concentration. Absorbance, Transmittance(%).- Self-test at power up including wavelength calibration and automatic Lamp alignment, Should be capable of working as a stand-alone and as well as possess a PC Interface facility, Function modes:(a)Single wavelength quantization; (b)Spectrum-Scale expansion (Zoom facility), Automatic peak/valley picking, Repeat scan. System should come with multi-cell holder, manual, power cord(230V), 1-inch matched glass sample cells, 1-cm matched quartz sample cell

		COD Digestion Reactor	Digital reactor block for COD, TOC, Total Nitrogen, Total Phosphorous, Total Chromium and Sample digestions for use with the metal prep set for determination of Cadmium, Chromium, Copper, Iron, Lead, Nickel, Silver, Zinc etc. Dual Block: 25 wells. 21 Wells of 16 mm & 4 Wells of 20 mm Pre-programmed for all standard digestion temperatures (100°C/105°C/150°C) And all COD, UniCell, TNT tests which require digestion. -Temperature stability better than ± 1°C. -Fully insulated heater block (no skin contact) -Separate locking and transparent protective lids -Temperature safeguard to prevent overheating, High flexibility via customer programmable reactions -Two separately controlled heating blocks for simultaneous digestion at different/ identical temperatures and different/identical time Digital countdown timer with automatic shut off and alarm signal. -Adjustable temperature setting (35°C to 165°C in 1°C steps). -Adjustable Time setting 1 to 480 minutes (8 hours)) -Up to 3 customer specific digestion/reaction storable applications -Power supply: 230VCOD Digestion Vials, High, pk/150 Range: 20 to 1,500 mg/L
		Reagent vials set	**COD Digestion Vials,** (0-50 mg/L)
		Reagent Vials Set	**COD Digestion Vials** (50-800 mg/L)

Glasswares

01	Quartz Double Distillation Unit	2.5LIT

Annexure : 'C'

Gautam Buddha University

School of Engineering

TECHNICAL SPECIFICATIONS: ENVIRONMENTAL ENGINEERING LABORATORY (I & II)

S. No.	Experiments	Equipment	Specifications
1	Deionized water/ Distilled water	Advance nanopure water unit	**Product Specifications:** Overall Dimensions W x H x D in. (cm) 13.5 x 19.5 x 17.5 (34.3 x 49.5 x 44.5), Feed Water Pressure 100 psig 6.9 bar Inlet Water Temperature 40-104°F 4-40°C Voltage 90-240 VAC, 100 VA 47-63 Hz **Prefilter unit** : A Prefilteration unit with 5micron filter to remove the particulate matter & booster pump for feed pressure should be provided. • **Ist stage system** • RO grade water system with following purification stages: • Prefilter with antiscaling & activated carbon for the removal of free chlorine & organics. • Reverse osmosis for removal of ionic & inorganic impurities. • Conductivity cell present before RO stage (cell constant 0.01/cm) to measure the RO feed conductivity. • Self regenerating Electro deionisation principle with Carbon beads on cathode for less recurring cost & consistent water quality. • No softening cartridge should be present immediately before Electro de ionization principle. • Feed water handling of conductivity upto 2000 microS/cm, Free chlorine upto 3 ppm & Fouling Index upto 12. • Water quality: Flow rate: 3 L/hr, Ions organics removal upto 99%, Resistivity: 5-15 Mohm.cm, TOC < 30 ppb. **Reservoir**: Reservoir of 50 liter capacity • **IInd stage system** Ultrapure water machine producing water of Resistivity: 18.2 MOhm.cm, Conductivity: 0.055uS/cm, Bacteria: < 0.1cfu/ml, Flow rate: upto 1 liters/min, TOC: < 5 ppb. Automatic recirculation feature resolution: 0,1°C

2	Stirring	Magnetic Stirrer	High power heating magnetic stirrer for medium-high Volumes (up to 25 liters), 900W heating plate made of aluminium alloy, coated with a special black protection that ensures even heat distribution over the entire surface with excellent resistance to chemical reagents.

GENERAL TERMS AND CONDITIONS

1. Detailed information about the Equipments/Instruments and their specifications are available in tender document, which can be downloaded from the University website www.gbu.ac.in.
2. Two bids system of tender will be adopted.
   (i) The bid containing technical specifications and EMD
   (ii) Bid containing financial offer

   Technical and financial bids should be submitted in separate covers. The envelopes should be marked as technical bid and financial bid with reference numbers. These two envelops shall be sealed in a common cover and addressed to **The Registrar, Gautam Buddha University, Greater Noida, Gautam Budh Nagar -201310 (U.P.**) superscribing "**Tender against Notification Advt. GBU/S&P/02/2011, Name of supply: Laboratory Equipments/Instruments for the Environmental Engineering Lab. in School of Engineering"** so as to reach us on or before last date of bid submission.

3. The Technical Bid and Financial Bid should be duly filled-up.
4. These bids will be opened in two stages. The bid containing technical specifications and EMD will be opened at first stage and if same is found according to required specifications, the bid containing financial offer shall be opened in second stage.
5. The "**Technical Bid"** shall contain all documents in support of quoted Equipments/Instruments, their specifications, commercial terms & conditions and eligibility criteria along with the page number for cited specifications in the company brochure for the particular item.
6. The **"Financial Bid"** shall contain price schedule only. The rates and units shall not be overwritten in the price schedule. The price shall be both in words and figures.

7. **Eligibility Criteria**: All the participating suppliers/firms or principal manufacturer- should meet the following qualifying criteria. The firm should be a registered supplier for such supplies. Following documents are required to be submitted with Technical Bid, to qualify eligibility criteria:
   (a) Sales Tax/VAT registration certificate.
   (b) PAN and TIN number should be mentioned.
   (c) The firm should have experience of supplying & installation for similar Equipments/Instruments to institute of National repute such as IIT, AIIMS, CSIR labs etc. The company should also furnish a list of clients of last 3 years.
   (d) Certified copy of balance sheet with trading, profit & loss account for the last three financial years should be submitted.
   (e) Name of branch offices & service centres after sales arrangements.
   (f) Earnest Money Deposit (EMD) **as 2% of the offered cost** is required to be submitted in the form of DD/Banker's Cheque only drawn in favour of "Finance Officer, Gautam Buddha University" payable at "Greater Noida" along with the Technical Bid. If supply is not made within the prescribed period EMD would be forfeited.
   (g) Authorized signatory should sign on all pages. Bids without authorized signature will be rejected.
   (h) ***Minimum turnover required to procure the equipments/instruments :*** *No turnover for Annexure – 'A', Rupees One Crore for Annexure – B' and Rupees Two Crore for Annexure – 'C'.*
   (i) The bidder must be either sole Manufacturer of the Equipments/Instruments or the authorized agent/representative of the OEM. In the case of agent/representative, certified copy of the agency/authorization issued by the OEM should be enclosed with the tender.

8. Offer should be sent in a sealed envelope, submitted either in person or by post on which name and address of the supplier/firm shall be written. Tenders received through E-mails or FAX will not be considered.
9. The technical bids will be opened on scheduled date and time in the presence of the vendors present possessing authorization letter from the respective companies/firms. Suppliers intending to attend the tender opening should intimate in advance.
10. The rate quoted should be F.O.R. Gautam Buddha University (Gautam Budh Nagar, Greater Noida, UP) in rupees inclusive of all charges e.g. packing, forwarding local taxes, railway freight, transit insurance, for outside firms and free delivery at University stores in the case of local firms. The total price should include all accessories required for final installation of the Equipments/Instruments.
11. The Equipments/Instruments should have USEPA/International/National validation certificates, wherever applicable.
12. The cost of the tender is Rs.1000/- (Rupees One Thousand) inclusive of taxes (Non-refundable) and it shall be paid separately in the form of DD/Banker's Cheque only drawn in favour of "Finance Officer, Gautam Buddha University" payable at "Greater Noida" and should be attached with technical bid envelope.
13. The EMD of the successful bidder will be refunded after two months of the completion of the supply and installation of the Equipments/Instruments to the satisfaction of the Gautam Buddha University. The EMD of the unsuccessful bidders will be returned to the concerned immediately after finalization of the tenders. No interest will be paid on EMD in any case.
14. The required delivery period must be mentioned against each item. Tenders should preferably be given only for those equipments/items/articles, which are available ex-stock. Rates of imported goods should be quoted excluding custom duty, as this University is exempted from payment of custom duty (by letter of Department of Scientific and Industrial Research, Ministry of Science & Technology, GOI).
15. Detailed specifications with the mention of make and model/Version of each item should be clearly given supported by the illustrated pamphlets wherever possible. Quotations without specified make and Model/Version and other particulars may be rejected. The payment will be made after the goods have been received, opened, checked, installed and found to be working satisfactorily as per the specifications and requirements. The accessories included in the Equipments/Instruments should also be clearly mentioned.
16. Losses or damage in transit will be borne by the Supplier. The supplier may, if he so desires, get the goods insured and include such charges in the tendered rate.
17. Offered prices should be valid at least for two months from the last date of receipt of tenders.
18. All legal proceedings, if necessity arises to the University may be any of the parties (University or Contractor/Supplier) shall have to be lodged in the courts situated at Gautam Buddha Nagar and not elsewhere.
19. (a) The Equipments/Instruments delivery time should be preferably within 10-12 weeks after the date of issuance of the purchase order. If the delivery time is quoted more than 10-12 weeks, GBU reserves all rights to permit the bidder to compete.

    (b) The Penalty Clause is as under:-

    Should the bidder fail to deliver the goods within stipulated period**,** the Competent Authority may, at his discretion, allow an extension in time subject to recovery from the bidder as agreed liquidated damages, and not by way of penalty, a sum equal to the percentage of the value of tender amount which the bidder has failed to supply for period of delay as stated below:-

i.Delay up to one week	1%
ii.Delay exceeding one week but not	2%

exceeding two weeks	
iii. Delay exceeding two weeks but not exceeding one month	5%
iv. Delay exceeding one month	5% for each month and part there of subject to maximum 10%

(c) In case of failure to supply the goods within stipulated delivery period and in accordance with the specifications given in the quotations, the University shall be free to cancel the order.

20. Supply of the placed order in part will not be accepted.
21. The University's term for payment: 90% against delivery of items in good condition, installation and putting those in satisfactory working conditions; balanced 10% payment shall be released after 60 days of satisfactory working of the items. For balance 10% payment, the firm has to raise bill/letter for balance payment. No advance payment shall be released.
22. The AMC cost, wherever applicable, after warranty period shall be made in equal installments at the end of each quarter subject to satisfactory service rendered.
23. The price quoted should be in Indian Rupees.
24. No revision of price bid will be allowed once the price bids are opened.
25. No increase in price will be allowed after our purchase order(s) are placed.
26. Warranty certificate against all the Equipments/Instruments developed defects covering warranty period, which commences from the date of installation shall be given at the time of supply of the Equipments/Instruments.
27. Inspection certificates of the equipments/instruments inspected by the qualified engineer of the manufacturer and packed in accordance with the terms and conditions of this order must be enclosed.
28. During the warranty period 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 a period of a week. They should render timely back up service whenever called upon. A certificate to the effect should be attached to the tender.
29. A certificate to the effect that Equipments/Instruments supplied is fully operational and no additional accessory or space is required to fully functioning the Equipments/Instruments should be issued along with the delivery challans/invoice. GBU reserves the right to refuse payment in the event of not furnishing this certificate at the time of supply.
30. Complete user, technical and service manuals/installation drawings/documentation and spare parts catalogue are to be provided along with the supply of the item.
31. Failure to comply with all the terms and conditions mentioned herein would result in the tender being summarily rejected.
32. Vendors are informed that once the firms are shortlisted based on the eligibility criteria and technical specifications, only then the financial bids of the firms meeting eligibility criteria, technical specifications / requirements would be opened.
33. Conditional tenders will not be accepted.
34. Any cutting and overwriting in the financial bid will not be accepted.
35. GBU reserves the right to change the order quantity or split the orders among multiple vendors without assigning any reason (s) whatsoever.
36. GBU reserves the right to reject any or all the tenders without assigning any reasons whatsoever.

SPECIAL TERMS AND CONDITIONS

1. Warranty period of equipments should be of two years.
2. Quote for three year extensive Annual Maintenance Contract (AMC) should be submitted separately in financial bid.
3. Price quoted shall include all necessary component parts, accessories and software required to run the equipments for successful intended experiments.
4. To verify the technical specifications and capabilities while evaluating technical bids, the firm may be asked to demonstrate the equipment in the University. If demonstration of the equipments in the University is not possible the firm shall arrange a visit of university officials to the nearby location for the same
5. Successful bidders shall arrange training programmes for the faculty and staff for the period decided by the University.
6. All equipments shall be compatible for Indian environmental conditions.

Registrar
Gautam Buddha University

ACCEPTANCE

We accept the above terms and conditions and shall comply with them strictly.

SIGNATURE OF THE AUTHORISED SIGNATORY : ……

NAME OF THE SUPPLIER : ……

ADDRESS : ……

: ……

: ……

Annexure : 'A'

FINANCIAL BID

Name of Laboratory : ENVIRONMENTAL ENGINEERING LAB. (I & II)

Name of the School : School of Engineering

S. No.	Equipment	Qty.	Unit Price (Rs. In figure)	Unit Price (Rs. in words)	Total Cost (Rs.)
1	Incubator Shaker	02			
2	Whirlmatic Motorless Magnetic Stirrer	02			

GLASSWARE

S. No.	Equipment	Size/spec.	Qty.	Unit Price (Rs. In figure)	Unit Price (Rs. in words)	Total Cost (Rs.)
1	Beakers	10ML	10			
2	Beakers	50ML	10			
3	Beakers	100ML	10			
4	Beakers	250ML	10			
5	Beakers	500ML	10			
6	Beakers	1LIT	5			
7	Beakers	2LIT	1			
8	Bottles	300ML	30			
9	Bottles Reagent	500ML	10			
10	Boottles Reagent	1LIT	10			
11	Bopttles Raegent	125ML	10			
12	Bottles Raegent Wide M	100ML	10			
13	Bottles Raegent Wide M	250ML	10			
14	Bottles Raegent Wide M	500ML	10			

15	Bottles Reagent Amber	500ML	5			
16	Bottles Reagent Amber	1LIT	5			
17	Burettes Boroflo	10ML	1			
18	Burettes Boroflo	25ML	1			
19	Burettes Boroflo	50ML	1			
20	Burettes Boroflo	100ML	1			
21	Cones, Imhoff	439 MM	5			
22	Condensers Allihn	400 MM	5			
23	Condensers Allihn	500 MM	5			
24	Cylinders Graduated (A)	5ML	5			
25	Cylinders Graduated (A)	10ML	5			
26	Cylinders Graduated (A)	25ML	5			
27	Cylinders Graduated (A)	50ML	10			
28	Cylinders Graduated (A)	100ML	10			
29	Cylinders Graduated (A)	250ML	5			
30	Cylinders Graduated (A)	500ML	5			
31	Cylinders Graduated (A)	1LIT	2			
32	Cylinders Graduated (A)	2LIT	2			
33	Desiccators,Vacuum	200 MM	2			

34	Desiccators,Vacuum	300 MM	2			
35	Dishes, Culture Petri	100X 15MM	12			
36	Trays, Drying	320X 180X51	2			
37	Trays, Drying	404X25 7X61	2			
38	Quartz Double Distillation Unit	2.5 L	1			
39	Extraction Appartus Soxhlet	100 MEDIU M	1			
40	Flasks Boiling Florence	250ML	5			
41	Flasks Boiling Florence	500ML	2			
42	Flasks Boiling Flat Bottom	250ML	5			
43	Flasks Erlenmeyer Graduated	50ML	6			
44	Flasks Erlenmeyer Gradured	100ML	6			
45	Flasks Erlenmeyer Gradured	250ML	10			
46	Flasks Erlenmeyer Gradured	500ML	10			
47	Flasks Erlenmeyer Gradured	1LIT	2			
48	Eflasks Erlenmeyer Coniacl Narrow Mouth	250ML	2			
49	Eflasks Erlenmeyer Coniacl Narrow Mouth	500ML	2			
50	All Glass Filter Holder 47mm	500ML	1			
51	Flasks Volumetric With Interchang	500ML	2			

52	Flasks Volumetric With Interchang	10ML	10			
53	Flasks Volumetric With Interchang	25ML	6			
54	Flasks Volumetric With Interchang	50ML	6			
55	Flasks Volumetric With Interchang	1ML	6			
56	Flasks Volumetric With Interchang	2ML	6			
57	Flasks Volumetric With Interchang	100ML	6			
58	Flasks Volumetric With Interchang	250ML	6			
59	Flasks Volumetric With Interchang	1LIT	2			
60	Flasks Volumetric With Interchang	2LIT	1			
61	Funnels ,Plain 60 Angle	25ML	6			
62	Funnels ,Plain 60 Angle	50ML	6			
63	Funnels ,Plain 60 Angle	100ML	12			
64	Funnels Separating,Pear Shape	250ML	2			
65	Funnels Separating,Pear Shape	500ML	2			
66	Pipettes Gerber Milk	0.1ML	6			
67	Pipettes Gerber Milk	0.2ML	6			
68	Pipettes Gerber Milk	1ML	6			
69	Pipettes Gerber Milk	*1ML	6			

70	Pipettes Gerber Milk	2ML	6			
71	Pipettes Gerber Milk	*2ML	6			
72	Pipettes Gerber Milk	5ML	6			
73	Pipettes Gerber Milk	*5ML	6			
74	Pipettes Gerber Milk	10ML	12			
75	Pipettes Gerber Milk	25ML	6			
76	Pipettes Serological (A)	0.1ML	6			
77	Pipettes Serological (A)	0.2ML	6			
78	Pipettes Serological (A)	1ML	6			
79	Pipettes Serological (A)	1ML	6			
80	Pipettes Serological (A)	2ML	6			
81	Pipettes Serological (A)	2ML	6			
82	Pipettes Serological (A)	5ML	6			
83	Pipettes Serological (A)	5ML	6			
84	Pipettes Serological (A)	10ML	12			
85	Pipettes Serological (A)	25ML	10			
86	Pipettes Trasfer Volumetric	10ML	12			
87	Pipettes Trasfer Volumetric	25ML	6			

88	Pipettes Trasfer Volumetric	50ML	6			
89	Pipettes Trasfer Volumetric	100ML	2			
90	Pipettes Trasfer Volumetric	1ML	6			
91	Tube ,Culture Media Flat Bottom	30ML	10			
92	Tube ,Test(Culture) Without Rim	12X100	24			
93	Tube ,Test(Culture) Without Rim	15X150	24			
94	Tube ,Test(Culture) Without Rim	25X150	24			
95	Watch Glass	100MM	10			
96	Crucibles , Without Lid	50ML	12			
97	Crucibles , Without Lid	80ML	12			
98	Electronic Micropipettes Single Channel	0.2-10.0	2			
99	Electronic Micropipettes Single Channel	5.0-120.0	2			
100	Fixed Volume Miniature Micropipettes	5UL	5			
101	Fixed Volume Miniature Micropipettes	10UL	5			
102	Fixed Volume Miniature Micropipettes	20UL	5			
103	Fixed Volume Miniature Micropipettes	25UL	5			
104	Fixed Volume Miniature Micropipettes	50UL	5			
105	Fixed Volume Miniature Micropipettes	100UL	5			

106	Fixed Volume Miniature Micropipettes	200UL	5			
107	Fixed Volume Miniature Micropipettes	250UL	5			
108	Fixed Volume Miniature Micropipettes	500UL	5			
109	Fixed Volume Miniature Micropipettes	1000UL	5			
110	Dispensers Bottle Top Research Model	2.5-30.0ML	2			
111	Dispensers Bottle Top Research Model	5.0-60.0ML	2			
112	Centrifuge Tubes	50 SKIRT	12			
113	Centrifuge Tubes	15CONICAL	24			

Extensive Annual Maintenance Contract cost (three years) should be mentioned on a sheet for each item separately.

Total cost of the offer is Rs._____ in words (Rupees _____

_____. I abide by all the terms & conditions of the tender.

DECLARATION

1. The information given in the financial bid by the undersigned is correct.

SIGNATURE OF THE AUTHORISED SIGNATORY: _____

NAME OF THE SUPPLIER : _____

ADDRESS : _____

_____

Annexure : 'B'

FINANCIAL BID

Name of Laboratory : Environmental Engineering Lab. (I & II)

Name of the School : School of Engineering

S.N.	Experiments	Equipment	Qty.	Unit Price (Rs. In figure)	Unit Price (Rs. in words)	Total Cost (Rs.)
1	Deionized water/ Distilled water	Double Distilled Water Unit conventional system	01			
2	Sampling : Organization of Sample Collection Programme & Sampling Techniques	Sampler conventional type	01			
3	Heating	Hot Plate with stirrer	02			
4	Sample treatment & Cooling	Water Bath	02			
		Ultrasonic Cleaning Bath	01			
		Mini Cooling System	01			
5	Solids Separation	Centrifuge	02			
6	Determination of Solids (SS, DS, VS, TS) Determination of MLSS & MLVSS, F/M ratio	Oven with Thermostatic Control	01			
		Furnace, Muffle	01			
7	E-coli, Total Coliform	Telescopes	06			
8	Weighing of chemicals & experimental work	Analytical Balance	01			
		Analytical Balance	01			
9	Determination of pH	pH meter	01			
10	Determination of Turbidity	Turbidity Meter	01			
		Portable Turbidity Meter	01			
11	Determination of Conductivity	Conductivity/TDS meter	01			

12	Determination of Ca, Mg, Ni, K	Flame Photometer	**01**			
13	Biochemical Oxygen Demand Analysis BOD	Biological Oxygen Demand Analysis System	**02**			
		BOD , Reagent Set W/Bottles	**02**			
		BOD Incubator	**02**			
14	Determination of Iron, Manganese, Sulphate & Phosphorous, Nitrogen (Ammonia, Nitrite, Nitrate), Chemical Oxygen Demand Analysis, Colour	UV-Visible Spectrophotometer	**01**			
		Microprocessor Pre-Programmed Portable Spectrophotometer	**01**			
		COD Digestion Reactor	**01**			
		Reagent Set (0-50 mg/L)	**02**			
		Reagent set (50-800 mg/L)	**02**			

Glassware

S.N.	Equipment	Qty.	Unit Price (Rs. In figure)	Unit Price (Rs. in words)	Total Cost (Rs.)
1	Quartz Double Distillation Unit	2.5LIT			

Extensive Annual Maintenance Contract cost (three years) should be mentioned on a sheet for each item separately.

Total cost of the offer is Rs._____ in words (Rupees _____

_____. I abide by all the terms & conditions of the tender.

DECLARATION

1. The information given in the financial bid by the undersigned is correct.

SIGNATURE OF THE AUTHORISED SIGNATORY: _____

NAME OF THE SUPPLIER : _____

ADDRESS : _____

_____

Annexure : 'C'

FINANCIAL BID

Name of Laboratory : ENVIRONMENTAL ENGINEERING LAB. (I & II)

Name of the School : School of Arch. & Built Environment

S.N.	Item	Qty.	Unit Price (Rs. In figure)	Unit Price (Rs. in words)	Total Cost (Rs.)
1	Advance nanopure water unit	**01**			
2	Magnetic Stirrer	**02**			

Extensive Annual Maintenance Contract cost (three years) should be mentioned on a sheet for each item separately.

Total cost of the offer is Rs._____ in words (Rupees _____

_____. I abide by all the terms & conditions of the tender.

DECLARATION

1. The information given in the financial bid by the undersigned is correct.

SIGNATURE OF THE AUTHORISED SIGNATORY: _____

NAME OF THE SUPPLIER : _____

ADDRESS : _____

_____