

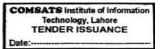
COMSATS Institute of Information Technology Lahore Campus, Defence Road, Off Raiwind Road, Lahore

> Tender No. CIIT-TN-13-15-715 Case # 1812

## TERMS AND CONDITIONS

# [All pages (BoQs & Terms & Conditions) are mandatory to be signed / stamped, failing which the bid may be rejected.)

- 1. Any addition, deletion or modification of any clause of the procurement terms & conditions of CIIT by any vendor will not be acceptable and may lead to rejection of the bid.
- 2. Only registered Suppliers, who are on Active Taxpayers List (ATL) of FBR, are eligible to participate in tender.
- 3. The contract will be executed and handed over in satisfactory conditions up to the entire satisfaction of COMSATS Institute of Information Technology, Lahore Campus.
- Documents along with Pay Order / Demand Draft amounting to <u>Rs. 1000/-</u> as a tender documents fee (Non-Refundable) shall be submitted in favor of COMSATS Institute of Information Technology, Lahore to the address given below. No bid will be accepted without tender documents' fee.
- 5. Part / Advance payments is not allowed.
- 6. The exact completion/delivery time from the date of the purchase / work order will be <u>90 days</u>. The handing over / completion time for this contract is of critical importance.
- 7. The bid proposal should be inclusive of all freight and packaging charges and will be delivered at Lahore Airport for C&F Quoted Items (Sr #. 1 to 17) as per BoQs Format. Remaining items will be quoted in Pak Rupees with all taxes (Sr. # 18 to 24) as per BoQs Format including all taxes delivered at COMSATS Lahore Campus.
- 8. The payment will be made in Pak Rupees to the local vendor/Supplier against the conversion rate of actual GD-1(Conversion Rate) only for C&F Quoted items as per following formula: <u>Foreign Currency (as per PO) x Conversion rate of GD-1= Total Amount in Pak Rupees.</u>
- 9. Shipment will be cleared by COMSATS Lahore Campus from Custom Authorities.
- 10. After opening of bids, COMSATS Institute of Information Technology, Lahore Campus will examine the bids for completeness as per tender document.
- 11. Purchase order (s) will be awarded to the lowest or technically recommended bidder (s) on the basis of item wise / subtotal wise / grand total wise according to the nature of BoQs.
- 12. COMSATS Institute of Information Technology, Lahore Campus, will follow the PPRA rule of single stage two envelope procedure;
  - i. The bid shall comprise a single package containing <u>two separate envelopes</u>. Each envelope shall contain separately the <u>financial proposal</u> and the <u>technical proposal</u>;



- iii. Initially, only the envelope marked <u>"TECHNICAL PROPOSAL"</u> shall be opened;
- iv. The envelope marked as <u>"FINANCIAL PROPOSAL</u>" shall be retained in the custody of the procuring agency without being opened;
- v. The procuring agency shall evaluate the technical proposal in a manner prescribed in advance, without reference to the price and reject any proposal which does not conform to the specified requirements;
- vi. During the technical evaluation no **amendments** in the technical proposal shall be permitted;
- vii. The financial proposals of bids shall be opened publicly at a time, date and venue announced and communicated to the bidders in advance;
- viii. After the evaluation and approval of the technical proposal the procuring agency, shall at a time within the bid validity period, publicly open the financial proposals of the technically accepted bids only. The financial proposal of bids found technically nonresponsive shall be returned un-opened to the respective bidders;
- ix. and
- x. The bid found to be the lowest evaluated bid shall be accepted.
- 13. Bidders cannot challenge the finding of the evaluation or ask for reason of disqualification.
- 14. The bid should be submitted in a sealed envelope up to <u>August 17, 2016</u> on or before <u>1400hrs</u> and will be opened on the same date <u>at 1430hrs</u> in the presence of available bidders.
- 15. The envelope should be marked as under;

Secretary, Purchase Committee COMSATS Institute of Information Technology, Lahore Campus Defence Road, Off Raiwind Road, Lahore. Tel: 042-111-001-007, Ext: 875

- 16. The envelope shall also bear the word "CONFIDENTIAL" and following identification quotation of <u>"Supply of Lab Equipment for Chemical Engineering Department, CIIT-Lahore".</u>
- 17. The bid form (BoQs) must be duly filled in, stamped and signed by the authorized representative of the bidder.
- 18. If the vendor fails to deliver the goods / services to CIIT-Lahore in time then the penalty will be charged as under:
  - a. 1% per day of the invoice price for 5 working days.
  - b. 2% per day of the invoice price for further 5 working days.
  - c. If the vendor fails to deliver the goods / services during the extended period then the purchase / work order may be cancelled, earnest money and payment may be forfeited.
- 19. If the delivered goods / services are not according to the required quality standards / specifications, the same shall be liable to be rejected after inspection. The vendor would be required to supply as

per requirements mentioned in our BoQs, otherwise the purchase / work order will be cancelled after due date with confiscation of earnest money.

- 20. Deduction of Income Tax and any other tax will be deducted at source according to Government prevailing rules.
- 21. Payment will be made on submission of Invoice in the name of "COMSATS Institute of Information Technology, Lahore Campus" with a copy of delivery challan (s) after the complete order has been supplied, inspected and accepted which includes delivery / installation, and COMSATS acceptance / inspection thereof.
- 22. All prices should be quoted on <u>C&F Basis for Sr. # 1 to 17</u> and <u>F.O.R (Pak Rupees) basis for Sr.</u> <u># 18 to 24</u>.
- 23. All prices should be valid for at least <u>120 days</u>. Withdrawal or any modification of the original offer within the validity period shall entitle CIIT to forfeit the earnest money in favor of the CIIT and / or put a ban on such vendor participation in CIIT tenders / works.
- 24. It is the sole responsibility of the agent / supplier / manufacturer to comply with the applicable laws, be national or international.
- 25. <u>05%</u> of the total value of the <u>Invoice</u> will be retained as security by COMSATS Institute of Information Technology, Lahore Campus, and will be released after <u>One Year</u>, from the date of delivery / completion of work / supply.
- 26. In case of any dispute, decision of the Director, CIIT will be final and binding upon the parties.
- 27. The CIIT reserves the right to modify the quantities of goods / services at any time before the award of purchase / work order.
- 28. The bidder is required to furnish in form of <u>Bank deposit / CDR / Pay order equivalent to 2%</u> of the total Bid price as Earnest Money crossed in favor of "COMSATS Institute of <u>Information Technology, Lahore Campus"</u>. Any bid not accompanied by Earnest Money shall be rejected without any right of appeal.
- 29. COMSATS Institute of Information Technology, Lahore Campus reserves the rights to accept or reject the bid if;
  - i. Received without earnest money
  - ii. Received later than the date and time fixed for tender submission
  - iii. The tender is unsigned/ unstamped
  - iv. The offer is ambiguous
  - v. The offer is conditional
  - vi. Offer is made by the unauthorized agent/ supplier of the original equipment manufacturer.
  - vii. The offer is from a firm, which is black listed by any Govt. Office.
  - viii. The offer is received by telephone/telex/fax/telegram.
  - ix. Any unsigned / ambiguous erasing, cutting / overwriting etc. is made.
- 30. The bidder should furnish a certificate as worded below in token of acceptance of all the terms and conditions of the tender. Otherwise the tender will not be considered under any circumstances.
- 31. I / We

- Postal Address:
- <u>NTN# :</u>.....<u>GST#:</u>.....
- Please also attach the Certificate supporting being Active Taxpayer as per requirement of FBR.
- The undersigned certify that the terms and conditions as contained in the documents vise, "
  Terms and Conditions for Tender Notice of COMSATS Institute of Information Technology,
  Lahore are accepted and that in the event of selection of my/our rate the agreement in the
  prescribed form will be entered into.

### BoQs for Supply of Lab Equipment for Chemical Engineering Department, CIIT-Lahore

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Sr. #	Equipment Name	BoQs/Specification		Qty	Quoted Brand / Make	Unit Price (C&F Lahore)	Total Price (C&F Lahore)
1	Bench top Centrifuge Machine	Automatic rotor recognition, Max Speed: 15000rpm, Max RCF: 21000xg, Max capacity: 4 x 200ml, Timer: 1-99min or continuous, Short cycle: impulse key for short cycle Angle Rotor: Capacity: 24 x 1.5ml, speed: 15000rpm, RCF: 21000xg Angle Rotor: Capacity: 12 X 15ml, speed: 12000rpm, RCF: 16500xg Germany, Japan, UK or equivalent	1	No			
2	Autoclave	Capacity 85 Liters, Chamber material SUS304, Sterilization temperature 138C, Range of sterilization time 1-300minutes, Fully automatic internal discharging Embedded with a steam trapping bottle, drainage hose, water plate, exhaust bottle, Two stainless steel baskets, inter locking device, electric double inner locks, dry scorch protection, over pressure protection, safety valve, over temperature protection, over current and short circuit protection, leakage protection, cooling lock, anti-scald chamber cover and bench, automatic troubleshooting USA, Germany, Japan, UK or equivalent	1	No			

					CI	T-LHR-PUR	-Tender-001
3	COD measuring system	Digital, Microprocessor controlled, Direct pre-calibrated for Measuring COD, meets the requirement of USEPA Standard COD Measuring Range: $0\sim150$ , $0\sim1500$ , and $0\sim15000$ mg/L ( $\pm3.5\%$ ) Photometer with LCD Display, Temperature compensating LED's ( $430/605$ nm), protected measuring tube, Measuring time approx. 3 seconds, automatic switch-off 5 minutes after last Key-press, 9V Block battery, with Instruction Manual To be used with 16mm round Cuvettes Microprocessor controller for COD Digestion Round metal block in epoxy covered housing with 24 x 16mm tube holder Three different Temperature setting $100^{\circ}C/120^{\circ}C/150^{\circ}C \pm 0.1^{\circ}C$ , and Three Pre- set reaction Timer $30-60-120$ minutes or continuous, Overheating protection, With LED Indication and beep alarm 88dB signal and automatic switch-off Heating 550 Watts, $220VAC$ , $50Hz$ . COD Vial Tests – (ISO 15705:2003-01), pre- dosed Vial Tests Range 0 – 1500 mg/L (25 tests per set) 1 Set Vial Tests Range 0 – 15000 mg/L (25 tests per set) 1 Set Stand for COD Vials 1 No Germany, USA, Japan or equivalent	1	No			
4	BOD Incubator & Measurement system	6places, Manometric: mercury-free; electronic pressure sensor Ranges [mg/l O <sub>2</sub> ] 0 - 40, 0 - 80, 0 - 200, 0 - 400, 0 - 800, 0 - 2000, 0 - 4000 mg/l Display 128 x 240 pixel, 45 x 84 mm, backlit Measurement period User-selectable, between 1 and 28 days Auto result storage up to 672 results, depending on measurement period Storage Interval hourly (1 day) interval, every 2 hours (2 days), daily (3-28 days) Automatic start function: After temperature equalization of samples, Can be switched off 3 alkaline-manganese supply batteries ("Baby" cells/size "C") or via power supply unit using y-cable together with stirring unit Interface USB host port (USB stick), USB device port (computer), SD card Real-time clock, large LCD display, Protection class IP 54 (sensor head) 6 Nos BOD Bottles, 500mL Amber Glass	1	No			

					CI	IT-LHR-PUR-	Tender-001
		<ul> <li>6 rubber gaskets, 6 magnetic stirring rods</li> <li>1 overflow flask, 157mL,</li> <li>1 overflow flask, 428mL</li> <li>1 bottle, 50mL potassium hydroxide solution</li> <li>1 bottle, 50mL nitrification inhibitor solution</li> <li>Incubator with temperature range 2 to 40C, 3</li> <li>racks, 1 bottom grid, 4 internal sockets,</li> <li>capacity 140 liters, lockable glass door</li> <li>Germany, USA, Japan or equivalent</li> </ul>					
5	Oven	Microprocessor PID controlled with LCD display and integrated timer, 8°C above room temperature to 300°C, Working chamber made of stainless steel with two shelves. Ventilation slide and exhaust duct Ø 50mm, Inner chamber volume in liters: 114, 99.59 hours timer and temperature safety system, Shelves 2 Nos. (adjustable), Electrical 220 VAC, 50 Hz, USB port for recording data Germany, Japan, USA or equivalent	1	No			
6	Biosafety cabinet (B2 )	4 feet, 100% exhaust, class 2 B2, LCD Display of Chamber airflow speed, Exhaust flow/Inlet speed, Digital Microprocessor Controlled, HEPA filter > 99.999% efficient for particle size between 0.1 to 0.3 microns, Exhaust filter HEPA filter > 99.999% efficient for particle size between 0.1 to 0.3 microns, with stand Western EEC, USA, Japan, UK or equivalent	1	No			
7	Freeze Dryer	Digital Microprocessor Control with LCD display. Condenser temperature: - <-50°C, condensation capacity: $2kg/24$ h, condenser chamber made of stainless steel: 220 mm x 190 mm height, glass-beaded, volume: 5.71, cooling trap with digital temperature display with socket 230 V / 50 Hz / 16 A, removable silicone gasket for connecting, accessories, vacuum pump connection, casing completely made of robust stainless steel sheets, Acrylic drying chamber Ø 200 x 300mm with base plate and cover, Inner rack made of stainless steel Ø 175mm, with 5 shelves, shelve distance 55mm. Vacuum pump suction rate: 5.4 cbm/h, final vacuum: 0.005mbar, 230 V/50 Hz, incl. oil mist filter and security valve Germany, USA, Japan or equivalent	1	No			

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8	Freezer (-40C)	Net Capacity: 240L, Insulation (mm): 80, Temperature range: -10 to -40C, Max. Ambient temp: 25C, Power: 220V, 50Hz, Power failure alarm, Visual / Acoustic alarm: yes, Adjustable high / low temperature alarm: yes, Display: Digital, Defrost: manual, Drawers 7 Nos, Castors: 2 small in back, Refrigerant: R507 Western EEC, USA, Japan or equivalent	1	No			
9	Top & analytical Balance:	Type: Digital Microprocessor Controlled, Capacity: 210 g. Readability: 0.1mg (0.0001g). Tare range: 210 gm. Repeatability: < + 0.1 mg, Linearity: < + 0.3 mg, Response time: 3 Second. Pan size (dia): 90 mm, Calibration: Internal. Weighing Below Hook, All glass draught shield with 3 sliding doors, Communication: RS232, Display: LCD Digital Microprocessor Controlled, Capacity 410 g, Readability 1mg (0.001g), Tare range 410 gm, Repeatability < + 1 mg, Linearity < + 2 mg, Response time 3 Second, Pan size (dia) 120 mm, Weighing Below Hook, All glass draught shield with 3 sliding doors, Communication RS232 USA, Japan, Switzerland or equivalent (01 each)	1	No			
10	Lab Refrigerator	Capacity: 500 liters. Temperature range: +2 to +8C. Micro processor controller with digital display. 60 hours battery backup Visual and acoustic alarm. Prepared for GSM alarm. Integrated data logger with 10 years memory with date, time & temperature of the chamber. RS485/232 Interface. Computer USB data read out. Direct download/upload from USB. 3-level password protected. Ambient temperature display, metallic door, chart recorder Western EEC, USA, Japan or equivalent	1	No			
11	Water Purification Unit	Feed water temperature +2 to 35C, Feed water pressure 1 to 6 bar, Manganese and iron content < 0.05 mg/l, Free chlorine content < 1 mg/l, Silt density index (SDI) max. 3, Type 1 ultrapure water, Ultrapure water conductivity 18.2 M $\Omega$ x cm $\triangleq$ 0.055 $\mu$ S/cm, Dispensing performance up to 1.6 l/min, TOC value 1 - 5 ppb, Endotoxines 0.001 EU/ml, Particle and bacteria content < 1 CFU/ml, Type II pure water, Pure water conductivity 15-10 M $\Omega$ x cm $\triangleq$ 0.067-0.1 $\mu$ S/cm, Pure water performance at 15°C 12 l/h, With tap water input Spare cartridges 3 sets Germany, USA, Japan or equivalent	1	No			

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12	Soxholt Apparatus	Independent heating control for each position. Height adjustable bar to support condensers or other glassware etc. External case made of AISI 304 stainless steel. Safety: as earth strip is woven into the mantles. Temperature control by the use of a pulsed energy regulator. An indicator lamp shows when the mantle is on. Adjustable mantle surface temperature up to 550°C, 6 places for heating mantles with complete glassware assembly Western EEC, USA, Japan or equivalent	1	No			
13	Oil Bath	Water bath serological, Exterior body of steel sheet, Interior body of stainless steel, Capacity: 12 Liters, Temperature range up to 200C, Temperature accuracy + 1%, Perforated stainless steel bottom tray, Built in temperature sensor, Digital display to temperature, Gabled lid Western EEC, USA, Japan or equivalent	1	No			
14	Sonicator	The energy set point continuously monitors the amount of energy in Joules (watts x seconds), that is being delivered to the probe, and terminates the ultra sonic when the total energy delivered reaches a predetermined level. Digitally displays the actual amount of power in watts that is being delivered to the probe. Allows process control and monitoring from 1°C to 100°C. Microprocessor Based Programmable, Automatic Amplitude Compensation, Real Time Display, Variable Power Output Control, Ten Hour Process Timer, Elapsed Time Indicator, Independent On/Off Pulser, sound reducing enclosure, 20KHz, 500 watts Sealed converter: Piezoelectric lead zirconate titanate crystals (PZT) Diameter: 21/2" (63.5 mm) Length: 71/4" (183 mm) STANDARD PROBE: Tip diameter: 1/2" (13 mm) with threaded end and replaceable tip Processing capability: 10 ml to 250 ml. Length: 53/8" (136 mm) Weight: 3/4 lb. (340 g) Titanium alloy Ti-6Al-4V Sound abating enclosure	1	No			
15	Shaking incubator	Digital Microprocessor Control, LCD Touch Screen, 60 liters, Shaking Speed 30-400, Shaking Mode Orbital, Tray (WxD) 400 x 400mm, temperature Range 4 to 60C, Temperature Accuracy 0.1C, Temperature Uniformity ±1°C @37C, Timer 1 to 999 minutes, Constant Temperature, Door Switch, Over-temperature Protection, Compressor	1	No			

UV-Vis         Overload Protection, Electrical, Leakage Protection           16         UV-Vis Spectral bandpass 1.5m Stray light 0.05% or less (220nm for NaI, 340nm for NaNO2) Wavelength accuracy ±0.3nm (at 656.1, 486.0nm) Wavelength setting repeatability ±0.1nm Photometric range -3 to 3Abs 0 to 300%T Photometric accuracy ±0.002Abs (0 to 0.5 Abs) (certified according to ±0.004Abs (0.5 to 1.0Abs) NIST SRM 930), ±0.008Abs (1.0 to 2.0Abs) ±0.3%GT Photometric repeatability ±0.01Abs (0 to 0.5Abs) (certified according to ±0.002Abs (0.5 to 1.0Abs) NIST SRM 930) ±0.004Abs (1.0 to 2.0Abs) ±0.1%GT Wavelength scan speed 10, 100, 200, 400, 800, 1.200, 2.400, 3.600mn/min Response Fast, standard, slow Baseline stability 0.0003Abs/h (at 500nm, 2 hours after power-on) Noise level ±0.00015Abs (at 500nm, 2 hours after power-on) Noise level ±0.0005Abs (within 200 to 950m) Light source WI and D2 lamps Light source WI and D2 lamps Light source WI and D2 lamps Light source Changeover Auto (user selectable from 325 to 370m) Detector Silicon photodiode Color LCD with backlight (26.4cm) Printer I/F Centronics interface Serial I/F RS-232C (exclusive for UV         No					1	I-LHK-PUK-	render-001
Noise level ±0.00015Abs (at 500nm)Baseline flatness ±0.0006Abs (within 200 to950nm)Light source WI and D2 lampsLight source changeover Auto (user selectablefrom 325 to 370nm)Detector Silicon photodiodeColor LCD with backlight (26.4cm)Printer I/F Centronics interfaceSerial I/F RS-232C (exclusive for UV	16	Spectrophotom	ProtectionOptical system Double beamWavelength range 190 to 1100nmSpectral bandpass 1.5nmStray light 0.05% or less (220nm for NaI,340nm for NaNO2)Wavelength accuracy $\pm 0.3$ nm (at 656.1,486.0nm)Wavelength setting repeatability $\pm 0.1$ nmPhotometric range $-3$ to 3Abs0 to 300%TPhotometric accuracy $\pm 0.002$ Abs (0 to 0.5Abs)(certified according to $\pm 0.004$ Abs (0.5 to1.0Abs) NIST SRM 930), $\pm 0.008$ Abs (1.0 to2.0Abs) $\pm 0.3\%$ TPhotometric repeatability $\pm 0.001$ Abs (0 to0.5Abs)(certified according to $\pm 0.002$ Abs (0.5 to1.0Abs) NIST SRM 930) $\pm 0.004$ Abs (1.0 to2.0Abs) $\pm 0.1\%$ TWavelength scan speed 10, 100, 200, 400,800, 1,200, 2,400, 3,600nm/minResponse Fast, standard, slowBaseline stability 0.0003Abs/h (at 500nm, 2	1	No		
Power supply 220, 230 or 240 V, 50/60Hz Power consumption 300VA Japan, USA, UK or equivalent			Noise level ±0.00015Abs (at 500nm) Baseline flatness ±0.0006Abs (within 200 to 950nm) Light source WI and D2 lamps Light source changeover Auto (user selectable from 325 to 370nm) Detector Silicon photodiode Color LCD with backlight (26.4cm) Printer I/F Centronics interface Serial I/F RS-232C (exclusive for UV Solutions program) Power supply 220, 230 or 240 V, 50/60Hz Power consumption 300VA				
Lab Scale Microwave OvenLab Scale Microwave Oven fitted with gas inlet and outlet1No	17	Microwave		1	No		

Items	to be quoted in Pak Ru	pees Inclusive of all taxes							
	Equipment		Qty		Rates to be quoted In Pak Rupees Inclusive of all taxes				
Sr.#	Equipment Name	BoQs/Specification			Quoted Brand / Make	Unit Price (Rs)	Total Price (Rs)		
18	pH meter	White backlit LCD screen. Auto buffer recognition, with 3-point calibration. Auto Functions: ATC with 3-in-1 electrode, auto endpoint, auto self-diagnosis. Date and Time Display Also record the most recent calibration data. Measurement Range: -2.0016.00 pH. mV Range: - 1999+1999mV. Temperature Range: - 5°C110 °C. Resolution pH: 0.01 pH. Resolution mV: 1 mV. Resolution Temperature: 0.1 °C. Accuracy pH: $\pm$ 0.01 pH. Accuracy mV: $\pm$ 1 mV. Accuracy Temperature: $\pm$ 0.5°C. pH Calibration: Up to 3 points. Calibration Buffer: 3 redefined buffer group. Memory: 99 sets, most recent calibration data. Power/Battery: 240V/50-60Hz, 9 V DC. Display White backlight liquid crystal. pH Input: BNC, impedance >10e+12 $\Omega$ . Temp Input: Cinch, NTC 30 k $\Omega$ . RS232. Housing Materials: ABS with swing arm holder. Accessories: Set of buffer concentrate Sashes 4, 7 & 10. USA, Germany, Japan or equivalent	1	No					
19	DO Meter	Measurement Range 0.0 to 199.9%; 200 to 400%, 0.00 to 19.99; 20.0 to 45.0 mg/L, 0.00 to 19.99; 20.0 to 45.0 ppm, 0 to 50 °C, 0.1%; 1% Measurement Resolution: 0.01 mg/L; 0.1 mg/L, 0.01 ppm; 0.1 ppm, 0.1 °C, 375 to 825 mmHg Barometric range: 500 to 1100 mbar, 500 to 1100 hPa, 1 mmHg, Barometric resolution: 1 mbar, 1 hPa, Accuracy: $\pm 1\%$ ; $\pm 0.3$ °C Salinity compensation: 0.0 to 50.0 ppt Calibration: 2 points Power 4 x AAA, 250 hrs Display liquid crystal IP rating IP54 Input BNC; Cinch (NTC 30 k $\Omega$ ) USA, Germany, Japan or equivalent	1	No					

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20	TDS/Salinity meter	TDS/Salinity meter The 4-pole linear electrode offers a large conductivity range that safeguards itself from polarization and pollution effects Automatic temperature compensation with an adjustable temperature coefficient Automatic and manual endpoint functions determine the stability of readings Measurement range $0.0 \ \mu$ S/cm to 199.9 mS/cm, $0.1 \ mg/l$ to 199.9 g/l (TDS), $0.00$ to 19.99psu (Salinity), 0°C to 100 °C Resolution Automatic range: $0.1 \ ^{\circ}C$ Error Limits $\pm 0.5 \ ^{\circ}$ Measured Value. $\pm 0.3 \ ^{\circ}C$ Calibration 1 point. 3 predefined standards White backlight liquid crystal Temperature Compensation Linear: $0.00 \ ^{\circ}/^{\circ}C10.00 \ ^{\circ}/^{\circ}C$ , Reference Temp.:(20 - 25 °C) Standard Solution 50ml USA, Germany, Japan or equivalent	1	No			
21	Filtration Assembly	Glass filtration assembly with vacuum pump	1	No			
22	Vortex	Speed range 0-2200rpm, Shaking movement Orbital, Continuous or touch operation	1	No			
		1. Glass Tanks					
		upto 500 L	1	No			
		upto 100 L	1	No			
		2. Diffusers Circular or rectangular made of following n	nateri	als			
		Ceramic	2	Nos			
		Polymeric membrane	2	Nos			
		Sintered Borosilicate	2	Nos			
		Stainless steel	2	Nos			
23	Advanced aeration	3.Air compressor					
	system	Up to 5 bar	1	No			
		4. Fluidic Oscillator					
		Conventional with minimum throughput of 40 lpm	1	No			
		Advanced with minimum through put of 5 lpm	1	No			
		5.Dehumidifer					
		Capable of reducing moisture down to 10 ppm	1	No			
		With Complete assembly and fabrication of the complete setup					

					 I-LIIK-I UK	-
		1. Ozone generator (lab scale)	2	Nos		
		2. Power supply 12KV/100mA 0.5 KH/0.5MH	2	Nos		
		3.Digital High voltage probe and Oscilloscope	1	No		
		4. Plasma micro reactor				
		Single channel	10	Nos		
		Multichannel	03	Nos		
		With flow channels of 600-800 microns and wall thickness of up to 1mm and multiple gas injection points, sampling				
		point, fitted with inner and external electrode with the provision of changing both electrodes				
	Advanced	5. Advanced Ozone generation and dosing	Syste	m-		
24	oxidation and	Phase I				
	dosing system	Fitted with hydrophobic membranes, fitted with electrical connections, At least 12 Multiplexed plasma microreactors capable of dosing product gases in situ in liquid bulk.	1	No		
		6. Valves/Tubing/Fittings/Teflon Tape/Too Pressure Gauges/Needle Valve/ Flow mete Gasses Alumina and Mica Tubes, Tape rods wires	rs for	Multi		
		Valves, tubing and fitting are standard 8mm dia, Flow meter for upto 20lpm, Micro tubes of Alumina, Mica in different diameters, sheets of mica and alumina upto 1 mm thick.		Nos		
		<ul> <li>7. Desktop PC for lab use</li> <li>12 gb RAM, 1TB Hard drive, intel core i7</li> <li>processor, keyboard, mouse</li> <li>With 21 icnh LED</li> <li>Brand: Hp, Dell or equivalent</li> </ul>	1	No		
		With Complete assembly and fabrication	n of tl	ne		
		complete setup				

Note:

- 1. Please quote the rates on our BoQs and clearly mention the quoted model / brands, otherwise your bid / items may be rejected.
- 2. In Addition to filling of the attached BoQs, supporting literature of the quoted model must be attached for verification & technical evaluation of the required specification by the technical committee. In case of any clash is found between the quoted model and the literature model. So the item/bid may be rejected.
- 3. Terms & Conditions and BoQs should be attached with Technical and Financial bids, otherwise your tender/bid(s) may be rejected.