



COMSATS University Islamabad, Lahore Campus
Defence Road, Off Raiwind Road, Lahore

Tender No. CUI-LHR-TN-13-19-1244

Case # 2676

Single Stage Two Envelop Procedure

Title of Tender: Lab Equipment for Department of Chemical Engineering

TERMS AND CONDITIONS

1. *All pages of bidding documents are mandatory to be signed / stamped, meaning thereby bidder agrees to our terms & conditions mentioned herein, failing which the bid may be rejected.*
2. *Any addition, deletion or modification of any clause of the procurement terms & conditions/BoQs of CUI-Lahore Campus by any vendor will not be acceptable and may lead to rejection of the bid.*
3. *Only registered Suppliers, who are on Active Taxpayers List (ATL) of FBR, are eligible to participate in tender.*
4. The contract will be executed and handed over in satisfactory conditions up to the entire satisfaction of COMSATS University Islamabad, Lahore Campus.
5. Documents along with Pay Order / Demand Draft amounting to **Rs. 1000/-** as a tender documents fee (Non-Refundable) shall be submitted in favor of COMSATS University Islamabad (CUI), Lahore Campus to the address given below. No bid will be accepted without tender documents' fee.
6. Part / Advance payments is not allowed.
7. **The exact completion/delivery time from the date of the purchase / work order will be 60 days (for Sr. # 1) & 40 days (for Sr. # 2 to 5). The handing over / completion time for this contract is of critical importance.**
8. Your bid proposal should be inclusive of freight and all other taxes delivered at COMSATS University Islamabad (CUI), Lahore Campus's premises.
9. After opening of bids, COMSATS University Islamabad (CUI), Lahore Campus will examine the bids for completeness as per tender document.
10. 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.
11. The bid should be submitted in a sealed envelope up to **March 13, 2019** on or before **1400hrs** and will be opened on the same date **at 1430hrs** in the presence of available bidders.
12. COMSATS University Islamabad, Lahore Campus, will follow the PPRA rule of **single stage two envelope procedure;**
 - i. The bid shall comprise a single package containing **two separate envelopes**. Each envelope shall contain separately the **financial proposal** and the **technical proposal;**

- ii. The envelopes shall be marked as **“FINANCIAL PROPOSAL”** and **“TECHNICAL PROPOSAL”** in bold and legible letters to avoid confusion;
 - iii. Initially, only the envelope marked **“TECHNICAL PROPOSAL”** shall be opened;
 - iv. The envelope marked as **“FINANCIAL PROPOSAL”** 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. The envelope should be marked as under;

Secretary, Purchase Committee
COMSATS University Islamabad (CUI), Lahore Campus
 Defence Road, Off Raiwind Road, Lahore.
 Tel: 042-111-001-007, Ext: 875

The envelope shall also bear the word **“CONFIDENTIAL”** and following identification quotation of **“Lab Equipment for Department of Chemical Engineering””**.

14. The bid form (BoQs) must be duly filled in, stamped and signed by the authorized representative of the bidder.
- 15. If the vendor fails to deliver the goods / services to COMSATS University Islamabad (CUI), Lahore Campus 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.
16. 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.
17. Deduction of Income Tax and any other tax will be deducted at source according to Government prevailing rules.

18. Payment will be made on submission of Invoice in the name of “COMSATS University Islamabad (CUI), 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.
19. All prices should be quoted on F.O.R (Pak Rupees) inclusive of all applicable taxes.
20. All prices should be valid for at least **120 days**. Withdrawal or any modification of the original offer within the validity period shall entitle CUI, Lahore Campus to forfeit the earnest money in favor of the CUI, Lahore Campus and / or put a ban on such vendor participation in tenders / works.
21. It is the sole responsibility of the agent / supplier / manufacturer to comply with the applicable laws, be national or international.
22. In case of any dispute or grievance, the matter shall be addressed as per PPRA rules.
23. The CUI, Lahore Campus reserves the right to modify the quantities of goods / services at any time before the award of purchase / work order.
24. **05% of the total value of the Invoice will be retained as security by COMSATS University Islamabad (CUI), Lahore Campus, and will be released after warranty period i.e. (One Year) which will be counted from the date of delivery / completion of work / supply.**
25. **The bidder is required to furnish in form of Bank deposit/ CDR / Pay order equivalent to 2% of the total Bid price as Earnest Money crossed in favor of “COMSATS University Islamabad (CUI), Lahore Campus”.**
26. COMSATS University Islamabad (CUI), Lahore Campus reserves the rights to 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. The offer is from a firm, which is black listed by any Govt. Office.
 - vii. The offer is received by telephone/telex/fax/telegram.
 - viii. Any unsigned / ambiguous erasing, cutting / overwriting etc. is made.
27. 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.
28. The undersigned affirm that the terms and conditions as contained in this document have been read and accepted and that in the event of selection of my/our rate the agreement in the prescribed form will be entered into:

- **Company / Vendor Name:**.....
- **Postal Address:**.....
- **Tel. / Mobile:**.....**Email:**.....
- **NTN# :**.....**GST#:**.....
- **Signature:**

- Please also attach the Certificate supporting being Active Taxpayer as per requirement of FBR.

Technical Portion (Please mention the quoted model/ brand in technical portion with no mention of price otherwise the bid will be rejected)

BoQs of Lab Equipment for Department of Chemical Engineering, CUI-Lahore Campus

No change in the BoQs (Specs & Qty.) of CUI-Lahore Campus, as detailed below, is allowed. Any additional information may be mentioned in the blank columns (i.e. model / brand or Price). Any modification in CUI-Lahore Campus BoQ may lead to rejection of bid (fully or partially).		Please mention the quoted Model / Brand with meeting the all specifications mentioned in BoQs	
Sr. #	Name	Quantity	
1	<p><u>Setup for liquid detergents synthesis Pilot Plant</u></p> <p>Liquid detergents synthesis Pilot Plant: 100Ltr main tank and 2x50Ltr Intermediate Tanks with see sight glass/doors; All SS316 Double Vessel of 18 gauge equipped with heaters (Temp Range 100C liquid Digital PID controlled), Vacuum Pump (~760Torr) arrangement for Main tank, Digital Overhead Stirrer 150RPM heavy duty, 3 phase for viscous material clock and anti-clockwise rotation with program timing/timer (PLC controlled), pressure and temperature gauges, cool water circulation arrangement with pumps, 1" SS316 pipe wiring, fully equipped with valves etc. and Rig panel for all operations, 220VAC 50/60 or 3 phase 440VAC 50/60Hz, as per diagram. (Systematic PFD must be attached with technical bid otherwise your bid against this item will be rejected).</p> <p>Accessories:</p> <p>i. RO plant 20L per Hour</p> <p>ii. Synthesis reactor (Hydrothermal) Capacity: Exactly 200 mL Reactor liner material use PTFE (280°C safe temp.) Pressure: -0.1 ~ 300 °C High Temperature resistance and low temperature resistance. Ultra corrosion resistance with insulation resistance High lubrication and no adhesion Non-hazardous and Anti-pollution with Leak-proof</p> <p>iii. Muffle Furnace with Temperature Ramping (Temperature Range Ambient – 1200 °C Ceramic Chamber inner (Working Chamber 5" x 5" x 5" approx. 3.5 Liters).</p>	01	No.

<p>Or 2" x 8" Muffle tube type. Digital PID Controlled, Timer 99.99Hrs, (custom option additional) Heating error must be below 1%. Element must be covered. Exhaust system should be included. Nitrogen purging option should be included.</p> <p>iv. Tube Furnace Temp; Range 1200°C, PID controlled heating, including thermocouple, Quartz Tube. Inner Diameter: 54mm Outer Diameter: 60m</p> <p>v. Vacuum Oven (PID Control) Radiant warm wall heating system provides optimal uniformity and conserves chamber space for drying, curing, vacuum embedding, and plating application Temperature Range Ambient to 250 °C (300°C Max for less than 60 minutes) Vacuum level displayed on gauges from 0 to 30" Hg. PID precision Digital Power controller control temperature to +/- 1.5C with a uniformity of +/-5C @ 100C; 25" Hg at center hot zone Vacuum oven including pump: Specifications: Oil less pump Voltage: standard 220VAC 60 Hz Power: 1000W Inner chamber size: 300 mm x 300mm x 275mm (26 Ltr) Vacuum: 10⁻² Pa</p> <p>vi. Sonicator (Ultra Sonic Water Bath) Tank volume 2.75Ltr, US freq. 37. Jeatomg 0-200C, power 220VAC 50-60 Hz (variable freq.), with SS basket.</p> <p>vii. Centrifuge Machine 15000RPM</p> <p>Power supply: single phase, AC100V-240V 50Hz/60Hz, 3A 100W Max speed: 15000rpm (500-15000 rpm), increment: 100 rpm Max rcf: 15100xg, increment: 100 x g Speed accuracy: +/- 20 rpm Rotor Capacity: 0.2ml/0.5ml/1.5ml/5ml * 12 Timer: 30 sec-99 sec / continuous Safety Devices: Door interlock, over speed detection, over temperature detection, automatic internal diagnosis Driving Motor: brushless DC motor. Noise Level: ≤54dB Acceleration/breaking time: 11s↑/9s↓ Dimension[D×W×H]: 255×245×140mm Advanced features: Speed/RCF switch, Short-time run function, sound-alert function.</p>			
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	<p>viii. Lab Fume Hood</p> <p>4ft laboratory Fume Hood (locally fabricated) External size: 48 (W) x 54 (H) x 26 (D) Inch Approx. Internal Size: 42 (W) x 36 (H) x 25 (D) Inch Approx. External construction: Oven baked epoxy painted E.G steel body 18sgw Working surface:</p> <ul style="list-style-type: none"> • Polypropylene working surface and drainage trough. <p>Motor and blower system:</p> <ul style="list-style-type: none"> • Thermal protected motor. • 208/240volts, 50/60 Hz. • HP1/3AO. • 1.7A, 1200RPM, 2 step. • S.S blower of size 9x4" • Powerful motor and blower system capable to generate 100ft/m avg velocity at working surface. <p>Additional features:</p> <ul style="list-style-type: none"> • Internal walls made of acid & corrosion resistant Dexeron broad. • One electric multi sockets to work within the Hood. • Inlets for water, gas & Vacuum with controller • Vapor proof fluorescent lights. • All function control panel for convenient handling. • Vertical heat resistant, corrosion/ acid proof tempered safety glass sash electrical motorizes operated. • Regulated air supply power requirement: 220V, 50Hz. <p>Base Cabinet: Oven baked epoxy painted E.G steel body.</p> <ul style="list-style-type: none"> • Standard height: 30" • For the storage of chemicals <p>One Year Warranty Complete with all aspects including fabrication, installation & commissioning</p>			
<p>2</p>	<p>Analytical Balance:</p> <p>Capacity: 1mg (min) to 400g (max) Readability: 0.0001g Repeatability (STDEV): 0.0001g Linearity: 0.0002 Stabilization time: 4 sec Sensitivity Temperature Drift: ± 3 ppm/K Typical Minimum Weight USP (USP, K=2, U=0.10%): 200mg Optimized Minimum Weight (USP, U=0.10%, K=2) SRP≤0.41d*: 82 mg</p>	<p>01</p>	<p>No.</p>	

	<p>Units: Milligram, Gram, Kilogram, Ounce, Pound, Carat, Pennyweight, Ounce Troy, Newton, Grain</p> <p>Applications: Basic Weighing, Parts Counting, Percent Weighing</p> <p>Pan size: 120mm</p> <p>Tare range: full range</p> <p>Power supply: Power Input: 100 – 240V ~ 200mA 50 – 60Hz 12 – 18VA Power Output: 12 VDC 0.5A</p> <p>Assembled Dimensions (W × D × H): 201 × 317 × 303 mm</p> <p>Communication: RS232</p> <p>Operating Temperature Range: 10 °C to 30 °C</p> <p>Storage Temperature Range: Humidity: maximum relative humidity 80% for temperatures up to 30 °C, decreasing linearly to 50% relative humidity at 40 °C</p> <p>One Year Warranty</p>			
3	<p><u>Conventional/drying oven:</u></p> <p>Capacity: 55L</p> <p>Temperature Range: Ambient Temperature +5C to 250C</p> <p>Sensor: PT 1000</p> <p>Timer: 99Hr 59 min (Delay/Continuous function)</p> <p>Shelves: 2ea of stainless steel wire shelves included, Load per shelves: 16kg</p> <p>Controller: digital control fuzzy control by advanced microprocessor jog dial with push button</p> <p>Electric 220V/50Hz</p> <p>One Year Warranty</p>	01	No.	
4	<p><u>Analyzers:</u></p> <p>i. pH meter/TDS Meter:</p> <p>Professional Multi-Parameter pH-ORP-Conductivity-TDS-TEMP Bench Meter</p> <p>Range: 2.00 to 16.00 pH /-2.000 to 16.000 pH ±699.9 mV / ±2000 mV 0.00 to 19.99 µS/cm; 0.00 to 9.99 ppm 20.0 to 199.9 µS/ cm; 10.0 to 99.9 ppm 200 to 1999 µS/cm; 100 to 999 ppm 2.00 to 19.99 mS/cm; 1.00 to 9.99 ppt 20.0 to 199.9 mS/cm; 10.0 to 99.9 ppt -9.9 to 120.0°C (pH range) 0.0 to 100.0°C (EC range) Resolution : 0.01 pH / 0.001 pH 0.1 mV (±699.9 mV) / 1 mV (±2000 mV) 0.01, 0.1, 1 µS/cm; ppm 0.01, 0.1 mS/cm; ppt 0.1°C Accuracy: ± 0.01 pH / ± 0.002 pH ± 0.2 mV up to ± 699.9 mV ± 1 mV up to ± 2000 mV ± 1% f.s. (EC/TDS) ± 0.5°C</p>	01	No.	

<p>Relative mV offset range: ± 2000 mV pH calibration: Up to 3-point calibration, 5 buffer available (4.01, 6.86, 7.01, 9.18, 10.01 pH) EC Calibration: Offset at 0.00 $\mu\text{S}/\text{cm}$; Slope at 1 point with 6 memorized values (84.0, 1413 $\mu\text{S}/\text{cm}$; 5.00, 12.88, 80.0, 111.8 mS/cm) or with custom value. Temperature compensation: Automatic or manual -9.9 to 120.0°C (pH range) 0.0 to 100.0°C (EC range) Temperature co-efficient: 0.00 to 10.00%/°C (EC) (default: 1.90%/°C) TDS Factor: Selectable from 0.40 to 1.00 (default value: 0.50) pH electrode: AD1131B EC Probe: AD76309 with built-in temperature sensor Power Supply: 12 Vdc power adapter Environment: 0 to 50°C RH max. 95% non-condensing</p> <p>ii. Hardness Kit 100 Test</p> <p>iii. Calcium (Digital Instrument with Reagent to test Ca) 100 Test</p> <p>iv. Fe (Iron) 100 Test</p> <p>v. Corrosion testing kit 100 Test</p> <p>vi. Refrigerator Medium size One Year Warranty</p>			
<p><u>Hot Plates with heating, stirring and thermocouple:</u></p> <p>Specifications Work plate material: Glass ceramic Power: 1010W Heating Power: 1000 W Heating position: 1 Heating Temperature range: room temp. to 550 °C; increment 5 °C Control accuracy of work plate: ± 10 °C Safety temperature: 580 °C Temperature Display: LED External Temperature sensor: PT1000 (± 0.5 °C) Heating warning: 50 °C Protection Class: IP21 Permissible ambient temperature and humidity: 5-40 °C, 80% RH One Year Warranty</p>	02	No.	

Financial Portion (Price and Brand/Model to be mention only in Financial Proposal in a separate sealed envelope)

<p>Vendors are required to provide both unit and total price of each item and calculations must be made carefully to avoid mistakes. However, in case, total price does not match with the unit price and quantity due to calculation error or typo error, any of the following can be opted</p> <ol style="list-style-type: none"> 1. The bid may be rejected on the reason of ambiguity (OR) 2. Unit price will be considered as final and total price of the respective item will be calculated by multiplying it with the quantity required. Sub-totals and grand total will also be corrected accordingly 						
<p>No change in the BoQs (Specs & Qty.) of CUI-Lahore Campus, as detailed below, is allowed. Any additional information may be mentioned in the blank columns (i.e. model / brand or Price). Any modification in CUI-Lahore Campus BoQ may lead to rejection of bid (fully or partially).</p>				<p>Rate to be quoted Inclusive of all (applicable) Taxes</p>		
Sr. #	Name	Qty		Quoted Model / Brand / Make	Unit Price (Rs.)	Total Price (Rs.)
1	<p><u>Setup for liquid detergents synthesis Pilot Plant</u></p> <p>Liquid detergents synthesis Pilot Plant: 100Ltr main tank and 2x50Ltr Intermediate Tanks with see sight glass/doors; All SS316 Double Vessel of 18 gauge equipped with heaters (Temp Range 100C liquid Digital PID controlled), Vacuum Pump (~760Torr) arrangement for Main tank, Digital Overhead Stirrer 150RPM heavy duty, 3 phase for viscous material clock and anti-clockwise rotation with program timing/timer (PLC controlled), pressure and temperature gauges, cool water circulation arrangement with pumps, 1" SS316 pipe wiring, fully equipped with valves etc. and Rig panel for all operations, 220VAC 50/60 or 3 phase 440VAC 50/60Hz, as per diagram. (Systematic PFD must be attached with technical bid otherwise your bid against this item will be rejected).</p> <p>Accessories: RO plant 20L per Hour Synthesis reactor (Hydrothermal) Capacity: Exactly 200 mL Reactor liner material use PTFE (280°C safe temp.) Pressure: -0.1 ~ 300 °C High Temperature resistance and low</p>	01	No.			

<p>temperature resistance. Ultra corrosion resistance with insulation resistance High lubrication and no adhesion Non-hazardous and Anti-pollution with Leak-proof</p> <p>Muffle Furnace with Temperature Ramping</p> <p>(Temperature Range Ambient – 1200 °C Ceramic Chamber inner (Working Chamber 5” x 5” x 5” approx. 3.5 Liters). Or 2” x 8” Muffle tube type. Digital PID Controlled, Timer 99.99Hrs, (custom option additional) Heating error must be below 1%. Element must be covered. Exhaust system should be included. Nitrogen purging option should be included.</p> <p>Tube Furnace</p> <p>Temp; Range 1200°C, PID controlled heating, including thermocouple, Quartz Tube. Inner Diameter: 54mm Outer Diameter: 60m</p> <p>Vacuum Oven (PID Control)</p> <p>Radiant warm wall heating system provides optimal uniformity and conserves chamber space for drying, curing, vacuum embedding, and plating application Temperature Range Ambient to 250 °C (300°C Max for less than 60 minutes) Vacuum level displayed on gauges from 0 to 30” Hg. PID precision Digital Power controller control temperature to +/- 1.5C with a uniformity of +/-5C @ 100C; 25” Hg at center hot zone Vacuum oven including pump: Specifications: Oil less pump Voltage: standard 220VAC 60 Hz Power: 1000W Inner chamber size: 300 mm x 300mm x 275mm (26 Ltr) Vacuum: 10⁻² Pa</p> <p>Sonicator (Ultra Sonic Water Bath)</p> <p>Tank volume 2.75Ltr, US freq. 37. Jeatomg 0-200C, power 220VAC 50-60 Hz (variable freq.), with SS basket.</p>					
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<p>Centrifuge Machine 15000RPM</p> <p>Power supply: single phase, AC100V-240V 50Hz/60Hz, 3A 100W Max speed: 15000rpm (500-15000 rpm), increment: 100 rpm Max rcf: 15100xg, increment: 100 x g Speed accuracy: +/- 20 rpm Rotor Capacity: 0.2ml/0.5ml/1.5ml/5ml * 12 Timer: 30 sec-99 sec / continuous Safety Devices: Door interlock, over speed detection, over temperature detection, automatic internal diagnosis Driving Motor: brushless DC motor. Noise Level: ≤54dB Acceleration/breaking time: 11s↑/9s↓ Dimension[D×W×H]: 255×245×140mm Advanced features: Speed/RCF switch, Short- time run function, sound-alert function.</p> <p>Lab Fume Hood</p> <p>4ft laboratory Fume Hood (locally fabricated) External size: 48 (W) x 54 (H) x 26 (D) Inch Approx. Internal Size: 42 (W) x 36 (H) x 25 (D) Inch Approx. External construction: Oven baked epoxy painted E.G steel body 18sgw Working surface:</p> <ul style="list-style-type: none"> • Polypropylene working surface and drainage trough. <p>Motor and blower system:</p> <ul style="list-style-type: none"> • Thermal protected motor. • 208/240volts, 50/60 Hz. • HP1/3AO. • 1.7A, 1200RPM, 2 step. • S.S blower of size 9x4" • Powerful motor and blower system capable to generate 100ft/m avg velocity at working surface. <p>Additional features:</p> <ul style="list-style-type: none"> • Internal walls made of acid & corrosion resistant Dexeron broad. • One electric multi sockets to work within the Hood. • Inlets for water, gas & Vacuum with controller • Vapor proof fluorescent lights. • All function control panel for convenient handling. • Vertical heat resistant, corrosion/ acid 					
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	<p>proof tempered safety glass sash electrical motorizes operated.</p> <ul style="list-style-type: none"> Regulated air supply power requirement: 220V, 50Hz. <p>Base Cabinet: Oven baked epoxy painted E.G steel body.</p> <ul style="list-style-type: none"> Standard height: 30” For the storage of chemicals <p>One Year Warranty Complete with all aspects including fabrication, installation & commissioning</p>					
2	<p>Analytical Balance: Capacity: 1mg (min) to 400g (max) Readability: 0.0001g Repeatability (STDEV): 0.0001g Linearity: 0.0002 Stabilization time: 4 sec Sensitivity Temperature Drift: ± 3 ppm/K Typical Minimum Weight USP (USP, K=2, U=0.10%): 200mg Optimized Minimum Weight (USP, U=0.10%, K=2) SRP≤0.41d*: 82 mg Units: Milligram, Gram, Kilogram, Ounce, Pound, Carat, Pennyweight, Ounce Troy, Newton, Grain Applications: Basic Weighing, Parts Counting, Percent Weighing Pan size: 120mm Tare range: full range Power supply: Power Input: 100 – 240V ~ 200mA 50 – 60Hz 12 – 18VA Power Output: 12 VDC 0.5A Assembled Dimensions (W × D × H): 201 × 317 × 303 mm Communication: RS232 Operating Temperature Range: 10 °C to 30 °C Storage Temperature Range: Humidity: maximum relative humidity 80% for temperatures up to 30 °C, decreasing linearly to 50% relative humidity at 40 °C One Year Warranty</p>	01	No.			
3	<p><u>Conventional/drying oven:</u> Capacity: 55L Temperature Range: Ambient Temperature +5C to 250C Sensor: PT 1000 Timer: 99Hr 59 min (Delay/Continuous function) Shelves: 2ea of stainless steel wire shelves included, Load per shelves: 16kg Controller: digital control fuzzy control by advanced microprocessor jog dial with push</p>	01	No.			

	<p>button Electric 220V/50Hz, One Year Warranty</p>					
4	<p>Analyzers: pH meter/TDS Meter: Professional Multi-Parameter pH-ORP-Conductivity-TDS-TEMP Bench Meter Range: 2.00 to 16.00 pH /-2.000 to 16.000 pH ±699.9 mV / ±2000 mV 0.00 to 19.99 µS/cm; 0.00 to 9.99 ppm 20.0 to 199.9 µS/ cm; 10.0 to 99.9 ppm 200 to 1999 µS/cm; 100 to 999 ppm 2.00 to 19.99 mS/cm; 1.00 to 9.99 ppt 20.0 to 199.9 mS/cm; 10.0 to 99.9 ppt -9.9 to 120.0°C (pH range) 0.0 to 100.0°C (EC range) Resolution : 0.01 pH / 0.001 pH 0.1 mV (±699.9 mV) / 1 mV (±2000 mV) 0.01, 0.1, 1 µS/cm; ppm 0.01, 0.1 mS/cm; ppt 0.1°C Accuracy: ± 0.01 pH / ± 0.002 pH ± 0.2 mV up to ± 699.9 mV ± 1 mV up to ± 2000 mV ± 1% f.s. (EC/TDS) ± 0.5°C Relative mV offset range: ± 2000 mV pH calibration: Up to 3-point calibration, 5 buffer available (4.01, 6.86, 7.01, 9.18, 10.01 pH) EC Calibration: Offset at 0.00 µS/cm; Slope at 1 point with 6 memorized values (84.0, 1413 µS/cm; 5.00, 12.88, 80.0, 111.8 mS/cm) or with custom value. Temperature compensation: Automatic or manual -9.9 to 120.0°C (pH range) 0.0 to 100.0°C (EC range) Temperature co-efficient: 0.00 to 10.00%/°C (EC) (default: 1.90%/°C) TDS Factor: Selectable from 0.40 to 1.00 (default value: 0.50) pH electrode: AD1131B EC Probe: AD76309 with built-in temperature sensor Power Supply: 12 Vdc power adapter Environment: 0 to 50°C RH max. 95% non-condensing Hardness Kit 100 Test Calcium (Digital Instrument with Reagent to test Ca) 100 Test Fe (Iron)</p>	01	No.			

100 Test Corrosion testing kit 100 Test Refrigerator Medium size One Year Warranty					
<u>Hot Plates with heating, stirring and thermocouple:</u> Specifications Work plate material: Glass ceramic Power: 1010W Heating Power: 1000 W Heating position: 1 Heating Temperature range: room temp. to 550 °C; increment 5 °C Control accuracy of work plate: ±10 °C Safety temperature: 580 °C Temperature Display: LED External Temperature sensor: PT1000 (±0.5 °C) Heating warning: 50 °C Protection Class: IP21 Permissible ambient temperature and humidity: 5-40 °C, 80% RH One Year Warranty	02	No.			

Special Terms and conditions:

- **Please submit the technical and financial bid (s) on our prescribed BoQs and clearly mention the quoted model / brands, with complete terms and conditions signed, stamped with both bids, otherwise your bid (s) may be rejected.**
- **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.**
- **Purchase / work order (s) will be awarded on Item Wise Basis as mentioned in BoQs.**
- **Kindly attach the Tender fee with Technical Bid and Bid money / CDR with Financial Bid.**
- **Multiple rates of an item may also lead to the rejection of bid / item.**