

**Khwaja Fareed University of Engineering &  
Information Technology, Rahim Yar Khan**



# **Re-Tender Document**

**Tender No. Lab-106**  
**Supply & Installation of Lab Equipment for Chemical Engineering**  
**Department**  
**at**  
**Khwaja Fareed University of Engineering**  
**& Information Technology**  
**Rahim Yar Khan**

**RE-TENDER DOCUMENT**

**TENDER No. Lab-106**

**Supply & Installation of Lab Equipment for Chemical Engineering  
Department**

at

Khwaja Fareed University of Engineering and Information Technology

TENDER PRICE Rs. 1000/-

Last date of submission: 06/01/2020

FOR OFFICE USE ONLY

Serial No. \_\_\_\_\_

Sold to: M/S \_\_\_\_\_

Date of Sale \_\_\_\_\_

Bank Challan No. \_\_\_\_\_

Date \_\_\_\_\_

## 1. Overview

Khawaja Fareed University of Engineering & Information Technology, Rahim Yar Khan intends to purchase “**Supply & Installation of Lab Equipment for Chemical Engineering Department**” as provided at **Annex ‘A’**. The supplier will be responsible for Supply, delivery and commissioning of all specified items, wherever required, at the Khawaja Fareed University of Engineering & Information Technology, Rahim Yar Khan. This R e - T e n d e r document provides complete instructions for bidders intending to participate in this Tender.

## 2. Instructions for Bidders

**2.1.** Response to the Tender (Bid) should be submitted in one part which shall include two separately sealed envelopes of **Technical Proposal and Financial Proposal** before **3:00 PM** on **06-01-2020**. Technical Proposals will be opened on same day at **3:30 PM** in the presence of representatives of responding bidders, if any, and Financial Proposals will be opened after completion of technical evaluation. The exact time and place for opening of financial proposals will be informed to technically qualified bidders.

**2.2.** Responding bidder shall deliver two sealed copies of the bid. Each copy being physically separate, bound, sealed and labeled. Proposals shall be delivered at the address given below.

**Dr. Aamir Alaudin, Director Procurement**

**Procurement Department**

**Khawaja Fareed University of Engineering & Information Technology  
Abu Dhabi Road, Rahim Yar Khan.**

**Tel. # 068-5882460**

**2.3.** Any queries regarding this proposal should be directed to the designated Contact Person listed below.

**Engr. Dr. Javed Iqbal, HoD Chemical Engineering Department Tel. # 068-5882448**

**2.4.** All bids must be submitted by filling the **Annex ‘B’**. Same should be enclosed in the financial proposal. Bidder must use the same numbers and labels used in this Request for Proposal.

**2.5.** The original Re-Tender Document duly signed and officially sealed by the bidder must be submitted in whole with the proposals. Any conditional, ambiguous, incomplete, supplementary or revised offer after the opening of tender shall not be entertained.

### **3. Technical Proposal Format**

Bidders are required to include the following documents/information in their technical proposals in the order given below:

- i. Profile of company complete in all respect
- ii. List of Previous/Current customers, Purchase Orders of related Services with contact person and telephone/fax numbers.
- iii. Copy of National Tax Registration Certificate or Copy of Online Taxpayer Verification
- iv. Copy of Sales Tax Registration Certificate or Copy of Online Active Taxpayer
- v. Bank letter of financial standing /Bank Statement
- vi. An affidavit on Rs 100/- Stamp Paper issued after date of publishing of tender which illustrate that currently they are not black listed or de-barred by any Government/Semi-Government Department to participate in bidding. Failure to submit such affidavit may lead to disqualification.
- vii. Detailed item specifications or Services matched corresponding to the BOQ as given at **Annex 'A'**
- viii. Proposed delivery, response time, plan for rendering service
- ix. Signed and Stamped Complete Tender document
- x. Bank Draft of the Earnest Money

### **4. Financial Proposal Format**

Financial Proposal must include the following in the order given below:

- i. Equipment prices duly entered on the form in the attached BOQ
- ii. Validity period of the quoted price
- iii. Alternate items are not allowed to quote

### **5. Terms & Conditions**

**5.1.** This invitation for bids is open to all national original Manufacturers/ Distributors/Suppliers in Pakistan for supply.

- 5.2. All prices should be quoted in Pak Rupees and inclusive of all Government Taxes & Levies.
- 5.3. A bank draft equal to 2% of the estimated cost should accompany the Tender as **Earnest Money** drawn in favor of **KFUEIT Rahim Yar Khan**. The Tender shall not be considered without Earnest Money. Bank guarantee will not be accepted. Bank draft for Earnest Money should be placed with the Technical proposal.
- 5.4. Earnest Money for bidders not selected will be returned a minimum of two weeks after announcement of award and returned to successful bidder after signing the contract. If the selected bidder fails to sign the contract within stipulated time, Earnest Money will be forfeited.
- 5.5. A Bank draft of 10% of the total amount as **Performance Guarantee** will be provided by the supplier in favor of KFUEIT, Rahim Yar Khan within 12 days after decision of award of contract along with judicial stamp paper of the value @0.25 % of total cost for signing of contract agreement. Performance Guarantee shall remain valid for 12 months beyond delivery period and will be released after the completion of warranty/guarantee period, along with the satisfactory completion report by the inspection committee which will be intimated to the Seller and the Director Procurement KFUEIT, Rahim Yar Khan for their onward issuance of No Objection Certificate (NOC) for the release of performance guarantee.
- 5.6. The quantity of an order may vary depending on the quoted prices and the allocated funds.
- 5.7. The decision of the KFUEIT procurement committee will be binding on all concerned and will in no case be challenged in any forum.
- 5.8. KFUEIT Rahim Yar Khan reserves the right to modify the conditions / specifications of the Re- Tender Document with written intimation to all the participants who have purchased the Re-Tender Document.
- 5.9. Delivery period will be as per terms and conditions of purchase order/supply order.
- 5.10. Delivery shall be completed according to the agreed upon schedule.
- 5.11. In case the selected bidder fails to execute the contract strictly in accordance with the terms and conditions laid down in the contract, the Performance Guarantee shall be forfeited.

- 5.12. The University will inspect the items at KFUEIT Rahim Yar Khan and reject the item, if not found according to the stated specifications.
- 5.13. The University reserves the right to claim compensation for the losses caused by delay in the delivery of services.
- 5.14. It is the sole responsibility of the bidder to comply with local, national and international laws.
- 5.15. In case any supplies/material is found not in conformity with the specifications provided in the tender, either on account of inferior quality, defective workmanship, faulty design, faulty packing or is short supplied, or wrongly supplied, the supplier will replace the same free of charges or pay the full cost of replacement.
- 5.16. All the proposals submitted will become the property of the University.
- 5.17. All prices should be valid for at least 60 days. Withdrawal or any modification of the original offer within the validity period shall entitle the KFUEIT Rahim Yar Khan to forfeit the Earnest Money in favor of the KFUEIT Rahim Yar Khan and/or putting a ban on the future inquires or taking any other suitable action against the bidder.
- 5.18. Delivery of the items will be free of charge at Site/Activity place/Khwaja Fareed University of Engineering & Information Technology, Rahim Yar Khan during the office hours or according to the schedule of end user with a copy of Delivery Challan.
- 5.19. Items being ordered should be brand-new and according to order specification from the current production and covered under normal warranty/guarantee etc. as mentioned in the quote. Brochures mentioned and product details must be attached.

## **6. Tender Evaluation Criteria**

All bids shall be evaluated on technical and financial merit. The Company Evaluation Criteria is attached at **Annex 'C'** for reference. Technical evaluation process may include, but not limited to the consideration of the following with respect to the functional requirements given ahead:

- a. Technical specifications of proposed item
- b. Company Profile
  - I. Age of the company
  - II. Financial strength of the bidder

Financial Evaluation process will be based on the consideration of the quoted price.

**7. Undertaking**

On behalf of the company it is certified that we agree to the all the Instructions and Terms & Conditions given in this Tender Document

Name of bidder.....

Authorized person.....

Authorized signature.....

Stamp.....

Office Address.....

Tel No .....

Fax No .....

## Supply & Installation of Lab Equipment for Chemical Engineering Department

Sr. #	Item Name/Specifications	Unit of Measure	Qty.
1.	<b>Adsorption column reactors</b> System fitted with multiple columns of various inlet and outlet diameter (10,20,28,37,43 mm), height (30 Inches) and peristaltic pump (0.5 ml-500 ml per sec)+ silicon tubing (ID# 2*1ss) detail design will be available on request	No.	1
2.	<b>Muffle Furnace</b> >1200 degee Celcius, PID controller, Ramp function, adjustable cooling flow rate and nitrogen purging with inlet and out let, nitrogen rota flow meter (0-3000 ml/min), exhaust gas pipe 20 ft and connectors, clamps, heating chamber Dimension: Length: 150 mm, Width 140 mm, 2 year warranty for heating filament and PID controller with ramp, Automatic time controller, ON/OFF button	No.	1
3.	<b>Microbial Fuel Cell</b> Cylindrical reactor: Volume 2500 mL, Dimension (H x ID: 178mmx 127mm), Acrylic sheet 8mm, rubber Gasket fitted, 5 x Silicon rubber rods, 4 Rota flow stoppers: OD 8mm, 4 Gas collector bags, 2 x Electrodes: Ti metal TiO <sub>2</sub> coated (40x50x20 mm), 2 x Carbon fibre (H:50,L:40,W:2mm) , 4x cation exchange membranes (CEM, Ultrex CMI-7000), detail design will be available on request	No.	2
4.	<b>Heat sink compatible with Intel<sup>R</sup> Core<sup>TM</sup> i9-99xx Series XE Extreme Edition Processor</b>	No.	1
5.	<b>Magnetic Stirrer Hot Plate machine, china</b> Max 300 rpm, Temperature: >200°C, China	No.	6
6.	<b>Thermostat Shaking Incubator</b> 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 Overload Protection, Electrical, Leakage Protection Stainless steel liner, changeable Flask holder, PID controller, digital LCD display, LED light source, Frequency Accuracy ±1rpm, Vibration Range Φ26(mm), Max Capacity:100ml x 12/250ml x 9 Rolled Plate Size 290*250(mm), Standard Configuration: 100ml*12, Rolled Plate Number: 1 Power 350W, Power Supply AC 220V 50Hz, Dimension 540*450*390(mm),	No.	1



7.	<b>Hydrothermal Synthesis Autoclave Reactor with Teflon Lined</b> Type: reaction kettle, High quality 316 Stainless steel, capacity: 250ml, Pressure 3 MPa, agitator, electrical heating, PTFE Liner material, Max Temp liner: >280 ° C, PTFE inside lining, double protection, Acid-resistant, Alkali-resistant, Attractive appearance, reasonable structure, Easy to operating, corrosion-resistant,	No.	1
8.	<b>Photocatalysis Reactor</b> Wooden Box (H=24 in, L=18 in, W=18 in), Glass reactor fitted with water jacket 150 ml, 4 Inch LED light 10W, pyrex glass tube (D= 30 mm, H=150 mm) , Power supply (12 V), Xenon lamp 100 W, Halogen Lamp 100 W, Reactor fitted with UV light/150W xenon lamp S150 , Science Tech, Canada, detail design will be available on request	No.	2
9.	<b>Anaerobic membrane reactor</b> Stainless steel stand with Reactor (5 L, ID:180 mm, H= 270 mm), Material of reactor: acrylic sheet , with sealed inlet/ outlet system, LED tube lights 010W, 2 water flow meter (0-500 ml/min, 15 m length of silicon water tubing (6mm, 8mm) with connectors, water pump (0-5L/min), Imported membranes with different pore sizes, detail design will be available on request	No.	2
10.	<b>Lab scale Water Distillation plant</b> Capacity 0.5 L/min dist. Water, Germany	No.	1
11.	<b>Fume hood</b> Material: stain less Steel with Anti-Bacteria Powder Coat, Type: Vertical, Function: Exhaust, Velocity Control, Feature: Corrosion Resistance, Heat Resistant, Acid & Alkali Resistant, Fireproof, Explosion Proof Hood Type: Floor-Mounted, Color: White. External Dimension (1240*800*2200mm), Internal dimension (820*670*1230mm), Work Surface Height (850mm), Max Opening (520mm), Air Velocity (0.3~0.8m/s), Noise ≤68dB, Exhaust Duct: PVC, Standard length: 4 meters, Φ300mm, two separate sections with separate duct suction, LED display, water and gas remote control, waterproof sockets, double layer 1.2 mm sheet metal surface, Adjustable air speed: 9 levels, Motorized front window, height adjustable, Microprocessor control system, LED display, With memory function in case of power-failure. Material: Exterior (Cold-rolled steel with anti-bacteria powder coating), Interior (High grade melamine board with good acid and alkali resistance function), Work Table (Chemical resistant phenolic resin Stand Accessory Automatic handling UV lamp*2, LED lamp, Water tap, Gas tap, Water sink, Base cabinet, Total load of 2 waterproof sockets: 500W, 4-meter PVC exhaust duct, pipe strap*2 Optional Accessory: Active carbon filter Package: Main Body (1390*990*1690 mm). Base Cabinet (1390*990*980mm),	No.	2

	<p>LED Lamp (12W*1), UV Lamp (Emission of 253.7 nanometers for most efficient decontamination), Blower: Built-in centrifugal blower; Speed adjustable. Front Window (5mm toughened glass; Motorized; Height adjustable.</p> <p>Power Supply (AC220±10%, 50/60Hz; 110V±10%, 60Hz, Consumption 400W</p>		
12.	<p><b>Casting knife Film Applicator</b>  11 preset transverse speeds, from <b>0.5-10cm per second</b> and adjustable stroke length with quick release system,  High quality samples produced for highly reliable laboratory testing,  Adjustable travel carriage with "stop" at end of travel,  Precision milled aluminium table - 5X flatter than glass,  Use up to 3 film applicators simultaneously, Test up to 2 Leneta test charts simultaneously,  Able to test up to 2 test areas on perforated tables  Used according to the ASTM D 823-C, Dimension 7800 x 490 x 320mm,  Weight 20-30 kg, Power supply 220-240V, fuse rating plug: 4A, Vacuum Pump (220-240V, 50/60Hz), Digital Temp. control/ display,  Interchangeable head attachment  Easily switched between film applicators  Standard flat table, Test Chat clip,  -Combined Spiral Bar/ Casting knife Film Applicator standard Head Attachment  Standard carriage rotate knobs to adjust height of pushing bar  Electrically heated table (Max 200°C), hot surface warning lamp, automatic safe program during shutdown  Sturdy rigid design to ensure minimal movement during film application, duration Up to 15 years of standard use,</p>	No.	1
13.	<p><b>Microbubble glass reactor</b>  2.5 inch borosilicate diffuser fitted in glass reactor (H = 250mm, ID = 63mm) , 500 ml two neck boiling flask, pressure stoppers, 2 x three fingered clamps, detail design will be available on request</p>	No.	2
14.	<p><b>Fenton catalysis reactor</b>  Wooden Box (H=24 in, L=18 in, W=18 in), Pyrex Glass reactor fitted with water jacket 250 ml, 4 Inch LED light 10W, Pyrex glass tube (D= 30 mm, H=150 mm) , Power supply (12 V), detail design will be available on request</p>	No.	2
15.	<p><b>UPS</b>  Imported 5KW</p>	No.	2
16.	<p><b>Real Multi-Wave Probe</b>  multi-wave probe sensor, 35 feet of communication cable and 35 feet of air tubing. Controller, mounting kit and cleaning system</p> <p>Specification: Path Length 1 mm Parameters BOD (0-1500 mg/L), COD (0-3000 mg/L, TOC (0- 1200 mg/L), DOC(0-800 mg/L), UV254 0-20 cm<sup>-1</sup>, UVT 0-100%, TSS color (0-6000 PC), O3 .</p>	No.	1

	Sampling Time 10 seconds Calibration Zero to DI water. Factory parameter calibration allows field adjustment as required. Cleaning Real Air Clean automatic pressurized air cleaning system Self-Diagnostics Detection and diagnosis of internal system fault Alarms Continuous detection of leaks, lamp output, humidity, temperature and electrical fault Humidity Control Humidity sensor with desiccant pack Wavelength 4 application-dependent UV and visible light wavelengths Light Source LED Electrical/Comm. From controller Storage Temp. -20 to 60°C (-4 to 140°F) Operating Temp. 0 to 45°C (32 to 113°F) Weight 5 lb Dimensions 11" H x 2.875" Diameter Warranty 2-year limited warranty (Extended care packages available)		
17.	<b>Tool Box</b> Standard Size	No.	2
18.	Emergency First Aid Box Small (wall mountable) With following medicines i) Panadol= 10 Tab ii) Sunny plast (1 box) iii) Bandage Small=3 iv) Bandage Medium= 3 v) Warm bandage=3 vi) Pyodine (250ml) vii) Disposable Syringe 5ml=02 viii) Doctor Tape=02	No.	4
19.	Polygon Magnetic stir bar with PTFE coating 20 mm × 8 mm	No.	15
20.	Octagon Magnetic stir bar with PTFE coating 15.9 mm × 9.5 mm	No.	15
21.	Micro Magnetic stir bar with PTFE coating 10 mm × 6 mm	No.	15
22.	Spatula Stainless Steel(small, medium, large 10each)	No.	30
23.	Petri dish (Polystyrene) 60 mm × 15 mm	Pair	24
24.	Petri dish (Polystyrene) 100 mm × 15 mm	Pair	24
25.	Petri dish (Polystyrene) 150 mm × 15 mm	Pair	24
26.	Petri dish(pair) glass	Pair	50
27.	China dish (Ceramic) Standard size	No.	24
28.	Tongs (Stainless Steel with riveted joints and fiberglass covered jaws) Length 15" Jaw Opening 4 $\frac{1}{2}$ "	No.	04

29.	Tongs (Stainless Steel with riveted joints and fiberglass covered jaws) Length 12" Jaw Opening $4\frac{1}{2}$ "	No.	04
30.	Tongs (Stainless Steel with riveted joints and fiberglass covered jaws) Length 9" Jaw Opening $4\frac{1}{2}$ "	No.	04
31.	General Purpose Forceps Length 11.4 cm Broad Tip, Polished, Stainless Steel	No.	06
32.	Heat Resistant Gloves Size XL	Pair	04
33.	Heat Resistant Gloves Size L	Pair	04
34.	Heat Resistant Gloves Size M	Pair	04
35.	Vacuum Glass Desiccator 100 mm diameter with Porcelain Plate Borosilicate Glass Lid Glass Stopcock PTFE Spindle	No.	02
36.	Vacuum Glass Desiccator 200 mm diameter with Porcelain Plate Borosilicate Glass Lid Glass Stopcock PTFE Spindle	No.	02
37.	Glass Desiccator (Borosilicate) 200 mm diameter with Perforated Porcelain Plate Borosilicate Glass Lid Space for drying agents under the porcelain plate	No.	02
38.	Silica Gel Desiccant 0.5 g	Pack	500
39.	Silica Gel Desiccant 100 – 200 Mesh 500 g	Bottle	01
40.	Calcium Chloride Anhydrous Desiccant 4 Mesh 500 g	Bottle	01
41.	Glass Stoppered Reagent Bottles 125 mL Transparent Glass	No.	12
42.	Glass Stoppered Reagent Bottles 250 mL Transparent Glass	No.	12
43.	Glass Stoppered Reagent Bottles 500 mL Transparent Glass	No.	12
44.	Glass Stoppered Reagent Bottles 1000 mL Transparent Glass	No.	12

45.	Glass Stoppered Reagent Bottles 2000 mL Transparent Glass	No.	6
46.	Glass Stoppered Reagent Bottles 125 mL Amber Glass	No.	12
47.	Glass Stoppered Reagent Bottles 250 mL Amber Glass	No.	12
48.	Glass Stoppered Reagent Bottles 500 mL Amber Glass	No.	12
49.	Glass Stoppered Reagent Bottles 1000 mL Amber Glass	No.	12
50.	Glass Stoppered Reagent Bottles 2000 mL Amber Glass	No.	12
51.	Dropper Bottle (Amber Glass) Standard Size Plastic Dropper Tube Thermoset Closures Rubber Bulbs	No.	12
52.	Dropper Bottle (Transparent Glass) Standard Size Plastic Dropper Tube Thermoset Closures Rubber Bulbs	No.	12
53.	Dropper Bottle (LDPE) 4 mL Flexible and Transparent Secure Fit	No.	12
54.	Dropper Bottle (LDPE) 8 mL Flexible and Transparent Secure Fit	No.	12
55.	Dropper Bottle (LDPE) 15 mL Flexible and Transparent Secure Fit	No.	12
56.	Burette (Glass) 50 mL	No.	12
57.	Stainless Steel Burette stand with three fingered clamps for multiple burettes	No.	12
58.	Stainless steel two fingered clamps for burette stands	No.	12
59.	Stainless steel clamps for holding thermometers in various glassware	No.	12

60.	Alcohol filled glass thermometer -10 to 110 °C	No.	12
61.	Alcohol filled glass thermometer -20 to 200 °C	No.	12
62.	Thermocouple(300 degree C)	No.	5
63.	Universal pH paper	Packet	10
64.	Litmus paper	Packet	10
65.	Disposable box for sampling	No.	10
66.	Thin Layer Chromatography (TLC) silica gel plates 20 × 20 cm (Packet of 25 Plates)	Packet	02
67.	Pipette (Glass) 20 mL	No.	12
68.	Pipette (Glass) 10 mL	No.	20
69.	Pipette (Glass) 5 mL	No.	12
70.	Pipette (Glass) 1 mL	No.	12
71.	Rubber Pipette Filler	No.	24
72.	Micropipette 100-1000µl	No.	4
73.	Micropipette 10-100µl	No.	2
74.	Micropipette 1-10µl	No.	2
75.	Disposable micropipette tips (blue), 1000pc/pack	Packet	2
76.	Disposable micropipette tips (yellow)/1000pc/pack	Packet	2
77.	Disposable micropipette tips (white), 1000pc/pack	Packet	2
78.	Pipette Pump	No.	10
79.	Ceramic Pestle and mortar	No.	2
80.	Glass cuvettes, 4x 2ml/box	Box	2

81.	Serum cup(Eppendrof) 2ml 1000pc	Packet	4
82.	Serum cup(Eppendrof) stands Length 4x8 inches	No.	8
83.	Falcon tubes 15ml (100pc/pack)	Each	500
84.	Falcon tubes 50ml (100pc)	Each	500
85.	Falcon tubes holders 15ml	No.	10
86.	Falcon tubes holders 50ml	No.	10
87.	Blue tips box holder	Box	5
88.	Yellow tips box holder	Box	5
89.	White tips box holder	Box	5
90.	Sticking loops stainless steel 2pc	No.	10
91.	Ceramic diffusers	No.	20
92.	Culture flask (75 cm <sup>2</sup> )	No.	10
93.	Culture flask (50 cm <sup>2</sup> )	No.	10
94.	Jar 250ml glass jar	No.	3
95.	Jar 500ml glass jar	No.	3
96.	Gas cylinder LPG Capacity:7kg	No.	2
97.	Gas pipe	ft	17
98.	Scissors medium	No.	5
99.	Glass stirrer	No.	4
100.	Micro Capillary Tubes Plastic Length: 75 mm Inside Dia: 0.90 mm Outside Dia: 1.60 mm Material: Polyethylene Terephthalate 1000 Tubes	Box	01
101.	Micro Capillary Tubes Glass Tubes Length: 75 mm Inside Dia: 0.55 mm	Each	1000

	Outside Dia: 1.55 mm Material: Borosilicate 1000 Tubes		
102.	Whatman Qualitative Filter Paper Grade 1 (Dia: 110 mm) 100 Pcs	Pack	5
103.	0.45 micron Nylon filter paper(box)	box	1
104.	Whatman Qualitative Filter Paper Grade 2 (Dia: 110 mm) 100 Pcs	Pack	02
105.	Whatman Qualitative Filter Paper Grade 3 (Dia: 110 mm) 100 Pcs	Pack	02
106.	Whatman Qualitative Filter Paper Grade 4 (Dia: 110 mm) 100 Pcs	Pack	04
107.	Whatman Quantitative Filter Paper Grade 40 (Dia: 110 mm) (Ashless) 100 pcs	Pack	04
108.	Whatman Quantitative Filter Paper Grade 41 (Dia: 110 mm) (Ashless) 100 pcs	Pack	04
109.	Whatman Quantitative Filter Paper Grade 42 (Dia: 110 m,Ashless)100 pcs	Pack	04
110.	Whatman Quantitative,Filter Paper Grade 43(Dia: 110 m, Ashless)100 pcs	Pack	04
111.	Whatman Quantitative Filter Paper Grade 44 (Dia: 110 mm) (Ashless) 100 pcs	Pack	04
112.	Volumetric Flasks (Pyrex Glass) 50 mL	No.	12
113.	Volumetric Flasks (Pyrex Glass) 100 mL	No.	20
114.	Volumetric Flasks (Pyrex Glass) 250 mL	No.	20
115.	Volumetric Flasks (Pyrex Glass) 500 mL	No.	12
116.	Volumetric Flasks (Pyrex Glass) 1000 mL	No.	12
117.	Volumetric Flasks (Pyrex Glass) 2000 mL	No.	12
118.	Erlenmeyer Flasks (Pyrex Glass) 50 mL	No.	12
119.	Erlenmeyer Flasks (Pyrex Glass) 100 mL	No.	12



120.	Erlenmeyer Flasks (Pyrex Glass) 250 mL	No.	36
121.	Erlenmeyer Flasks (Pyrex Glass) 500 mL	No.	12
122.	Erlenmeyer Flasks (Pyrex Glass) 1000 mL	No.	12
123.	Volumetric Cylinder (Glass) 5 mL	No.	10
124.	Volumetric Cylinder (Glass) 10 mL	No.	10
125.	Volumetric Cylinder (Glass) 50 mL	No.	12
126.	Volumetric Cylinder (Glass) 100 mL	No.	18
127.	Volumetric Cylinder (Glass) 250 mL	No.	12
128.	Volumetric Cylinder (Glass) 500 mL	No.	12
129.	Volumetric Cylinder (Glass) 1000 mL	No.	12
130.	Media bottles (blue cap) 100ml (glass)	No.	18
131.	Media bottles (blue cap) 250ml(glass)	No.	24
132.	Media bottles (blue cap) 500ml (glass)	No.	24
133.	Media bottles (blue cap) 1000ml (glass)	No.	24
134.	Beaker (Pyrex Glass) 50 mL	No.	36
135.	Beaker (Pyrex Glass) 100 mL	No.	36
136.	Beaker (Pyrex Glass) 250 mL	No.	40
137.	Beaker (Pyrex Glass) 500 mL	No.	24

138.	Beaker (Pyrex Glass) 1000 mL	No.	24
139.	Porcelain Buchner Funnel Top Dia 127 mm × Height 194 mm	No.	02
140.	Porcelain Buchner Funnel Top Dia 86 mm × Height 140 mm	No.	02
141.	Porcelain Buchner Funnel Top Dia 65 mm × Height 103 mm	No.	02
142.	Porcelain Buchner Funnel Top Dia 50 mm × Height 91 mm	No.	02
143.	Round Bottom Flask (Borosilicate) 5000 mL	No.	02
144.	Round Bottom Flask (Borosilicate) 2000 mL	No.	02
145.	Round Bottom Flask (Borosilicate) 1000 mL	No.	04
146.	Round Bottom Flask (Borosilicate) 500 mL	No.	06
147.	Separating Funnel W. Stopper (Glass) 250 mL	No.	5
148.	Separating Funnel W. Stopper (Glass) 500 mL	No.	2
149.	Jacketed Reflux Condenser (Glass) 390 mm Length	No.	02
150.	Jacketed Reflux Condenser (Glass) 540 mm Length	No.	02
151.	Separating Funnel W. Stopper (Glass) 1000 mL	No.	2
152.	Glass Funnel (Short Stem) 50 mm inner diameter	No.	24
153.	Glass Funnel (Short Stem) 75 mm inner diameter	No.	24
154.	Glass Funnel (Short Stem) 100 mm inner diameter	No.	24
155.	Plastic Volumetric jug 1L	No.	3

156.	Plastic Volumetric jug 2L	No.	3
157.	Plastic Volumetric jug 5L	No.	3
158.	Plastic Volumetric jug 10L	No.	3
159.	Glass Test tubes with caps 15ml	No.	50
160.	Glass Test tubes with caps 30ml	No.	50
161.	Glass Test tubes without caps 30ml	No.	200
162.	Test tubes holders (racks)	No.	10
163.	Plastic bottles for distilled water 5L	No.	5
164.	Plastic bottles for distilled water 10L	No.	5
165.	<p>Quick-Fit apparatus Set (made of Borosilicate glass)  Each apparatus set must contain the following items:</p> <ol style="list-style-type: none"> <li>1. Pear shaped flask</li> <li>2. Liebig condenser</li> <li>3. Still head</li> <li>4. Screw cap adapter</li> <li>5. Receiver adapter</li> <li>6. Thermometer</li> <li>7. Dropping funnel with Rotaflow tap</li> <li>8. Stopper</li> <li>9. Air leak/steam inlet tube</li> <li>10. Round bottom flask 500 ml</li> <li>11. Air condenser/drying tube</li> <li>12. Sintered glass funnel</li> <li>13. Pear shaped flask with angled side neck</li> <li>14. Adapter with T connection</li> <li>15. Flat-flange lids and retaining clips</li> <li>16. Clamps</li> </ol>	Set	05
166.	Digital Weighing Balance with standardized weights (10g, 50g ,100 g, 500g and 1000g)	No.	06
167.	<p>Chemicals Storage Cabinet (Metallic)  Length 3' × Width 2' × Height 6'  2 Door with Lock 5 Shelves</p>	No.	06

168.	Glassware Storage Cabinet (Metallic) Length 3' × Width 2' × Height 6' 2 Door with Locks 5 Shelves	No.	12
169.	Acidic/Corrosive Liquids Storage Cabinet (Stainless Steel) Length 3' "×" Width 2' "×" Height 6' 2 Door with Locks 5 Shelves	No.	04
170.	Commercial Synthetic Vinegar 1 Lit	No.	6
171.	HCl 7647-01-0/ (Analytical Grade) 2.5 Lit	Bottle	3
172.	HCl Solution (Commercial Grade) 10 Lit/Can	Ltr	20
173.	H <sub>2</sub> SO <sub>4</sub> Solution (Commercial Grade) 10 Lit/Can	Ltr	20
174.	Sulfuric Acid/ 7664-93-9/ HPLC/ Analytical	2.5L	2
175.	HNO <sub>3</sub> Solution 7697-37-2 Analytical grade/ 2.5 Lit/Can	Ltr	05
176.	HNO <sub>3</sub> Solution (Commercial Grade) 10 Lit/Can	Ltr	20
177.	Benzene 98 % Purity 5 Lit	Bottle	1
178.	Methanol, 67-56-1 (HPLC) ≥99.9%	2.5L	2
179.	Ethanol /64-17-5/ Reagent Grade 99%	2.5 L	2
180.	Toluene/ 108-88-3 Anhydrous,99%	2.5 L	1
181.	Iso-Propyl Alcohol/ 67-63-0 Anhydrous, 99%	2.5 L	1
182.	Sucrose, <u>57-50-1</u> Bio reagent, ≥99.0%	1kg	1
183.	Acetic AcidC/ 64-197 HPLC/Analytical Grade	2.5L	1
184.	Phosphoric Acid,7664-38-2 HPLC/Analytical Grade	2.5L	1

185.	Di-methyl-sulfoxide HPLC/Analytical Grade	500ml	1
186.	Acetone, C <sub>3</sub> H <sub>6</sub> O/ 67-64-1, HPLC/Analytical Grade	2.5L	1
187.	Butanol/71-36-3/ HPLC/ Analytical Grade	2.5L	1
188.	Polyvinyl Alcohol, (Mw 72000)/9002-89-5/ Hydrolyzed, >99%	25 g	1
189.	Phenol, C <sub>6</sub> H <sub>5</sub> OH/108-95-2 HPLC / Analytical	1L	1
190.	Chloroform/67-66-3 Analytical /HPLC >99.9%	2.5L	1
191.	n-Hexane, 110-54-3 HPLC >99.9%	2.5L	1
192.	Heptane, 142-82-5 Anhydrous, 99%	2L	1
193.	Sodium Nitrate Na NO <sub>3</sub> / <u>7631-99-4/ Reagent, ≥99.0%</u>	1kg	1
194.	Potassium Phosphate Dibasic Trihydrate (K <sub>2</sub> HPO <sub>4</sub> · 3H <sub>2</sub> O), <u>16788-57-1/ Reagent, 99.0%</u>	1kg	1
195.	Cobaltous Nitrate hexa/ <u>10026-22-9/ Reagent, ≥99%</u>	500g	1
196.	Zinc Sulfate/ <u>7446-20-0</u> <u>Reagent, ≥99.0%</u>	1kg	1
197.	Manganese Chloride MnCl <sub>2</sub> ·4H <sub>2</sub> O / <u>13446-34-9/ Reagent, ≥99%</u>	500g	1
198.	Boric Acid, <u>10043-35-3/Bio reagent, &gt;99.5%</u>	1kg	1
199.	Oxford Agar/ <u>9002-18-0</u> <u>For Microalgae &gt;99%</u>	1kg	1
200.	Sodium Carbonate/ <u>497-19-8/</u> <u>Bioxtra, ≥99.0%</u>	1kg	2
201.	Na <sub>2</sub> -EDTA .2H <sub>2</sub> O (Disodium Salt)/ <u>6381-92-6</u> Reagent, 98.5 – 101.5%	1kg	1
202.	Cupric Sulfate / <u>7758-99-8</u> <u>Reagent, ≥98.0%</u>	1kg	1

203.	Lead Nitrate/ <u>10099-74-8 Reagent, ≥99.0%</u>	500g	1
204.	Potassium dichromate <u>15275-09-9/ Reagent, 99.5%</u>	1kg	1
205.	Ferric Ammonium Citrate <u>1185-57-5/ Reagent &gt;99%</u>	500g	1
206.	Ferric Chloride/ <u>7 10025-77-1 /Reagent Grd.,≥99.9%</u>	1kg	1
207.	Zinc Chloride/ <u>7646-85-7</u> <u>Reagent, ≥97%</u>	1kg	1
208.	Ferrous Sulphate/ <u>7782-63-0/ Bio reagent, ≥99%</u>	1kg	1
209.	Solid Potassium Hydroxide <u>1310-58-3/ Bioextra, &gt;85%</u>	1kg	1
210.	Calcium Chloride/ <u>10035-04-8/ Bioextra, ≥99.9%</u>	1kg	1
211.	Citric Acid/ <u>77-92-9</u> Anhydrous ≥ 99.5%	1kg	1
212.	Sodium Molybdate Dihydrate/ <u>10102-40-6/ Reagent, ≥99.5%</u>	500g	1
213.	Magnesium Sulphate/ <u>10034-99-8/Reagent, &gt;99%</u>	1kg	1
214.	Melamine/ <u>108-78-1/ Anhydrous &gt;99.5%</u>	1kg	1
215.	Titanium IV Iso Propoxide, <u>/546-68-9/ Anhydrous 97%</u>	1Ltr	1
216.	Lactose/ <u>64044-51-5</u> HPLC grade, ≥98.0%	1kg	1
217.	Polysulfone/ <u>25135-51-7</u> <u>Reagent Grade &gt;98%</u>	100 g	1
218.	Urea/ <u>57-13-6 /</u> <u>Bio reagent, &gt;99%</u>	1kg	1
219.	Yeast extract/ <u>8013-01-2</u> <u>microbiology &gt;99%</u>	500 g	1
220.	Rhodamine B/ <u>81-88-9</u> HPLC	25g	1

221.	Reactive Black 5/ 17095-24-8/ Analytical	25g	1
222.	1,2-Dimethylimidazole 1739-84-0/ Analytical,99.9%	500 g	1
223.	Methanol 70% Commercial grade >70%	2.5L	4
224.	Ethanol 70% Commercial grade >70%	2.5L	4
225.	Acetone 70% Commercial grade >70%	2.5L	4
226.	Ferrous Ammonium Sulphate 7783-85-9/ Analytical Grade	25 g	1
227.	Eriochrome Black T (EBT) 1787-61-7ACS Reagent (Indicator Grade)	100 g	1
228.	Ammonium chloride, 12125-02-9/ ACS reagent >99.5%	500 g	1
229.	Phenolphthalein Analytical grade	100 g	1
230.	n-methyl-2-pyrrolidone, 872-50-4/ Analytical HPLC grade, >99.9%	2L	1
231.	Potassium acid phthalate ACS, 315-34, >99%	1kg	1
232.	Mercuric Sulfate, 1915-20	500 g	1
233.	Total Nitrogen test Kits, Germany , 100 kit/box	Box	1
234.	Total Phosphate test kits, Germany 100 kit/box	Box	1
235.	Ammonium hydroxide, 1336-21-6, 99.99%	500 ml	11
236.	D-Glucose/ <u>50-99-7</u> Reagent, $\geq 99.5\%$ , 1kg	No	1
237.	Iodine (Resublimed Crystals) 100 g	No.	01
238.	Methyl Orange/ <u>547-58-0</u> Reagent , Powder 25 g	No.	01

239.	Methyl Red Indicator (Pure) 25 g	No.	02
240.	Methylene Blue crystalline 122965-43-9/ Reagent, 25 g	No.	01
241.	Potassium Dichromate Powder 100 g	No.	01
242.	Potassium Chromate 100 g	No.	01
243.	Sodium Chloride (Commercial Grade) 1kg g	No.	2
244.	Sodium chloride <u>7647-14-5</u> (Analytical / Reagent, $\geq 99\%$ Crystalline) 1kg	No.	01
245.	Sodium Carbonate Anhydrous (Analytical Grade) 250 g	No.	02
246.	Sodium Bicarbonate Powder (Analytical Grade) 250 g	No.	02
247.	Sodium Thiosulfate 99 % Pure 250 g	No.	01
248.	Sodium Thiosulfate Pentahydrate Crystalline 500 g	No.	01
249.	Sodium hydroxide, NaOH (Solid)/ <u>1310-73-2</u> Reagent, $\geq 99\%$	1kg	1kg
250.	Potassium Sodium Tartrate Tetrahydrate 500 g	No.	01
251.	Potassium Sodium <i>L</i> -Tartrate Tetrahydrate 99 % Pure 100 g	No.	02
252.	Potassium Sulfate Crystals (Analytical Grade) 500 g	No.	01
253.	Potassium Hydroxide Flakes 250 g	No.	04
254.	Silver Nitrate, <u>7761-88-8</u> / ACS, <u>Reagent</u> , $>99\%$	50 g	50 g
255.	Starch Soluble (Reagent Grade)	1kg	1kg



256.	Latex Disposable Gloves Size M 100 Pcs	Pack	12
257.	Latex Disposable Gloves Size L 100 Pcs	Pack	06
258.	Latex Disposable Gloves Size XL 100 Pcs	Pack	06
259.	Disposable Lab Masks with elastic Ear loops 100 Pcs	Box	06
260.	Batteries 12v, 220A, 27 plates Batteries	No	06
261.	Lab Coat White Length 40"	No.	10
262.	Safety Goggles	No.	36
263.	Tissues( Jumbo rolls)	No.	20
264.	Soft tissues (packets)	No.	10
265.	Safety Helmet	No.	24
266.	Disposable Earplug 500 Pcs	Box	04
267.	27 Kg Cylinder filled with commercial CO <sub>2</sub> and fitted with 2 way handle valve and 2 stage brass pressure regulator (CO <sub>2</sub> analysis certificate must also be supplied with the cylinder)	No.	01
268.	27 Kg Cylinder filled with commercial O <sub>2</sub> and fitted with 2 way handle valve and 2 stage brass pressure regulator (O <sub>2</sub> analysis certificate must also be supplied with the cylinder)	No.	01
269.	27 Kg Cylinder filled with commercial N <sub>2</sub> and fitted with 2 way handle valve and 2 stage brass pressure regulator (N <sub>2</sub> analysis certificate must also be supplied with the cylinder)	No.	01
270.	Cylinder Stand with Trolley (Stainless Steel)	No.	03
271.	Stationery Tape 2"	No.	24
272.	Stationery Tape 1"	No.	36
273.	Yellow Duster Cloth	Kg	05

274.	Glass Cleaner 250 mL	No.	12
275.	Water Tub Rectangular Plastic 50 Ltr capacity	No.	05
276.	Water Tub Rectangular Plastic 100 Ltr capacity	No.	02
277.	Detergent Powder 1kg	No.	1
278.	Detergent Liquid for cleaning Lab glassware, 250 mL	No.	24
279.	1 TB External Hard Drive Portable USB 3.0, Size 2.5"	No.	03
280.	1 TB USB Flash drive USB 3.0	No.	01
281.	64 GB USB Flash Drive, USB 3.0	No.	12
282.	Plastic Brush to clean the long narrow neck glassware Length 18"	No.	10
283.	Plastic Brush to clean the long narrow neck glassware Length 12"	No.	24
284.	Plastic Brush to clean the long narrow neck glassware Length 9"	No.	12
285.	Hand Wash/500 mL	No.	12
286.	Potassium Soap Bar (Medicated soap) 125 g	No.	06
287.	Normal Soap Bar (White Color) 100 g	No.	06
288.	VIM powder (450g)	No.	10
289.	Sponges	No.	20
290.	Aluminium Foil 37.5sq ft	Roll	30
291.	UPS Imported 2.5KW	No.	01
292.	screw drivers Star set	Set	02
293.	Flat screw drivers 12"	Each	02
294.	Common screw drivers 12"	Each	02
295.	Pipe wrench 8"	Each	02

296.	Pipe wrench 10inch	Each	02
297.	Pipe wrench 12”	Each	02
298.	Adjustable wrench 6”	Each	02
299.	Tape measure 30Mtr	Each	02
300.	wire cutting plier 10”	Each	02
301.	long nose plier(8inch)	Each	02
302.	Wire cutter plier(8inch)	Each	02
303.	HSS drill bit set (4mm,	Each	02
304.	HSS drill bit set (8mm)	Each	02
305.	HSS drill bit set (12mm)	Each	02
306.	HSS drill bit set (16mm)	Each	02
307.	Nose pliers (10inch)	Each	02
308.	Paper Cutter	Each	02

**Supply & Installation of Lab Equipment for Chemical Engineering  
Department  
(Bid Form)**

<b>Item No.</b>	<b>Item Name</b>	<b>Unit of Measure</b>	<b>Qty.</b>	<b>Unit Rate (Including all Taxes &amp; Shipment Charges)</b>	<b>Total Price (Including all Taxes &amp; Shipment Charges)</b>
1.	Adsorption column reactors	No.	1		
2.	Muffle Furnace	No.	1		
3.	Microbial Fuel Cell	No.	2		
4.	Heat Sink for computer	No.	1		
5.	Magnetic Stirrer Hot Plate machine, china	No.	6		
6.	Shaking Incubator	No.	1		
7.	Hydrothermal Synthesis Autoclave Reactor with Teflon Lined	No.	1		
8.	Photocatalysis Reactor	No.	2		
9.	Anaerobic membrane reactor	No.	2		
10.	Lab scale Water Distillation plant, Germany	No.	1		
11.	Fume hood	No.	2		
12.	Casting knife Film Applicator	No.	1		
13.	Microbubble glass reactor	No.	2		

14.	Fenton catalysis reactor	No.	2		
15.	<b>UPS</b> Imported 5KW	No.	2		
16.	Real Multi-Wave Probe	No.	1		
17.	Tool Box	No.	2		
18.	Emergency First Aid Box Small	No.	4		
19.	Polygon Magnetic stir bar with PTFE coating	No.	15		
20.	Octagon Magnetic stir bar with PTFE coating	No.	15		
21.	Micro Magnetic stir bar with PTFE coating	No.	15		
22.	Spatula Stainless Steel	No.	30		
23.	Petri dish (Polystyrene)	Pair	24		
24.	Petri dish (Polystyrene)	Pair	24		
25.	Petri dish (Polystyrene)	Pair	24		
26.	Petri dish(pair) glass	Pair	50		
27.	China dish (Ceramic)	No.	24		
28.	Tongs (Stainless Steel)	No.	04		
29.	Tongs (Stainless Steel)	No.	04		
30.	Tongs (Stainless Steel)	No.	04		
31.	General Purpose Forceps	No.	06		
32.	Heat Resistant Gloves Size XL	Pair	04		
33.	Heat Resistant Gloves Size L	Pair	04		
34.	Heat Resistant Gloves Size M	Pair	04		
35.	Vacuum Glass Desiccator, 100 mm diameter	No.	02		

36.	Vacuum Glass Desiccator, 200 mm diameter	No.	02		
37.	Glass Desiccator (Borosilicate), 200 mm diameter	No.	02		
38.	Silica Gel Desiccant 0.5 g	Pack	500		
39.	Silica Gel Desiccant 100 – 200 Mesh/500 g	Bottle	01		
40.	Calcium Chloride Anhydrous Desiccant 4 Mesh, 500 g	Bottle	01		
41.	Glass Stoppered Reagent Bottles 125 mL Transparent Glass	No.	12		
42.	Glass Stoppered Reagent Bottles 250 mL Transparent Glass	No.	12		
43.	Glass Stoppered Reagent Bottles 500 mL Transparent Glass	No.	12		
44.	Glass Stoppered Reagent Bottles 1000 mL Transparent Glass	No.	12		
45.	Glass Stoppered Reagent Bottles 2000 mL Transparent Glass	No.	6		
46.	Glass Stoppered Reagent Bottles 125 mL Amber Glass	No.	12		
47.	Glass Stoppered Reagent Bottles 250 mL Amber Glass	No.	12		
48.	Glass Stoppered Reagent Bottles 500 mL Amber Glass	No.	12		
49.	Glass Stoppered Reagent Bottles 1000 mL Amber Glass	No.	12		
50.	Glass Stoppered Reagent Bottles 2000 mL Amber Glass	No.	12		
51.	Dropper Bottle (Amber Glass), Standard Size, Plastic Dropper Tube, Thermoset Closures	No.	12		
52.	Dropper Bottle (Transparent Glass), Standard Size, Plastic Dropper Tube, Thermoset Closures	No.	12		
53.	Dropper Bottle (LDPE)/4 mL	No.	12		
54.	Dropper Bottle (LDPE), 8 mL	No.	12		
55.	Dropper Bottle (LDPE), 15 mL	No.	12		
56.	Burette (Glass), 50 mL	No.	12		
57.	Stainless Steel Burette stand with three fingered clamps for multiple burettes	No.	12		

58.	Stainless steel two fingered clamps for burette stands	No.	12		
59.	Stainless steel clamps for holding thermometers in various glassware	No.	12		
60.	Alcohol filled glass thermometer, -10 to 110 °C	No.	12		
61.	Alcohol filled glass thermometer, -20 to 200 °C	No.	12		
62.	Thermocouple (300 degree C)	No.	5		
63.	Universal pH paper	Packet	10		
64.	Litmus paper	Packet	10		
65.	Disposable box for sampling	No.	10		
66.	Thin Layer Chromatography (TLC) silica gel plates, 20 × 20 cm (Packet of 25 Plates)	Packet	02		
67.	Pipette (Glass) 20 mL	No.	12		
68.	Pipette (Glass), 10 mL	No.	20		
69.	Pipette (Glass), 5 mL	No.	12		
70.	Pipette (Glass), 1 mL	No.	12		
71.	Rubber Pipette Filler	No.	24		
72.	Micropipette 100-1000µl	No.	4		
73.	Micropipette 10-100µl	No.	2		
74.	Micropipette 1-10µl	No.	2		
75.	Disposable micropipette tips (blue), 1000pc/pack	Packet	2		
76.	Disposable micropipette tips (yellow)/1000pc/pack	Packet	2		
77.	Disposable micropipette tips (white), 1000pc/pack	Packet	2		

78.	Pipette Pump	No.	10		
79.	Ceramic Pestle and mortar	No.	2		
80.	Glass cuvettes, 4x 2ml/box	Box	2		
81.	Serum cup(Eppendorf) 2ml 1000pc	Packet	4		
82.	Serum cup(Eppendorf) stands , Length 4x8 inches	No.	8		
83.	Falcon tubes 15ml (100pc/pack)	Each	500		
84.	Falcon tubes 50ml (100pc)	Each	500		
85.	Falcon tubes holders 15ml	No.	10		
86.	Falcon tubes holders 50ml	No.	10		
87.	Blue tips box holder	Box	5		
88.	Yellow tips box holder	Box	5		
89.	White tips box holder	Box	5		
90.	Sticking loops stainless steel 2pc	No.	10		
91.	Ceramic diffusers	No.	20		
92.	Culture flask (75 cm <sup>2</sup> )	No.	10		
93.	Culture flask (50 cm <sup>2</sup> )	No.	10		
94.	Jar 250ml	No.	3		
95.	Jar 500ml	No.	3		
96.	Gas cylinder LPG	No.	2		
97.	Gas pipe	Meter	5		
98.	Scissors medium	No.	5		
99.	Glass stirrer	No.	4		
100.	Micro Capillary Tubes Plastic	Box	01		
101.	Micro Capillary Tubes Glass Tubes	Each	1000		



102.	Whatman Qualitative Filter Paper Grade 1 (Dia: 110 mm)	Pack	5		
103.	0.45 micron Nylon filter paper(box)	box	1		
104.	Whatman Qualitative Filter Paper Grade 2 (Dia: 110 mm)	Pack	02		
105.	Whatman Qualitative Filter Paper Grade 3 (Dia: 110 mm)	Pack	02		
106.	Whatman Qualitative Filter Paper Grade 4 (Dia: 110 mm)	Pack	04		
107.	Whatman Quantitative Filter Paper Grade 40 (Dia: 110 mm)	Pack	04		
108.	Whatman Quantitative Filter Paper Grade 41 (Dia: 110 mm)	Pack	04		
109.	Whatman Quantitative Filter Paper Grade 42 (Dia: 110 m,	Pack	04		
110.	Whatman Quantitative,Filter Paper Grade 43(Dia: 110 m,	Pack	04		
111.	Whatman Quantitative Filter Paper Grade 44 (Dia: 110 mm)	Pack	04		
112.	Volumetric Flasks (Pyrex Glass), 50 mL	No.	12		
113.	Volumetric Flasks (Pyrex Glass), 100 mL	No.	20		
114.	Volumetric Flasks (Pyrex Glass), 250 mL	No.	20		
115.	Volumetric Flasks (Pyrex Glass), 500 mL	No.	12		
116.	Volumetric Flasks (Pyrex Glass), 1000 mL	No.	12		
117.	Volumetric Flasks (Pyrex Glass), 2000 mL	No.	12		
118.	Erlenmeyer Flasks (Pyrex Glass), 50 mL	No.	12		
119.	Erlenmeyer Flasks (Pyrex Glass), 100 mL	No.	12		
120.	Erlenmeyer Flasks (Pyrex Glass) , 250 mL	No.	36		
121.	Erlenmeyer Flasks (Pyrex Glass), 500 mL	No.	12		
122.	Erlenmeyer Flasks (Pyrex Glass), 1000 mL	No.	12		

123.	Volumetric Cylinder (Glass), 5 mL	No.	10		
124.	Volumetric Cylinder (Glass), 10 mL	No.	10		
125.	Volumetric Cylinder (Glass), 50 mL	No.	12		
126.	Volumetric Cylinder (Glass), 100 mL	No.	18		
127.	Volumetric Cylinder (Glass), 250 mL	No.	12		
128.	Volumetric Cylinder (Glass), 500 mL	No.	12		
129.	Volumetric Cylinder (Glass), 1000 mL	No.	12		
130.	Media bottles (blue cap) 100ml (glass)	No.	18		
131.	Media bottles (blue cap) 250ml(glass)	No.	24		
132.	Media bottles (blue cap) 500ml (glass)	No.	24		
133.	Media bottles (blue cap) 1000ml (glass)	No.	24		
134.	Beaker (Pyrex Glass), 50 mL	No.	36		
135.	Beaker (Pyrex Glass), 100 mL	No.	36		
136.	Beaker (Pyrex Glass),250 mL	No.	40		
137.	Beaker (Pyrex Glass), 500 mL	No.	24		
138.	Beaker (Pyrex Glass), 1000 mL	No.	24		
139.	Porcelain Buchner Funnel Top Dia 127 mm × Height 194 mm	No.	02		
140.	Porcelain Buchner Funnel Top Dia 86 mm × Height 140 mm	No.	02		

141.	Porcelain Buchner Funnel Top Dia 65 mm × Height 103 mm	No.	02		
142.	Porcelain Buchner Funnel Top Dia 50 mm × Height 91 mm	No.	02		
143.	Round Bottom Flask (Borosilicate), 5000 mL	No.	02		
144.	Round Bottom Flask (Borosilicate), 2000 mL	No.	02		
145.	Round Bottom Flask (Borosilicate), 1000 mL	No.	04		
146.	Round Bottom Flask (Borosilicate), 500 mL	No.	06		
147.	Separating Funnel W. Stopper (Glass), 250 mL	No.	5		
148.	Separating Funnel W. Stopper (Glass), 500 mL	No.	2		
149.	Jacketed Reflux Condenser (Glass) , 390 mm Length	No.	02		
150.	Jacketed Reflux Condenser (Glass) , 540 mm Length	No.	02		
151.	Separating Funnel W. Stopper (Glass), 1000 mL	No.	2		
152.	Glass Funnel (Short Stem)/50 mm inner diameter	No.	24		
153.	Glass Funnel (Short Stem)/ 75 mm inner diameter	No.	24		
154.	Glass Funnel (Short Stem), 100 mm inner diameter	No.	24		
155.	Plastic Volumetric jug 1L	No.	3		
156.	Plastic Volumetric jug 2L	No.	3		
157.	Plastic Volumetric jug 5L	No.	3		
158.	Plastic Volumetric jug 10L	No.	3		

159.	Glass Test tubes with caps 15ml	No.	50		
160.	Glass Test tubes with caps 30ml	No.	50		
161.	Glass Test tubes without caps 30ml	No.	200		
162.	Test tubes holders (racks)	No.	10		
163.	Plastic bottles for distilled water 5L	No.	5		
164.	Plastic bottles for distilled water 10L	No.	5		
165.	Quick-Fit apparatus Set (made of Borosilicate glass)	Set	05		
166.	Digital Weighing Balance with standardized weights (10g, 50g ,100 g, 500g and 1000g)	No.	06		
167.	Chemicals Storage Cabinet (Metallic)	No.	06		
168.	Glassware Storage Cabinet (Metallic)	No.	12		
169.	Acidic/Corrosive Liquids Storage Cabinet (Stainless Steel)	No.	04		
170.	Commercial Synthetic Vinegar ,1 Lit	No.	6		
171.	HCl 7647-01-0/ (Analytical Grade),2.5 Lit	Bottle	3		
172.	HCl Solution (Commercial Grade),10 Lit/Can	Ltr	20		
173.	H <sub>2</sub> SO <sub>4</sub> Solution (Commercial Grade),10 Lit/Can	Ltr	20		
174.	Sulfuric Acid	2.5L	2		
175.	HNO <sub>3</sub> Solution 7697-37-2 Analytical grade/ 2.5 Lit/Can	Ltr	05		
176.	HNO <sub>3</sub> (Commercial Grade)/ 10 Lit/Can	Ltr	20		

177.	Benzene	Bottle	1		
178.	Methanol,	2.5L	2		
179.	Ethanol	2.5 L	2		
180.	Toluene	2.5 L	1		
181.	Iso-Propyl Alcohol/ 67-63-0	2.5 L	1		
182.	Sucrose,	1kg	1		
183.	Acetic Acid	2.5L	1		
184.	Phosphoric Acid,	2.5L	1		
185.	Di-methyl-sulfoxide	500ml	1		
186.	Acetone,	2.5L	1		
187.	Butanol	2.5L	1		
188.	Polyvinyl Alcohol,	25 g	1		
189.	Phenol	1L	1		
190.	Chloroform	2.5L	1		
191.	n-Hexane	2.5L	1		
192.	Heptane,	2L	1		
193.	Sodium Nitrate Na NO <sub>3</sub>	1kg	1		
194.	Potassium Phosphate Dibasic Trihydrate (K <sub>2</sub> HPO <sub>4</sub> · 3H <sub>2</sub> O),	1kg	1		

195.	Cobaltous Nitrate hexa/	500g	1		
196.	Zinc Sulfate	1kg	1		
197.	Manganese Chloride $MnCl_2 \cdot 4H_2O$	500g	1		
198.	Boric Acid	1kg	1		
199.	Oxford Agar	1kg	1		
200.	Sodium Carbonate	1kg	2		
201.	$Na_2$ -EDTA $\cdot 2H_2O$ (Disodium Salt	1kg	1		
202.	Cupric Sulfate	1kg	1		
203.	Lead Nitrate	500g	1		
204.	Potassium dichromate	1kg	1		
205.	Ferric Ammonium Citrate	500g	1		
206.	Ferric Chloride	1kg	1		
207.	Zinc Chloride	1kg	1		
208.	Ferrous Sulphate	1kg	1		
209.	Solid Potassium Hydroxide	1kg	1		
210.	Calcium Chloride	1kg	1		
211.	Citric Acid	1kg	1		
212.	Sodium Molybdate Dihydrate	500g	1		
213.	Magnesium Sulphate	1kg	1		

214.	Melamine	1kg	1		
215.	Titanium IV Iso Propoxide,	01Ltr	1		
216.	Lactose	1kg	1		
217.	Polysulfone	100 g	1		
218.	Urea	1kg	1		
219.	Yeast extract	500 g	1		
220.	Rhodamine B/	25g	1		
221.	Reactive Black 5	25g	1		
222.	1,2-Dimethylimidazole	500 g	1		
223.	Methanol 70%	2.5L	4		
224.	Ethanol 70%	2.5L	4		
225.	Acetone 70%	2.5L	4		
226.	Ferrous Ammonium Sulphate	25 g	1		
227.	Eriochrome Black T (EBT)	100 g	1		
228.	Ammonium chloride	500 g	1		
229.	Phenolphthalein	100 g	1		
230.	n-methyl-2-pyrrolidone	2L	1		
231.	Potassium acid phthalate	1kg	1		

232.	Mercuric Sulfate,	500 g	1		
233.	Total Nitrogen test Kits, Germany, 100 kit/box	Box	1		
234.	Total Phosphate test kits, Germany 100 kit/box	Box	1		
235.	Ammonium hydroxide,	500 ml	11		
236.	D-Glucose	No	1		
237.	Iodine (Resublimed Crystals)	No.	01		
238.	Methyl Orange	No.	01		
239.	Methyl Red Indicator (Pure)	No.	02		
240.	Methylene Blue crystalline	No.	01		
241.	Potassium Dichromate Powder,	No.	01		
242.	Potassium Chromate,	No.	01		
243.	Sodium Chloride (Commercial Grade)	No.	2		
244.	Sodium chloride	No.	01		
245.	Sodium Carbonate Anhydrous	No.	02		
246.	Sodium Bicarbonate Powder	No.	02		
247.	Sodium Thiosulfate	No.	01		
248.	Sodium Thiosulfate Pentahydrate	No.	01		



249.	Sodium hydroxide, NaOH (Solid)	1kg	1kg		
250.	Potassium Sodium Tartrate Tetrahydrate	No.	01		
251.	Potassium Sodium <i>L</i> -Tartrate Tetrahydrate	No.	02		
252.	Potassium Sulfate Crystals	No.	01		
253.	Potassium Hydroxide Flakes	No.	04		
254.	Silver Nitrate	50 g	50 g		
255.	Starch Soluble (Reagent Grade)	1kg	1kg		
256.	Latex Disposable Gloves Size M	Pack	12		
257.	Latex Disposable Gloves Size L	Pack	06		
258.	Latex Disposable Gloves,Size XL	Pack	06		
259.	Disposable Lab Masks with elastic Ear loops 100 Pcs	Box	06		
260.	Batteries 12v, 220A, 27 plates Batteries	No	06		
261.	Lab Coat White	No.	10		
262.	Safety Goggles	No.	36		
263.	Tissues (Jumbo rolls)	No.	20		
264.	Soft tissues (packets)	No.	10		
265.	Safety Helmet	No.	24		
266.	Disposable Earplug	Box	04		

267.	27 Kg Cylinder filled with commercial CO <sub>2</sub> and fitted with 2 way handle valve and 2 stage brass pressure regulator	No.	01		
268.	27 Kg Cylinder filled with commercial O <sub>2</sub> and fitted with 2 way handle valve and 2 stage brass pressure regulator	No.	01		
269.	27 Kg Cylinder filled with commercial N <sub>2</sub> and fitted with 2 way handle valve and 2 stage brass pressure regulator	No.	01		
270.	Cylinder Stand with Trolley (Stainless Steel)	No.	03		
271.	Stationery Tape 2"	No.	24		
272.	Stationery Tape 1"	No.	36		
273.	Yellow Duster Cloth	Kg	05		
274.	Glass Cleaner 250 mL	No.	12		
275.	Water Tub Rectangular Plastic 50 Ltr capacity	No.	05		
276.	Water Tub Rectangular Plastic 100 Ltr capacity	No.	02		
277.	Detergent Powder, 1kg	No.	1		
278.	Detergent Liquid for cleaning Lab glassware, 250 mL	No.	24		
279.	1 TB External Hard Drive, Portable USB 3.0, Size 2.5"	No.	03		
280.	1 TB USB Flash drive USB 3.0	No.	01		
281.	64 GB USB Flash Drive, USB 3.0	No.	12		
282.	Plastic Brush to clean the long narrow neck glassware, Length 18"	No.	10		
283.	Plastic Brush to clean the long narrow neck glassware, Length 12"	No.	24		
284.	Plastic Brush to clean the long narrow neck glassware, Length 9"	No.	12		
285.	Hand Wash/500 mL	No.	12		
286.	Potassium Soap Bar (Medicated soap), 125 g	No.	06		
287.	Normal Soap Bar (White Color), 100 g	No.	06		
288.	VIM powder (450g)	No.	10		

289.	Sponges	No.	20		
290.	Aluminum Foil 37.5sq ft	Roll	30		
291.	UPS Imported 2.5KW	No.	01		
292.	screw drivers Star set	Set	02		
293.	Flat screw drivers 12"	Each	02		
294.	Common screw drivers 12"	Each	02		
295.	Pipe wrench 8"	Each	02		
296.	Pipe wrench 10inch	Each	02		
297.	Pipe wrench 12"	Each	02		
298.	Adjustable wrench 6"	Each	02		
299.	Tape measure 30Mtr	Each	02		
300.	wire cutting plier 10"	Each	02		
301.	long nose plier(8inch)	Each	02		
302.	Wire cutter plier(8inch)	Each	02		
303.	HSS drill bit set (4mm,	Each	02		
304.	HSS drill bit set (8mm)	Each	02		
305.	HSS drill bit set (12mm)	Each	02		
306.	HSS drill bit set (16mm)	Each	02		
307.	Nose pliers (10inch)	Each	02		
308.	Paper Cutter	Each	02		

**Total Amount:** .....

Total in Words:

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## Company Evaluation Criteria

- i. Profile of company complete in all respect
- ii. List of Previous/Current customers, Purchase Orders of related Services with contact person and telephone/fax numbers.
- iii. Copy of National Tax Registration Certificate or Copy of Online Taxpayer Verification
- iv. Copy of Sales Tax Registration Certificate or Copy of Online Active Taxpayer
- v. Bank letter of financial standing /Bank Statement
- vi. An affidavit on Rs 100/- Stamp Paper issued after date of publishing of tender which illustrate that currently they are not black listed or de-barred by any Government/Semi-Government Department to participate in bidding. Failure to submit such affidavit may lead to disqualification.
- vii. Detailed item specifications or Services matched corresponding to the BOQ as given at **Annex 'A'**
- viii. Proposed delivery, response time, plan for rendering service
- ix. Authorization Letter from Manufacturers where Applicable
- x. Signed and Stamped Complete Tender document
- xi. Bank Draft of the Earnest Money

**Note: Basic Evaluation Criteria is mandatory to fulfill to qualify for detailed evaluation. Failure to meet and submit all documents related to basic evaluation may lead to disqualification.**

## 2. Detailed Evaluation

(Minimum Passing Score Required is 65 Points for qualifying to Financial Opening)

<b>DETAILED EVALUATION CRITERIA FOR TENDER</b>			
<b>Specifications are available at Annex-A</b>			
<b>Sr. No</b>	<b>Item Name and Description</b>	<b>Marks</b>	<b>Max Marks</b>
<b>1</b>	<b>Past Performance/Experience of the Bidder (Reg. with GST/NTN) Attach copy of all supporting documents</b>	--	10
1.1	1 – 3 year experience	2	--
1.2	4 – 8 year experience	4	--
1.3	9 – 15 years' experience	6	--
1.4	Above 15	10	--
<b>2</b>	<b>Relevant Experience (Attach copy of all supporting documents)</b>	--	10
2.1	1 – 5 years' experience	3	--
2.2	6 – 10 years' experience	6	--
2.3	11 and above year experience	10	--
<b>3</b>	<b>Financial Position/ Status (Attach copy of all supporting documents)</b>	--	10
3.1	Last sales tax paid Form	4	--
3.2	Bank Certificate (satisfactory) attach original bank certificate indicating financial status	2	--
3.3	Statement Worth (Min 2 m) attach all supporting documents	4	--
<b>4</b>	<b>After Sale Services Available (Attach copy of all supporting documents)</b>	--	10
<b>5</b>	<b>Technical Evaluation of quoted items (Attach copy of all supporting documents)</b>	--	60
5.1	Specification matched as provided in Annex-A	30	
5.2	Literature in printed shape attached	2.5	
5.3	Reliability	2.5	
5.4	Delivery schedule as per need	5	
5.5	List of clients / where this equipment delivered	5	
5.6	Satisfactory letter from clients in favor of such equipment	5	
5.7	Guarantee / Warranty (as the case may be)	5	
5.8	Provision of Training to concerned user	2.5	
5.9	Free Installation (if required) as per requirement	2.5	
<b>Total</b>		--	100