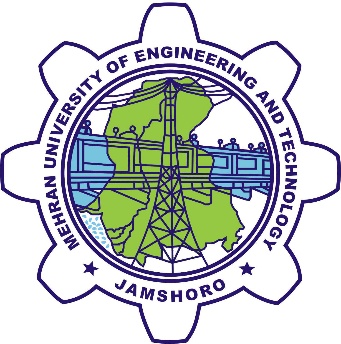
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**TENDER DOCUMENT**

**FOR**

**Procurement of Laboratory Equipment, Chemical, Glassware and General Laboratory Supplies of:**

* **Soil and Water Analysis Laboratory**
* **Advanced Water & Waste Water Quality Control Laboratory**

**AT**

**U.S.-PAKISTAN CENTRE FOR ADVANCED STUDIES IN WATER (USPCAS-W),**

**MEHRAN UNIVERSITY**

**OF**

**ENGINEERING AND TECHNOLOGY**

**JAMSHORO,**

SINDH- PAKISTAN

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|  |  |  |
| --- | --- | --- |
| **01.** | 1. **B.O.Q. OF THE LABORATORY Equipment CHEMICAL, GLASSWARE & GENERAL SUPPLIES for:** | **COLOR** |
| a | * Soil and Water Analysis Laboratory | Yellow |
| b | * Advanced Water & Waste Water Quality Control Laboratory | Blue |

MEHRAN UNIVERSITY OF ENGINEERING & TECHNOLOGY

JAMSHORO 76062, SINDH, PAKISTAN

**“SAY NO TO CORRUPTION”**

No. PM/USPCAS-W/ MUET/JAM/-04

Dated: 18-Jan-2018

**NOTICE INVITING TENDERS**

Sealed tenders are invited from all the interested Contractors / Firms / Parties / Suppliers / Manufacturers / Sole Distributors / Sole Agents meeting eligibility criteria, viz. having registration with Federal Board of Revenue (FBR) for Income Tax, Sales Tax in case of procurement of goods, registration with the Sindh Revenue Board (SRB) as the case may be and are not black listed in any procuring agency or authority, are invited to participate in sealed percentage / item rate tender for the following works:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S.#** | **Name of Work** | **Tender Fee** | **Completion Time** | **Earnest Money** | **Date of Purchase** | **Date of Submission of Bids** | **Purchase From** |
| 1 | Procurement of Equipment, Chemical and Glassware of Soil & Water Analysis Laboratory | 2,000/- | 02 Months | 2% | 25-01-2018 to 13-02-2018 | 14-02-2018 | Procurement Manager USPCAS-W |
| 2 | Procurement of Equipment, Chemical, Glassware and General Laboratory Supplies of Advanced Water & Waste Water Quality Control Laboratory | 2,000/- | 02 Months | 2% | 25-01-2018 to 13-02-2018 | 14-02-2018 | Procurement Manager USPCAS-W |

The terms and conditions are given as under:-

1. The tender documents can be obtained from the Office of USPCAS-W, Mehran University of Engineering and Technology, Jamshoro or can be downloaded from SPPRA and MUET websites i.e. [www.pprasindh.gov.pk](http://www.pprasindh.gov.pk) & [www.muet.edu.com.pk](http://www.muet.edu.com.pk) on the payment noted above (non-refundable) on any working day except the day of opening of tenders. The tender fee should be in the form of Pay Order in favor of Project Director (USPCAS-W) or Challan which can be obtained from thje above mentioned office. The sealed tender on prescribed proforma along with 2% earnest money of total bid in the form of Pay Order in favor of Project Director (USPCAS-W) should be deposited in the above office by (14-02-2018) up to (12.30 PM) and same will be opened on the same day, @ (01.00 PM) in same office in presence of the Contractors / representative, who so ever will be present at that time. In case of any unforeseen situation resulting in closure of office on the date of opening or if Government declares Holiday the tender shall be submitted / opened on the next working day at the same time & venue. Any conditional or un-accompanied of the earnest money, tender will not be considered in the competition.

2. The Method of Procurement is Single Stage - Two Envelope Procedure.

1. The bidders should have at least 10 years successful experience of same services of any University or large reputed organization in addition to instruction above.
2. The bidders should be registered with Taxpaying Agencies which will be verified by concerned agencies.

***The Procuring Agency reserves the right to reject any or all bids subject to relevant provisions of SPPRA Rules, 2010 and may cancel the bidding process at any time prior to the acceptance of a bid or proposal under Rule-25” of said Rules.***

**Procurement Manager**

USPCAS-W

Mehran University of Eng. & Tech. Jamshoro,

Phone No. 022-2109148

Email: po.uspcasw@admin.muet.edu.pk

**AA-01**

**ARTICLES OF AGREEMENT**

**This Agreement** made this \_\_\_\_\_\_\_\_\_\_\_ day of \_\_\_\_\_\_\_\_\_\_\_ 2017, by and between the Project Director, U.S-Pakistan Center for Advanced Studies in Water (USPCAS-W), Mehran University of Engineering and Technology, located at Jamshoro, Sindh, including his successors in office and Assignees / Agents, acting through the Procurement Manager, U.S-Pakistan Center for Advanced Studies in Water (USPCAS-W), Mehran University of Engineering & Technology, hereinafter called the “**University**”, of the one part.

**And** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, located at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, hereinafter called the “**Supplier / Contractor**” which expression shall include their successors, legal representatives of the second part.

(name and designation of the authorized person)

Whereas the **USPCAS-W /** **University** requires equipment for the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for USPCAS-W, MUET, Jamshoro, and whereas the **Supplier / Contractor** has agreed to supply, install, put into operation and demonstrate the working of the said Equipment valued at Rs. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (in figures and words) in the period of \_\_\_\_\_\_\_\_ months, subject to the terms and conditions set forth, hereinafter, which have been accepted by the **Supplier / Contractor**.

(amount in figures and words)

**Now this Agreement witnesses as follows:**

1. In this agreement words and expressions shall have the same meanings as are respectively assigned to them in the **Conditions of Contract** hereinafter referred to.
2. The following documents which, for the purpose of identification, have been signed by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on behalf of the **Supplier / Contractor,** and by

(name and designation of the authorized person)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on behalf of the **University**, all of

(name and designation of the authorized person)

which shall be deemed to form and be read and construed as a part of this **Agreement** viz.:

1. Articles of Agreement;
2. Instructions to Tenderers;
3. Conditions of Contract;
4. Supplier / Contractor’s Offer including the relevant correspondence prior to signing of this

Agreement with all Annexures duly filled in;

1. The specifications of the equipment; and
2. Bill of Quantity with prices.

**AA-02**

1. In consideration of the payment to be made to the Supplier / Contractor, the **Supplier / Contractor** hereby **covenants** with the University to supply, deliver, install, put into operation and demonstrate the working of the Laboratory Equipment/Chemical/Glassware/General Laboratory Supplies in conformity in all respects of the Contract & the order form No. \_\_\_\_\_.
2. The **USPCAS-W / University** hereby **covenants to pay** the Supplier / Contractor in consideration of the supply, delivery, installation, putting into operation and demonstration of the working of the Laboratory Equipment the contact price in the manner prescribed by the Contract and approved by the University.

**In Witness Thereof** the parties have hereunto set their respective hands and seals, the day, month and year first above written.

**WITNESSES:**

USPCAS-W \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Contractor/ Supplier \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Witness No.1: Witness No.1:

Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Designation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Designation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Witness No.2. Witness No.2:

Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Designation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Designation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**IT-01**

**INSTRUCTIONS TO TENDERERS**

The U.S Pakistan Center for Advanced Studies in Water (USPCAS-W), Mehran University of Engineering and Technology, Jamshoro, Sindh, intends to purchase Equipment for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ under the USPCAS-W project. This tender is issued for the supply, installation, putting into operation and demonstration of the working of the Laboratory Equipment as per the Schedule of requirements given in this Tender Document.

**PREPARATION OF TENDER.**

1. **Language of Tender**

The **Tender** alongwith any accompanying literature shall be prepared in **English** language only:

2. **Submission of Tender**

1. The **Tender** shall be enclosed in a double cover. The outer cover shall bear the address of the Procurement Manager, USPCAS-W, Mehran University of Engineering and Technology, Jamshoro, Sindh, without any indication that it encloses a tender. The inner cover shall be marked with the little of the Tender, number of invitation to the Tender and the date of opening of the Tender, and **must be sealed**.
2. The **Form for Tender**, (Annexure-A) **Tender Particulars (Annexure-B)** and **Forms of Schedule to Tender** (Annexure “C1”&”C2”) enclosed herewith, shall be submitted in duplicate. The authorized person signing the tender documents must state his full name and authorized position designation underneath his signature.
3. The **erasing and/or alterations**, if any, in the Tender shall be authenticated by the authorized person by his full signature.
4. The **Tender** shall be accompanied with the **original quotations** from the manufacturers, in case the Tender is submitted through their authorized agents or distributors, and shall be supported by credentials establishing the experience and standing of the manufacturers and / or their authorized agents or distributors.
5. **Ambiguous and incorrect answers** and/or incorrect filling of Tender Documents will render the tender liable to rejection.
6. **Quotations** through cable, telegraph, telex, fax, or e-mail will not be considered.

**IT-02**

1. The tenders shall not rely on any **interpretation or correction** given by any person except the written **addenda and/or corrigenda** to documents issued by the Procurement Manager, USPCAS-W, Mehran University of Engineering and Technology, Jamshoro, Sindh.

**3. Bid Bond and Contract Performance Bond**

* 1. The tenderer shall enclose with his/her tender a **Bid Bond** on requisite stamp paper, as per **Annexure “D”** to this Tender Document, issued by a scheduled/commercial bank doing business in Pakistan, for an amount equivalent to **2% of the total cost** of the Laboratory Equipment/ Chemical/Glassware/General Laboratory Supplies offered as per the Tender submitted by him/her, or Rs. 50,000.00 (fifty thousand), whichever is more. The Bid Bond shall be in favour of the Project Director, USPCAS-W, Mehran University of Engineering and Technology, Jamshoro. The bond so furnished shall remain **valid for a period 28 days beyond the period of validity of the Tender** or till it is revalidated/extended for a period mutually agreed upon by the tenderer and the Procurement Manager, USPCAS-W, Mehran University of Engineering and Technology, Jamshoro, Sindh.
  2. As soon as an award is made, the provisions in paragraphs **c), d) and e)**, hereunder, shall **operate**.
  3. If the Tender is **rejected**, the Bid Bond will be returned to the tenderer as soon as possible after rejection.
  4. The **successful bidder** shall have to give a **Contract Performance Bond**, as per **Annexure “E”** to this Tender Document, to the extent of **2% of the total value** of the contract on the same conditions as the Bid Bond. The Performance Bond shall be retained by the Procurement Manager, USPCAS-W, Mehran University of Engineering and Technology, till the completion of the guarantee period as per Clause 23 of the Conditions of Contract.

1. **Quality of Equipment.**
   1. The Laboratory Equipment and other relevant materials (hereinafter called **“Equipment”**) quoted and supplied against this “Invitation to Tender” shall be strictly in accordance with the **Specifications** attached with this Tender Document. The Equipment shall be the product of an established manufacturer shall conform to internationally acceptable commercial standards, and shall be a model that has been successfully operated over a reasonable period of time in educational institutions R&D organizations, or relevant industry.

* 1. In Tenderers must also warrant the use of best material in the making of the, Chemical by the find that the Specifications for any items of the Equipment are lacking in details, they may give their own proposals with detailed specifications, preferably three alternate proposals if possible, for such items in Annexure “F”.

**IT-03**

* 1. The Equipment offered by the tenders must be of a quality suitable for the purposes and operations for which they are required, and must be capable of rendering the required performance and services at site in the local conditions of extreme tropical climate, air, dust, water, power and fuel at Jamshoro.
  2. The Hardware for operation of the Equipment will be made available by the University.
  3. The electric supply for operation of the Equipment will be made available at 220 volt single phase, or 380 volt three phase, and 50 cycles.
  4. The Equipment offered shall be complete with their standard accessories and must be accompanied by their normal instructions book/manual.
  5. Wherever possible or feasible, each item of Equipment offered must have its own protection devices, e.g, overload protection by circuit breakers or fuses, or voltage stabilizer for electric equipment.
  6. Unless stipulated otherwise in the specifications for any item, the Equipment conforming to ASA, SAE, SSI or DIN will be acceptable.
  7. The successful bidders may be asked to supply list of spares for 10 years satisfactory operation of any item of the Equipment prior to award of the contract.

1. **Literature**.

The tenderers must furnish with their bids catalogues giving full technical details of the Equipment to enable the USPCAS-W to check their offers technically against the prescribed specifications failing which the offers will be liable to rejection.

1. **Principals Name, Certificate and Invoice.**
   1. The tenderers are requiried to mention in their quotations/offers the name and address of their Principals along with a certificate authorizing them (tenderers) to quote on their (Principals) behalf as under:

“This is to certify that M/S.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_located at\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ have obtained quotations from us against tender inquiry No.\_\_\_\_\_\_\_ dated \_\_\_\_\_\_ from USPCAS-W, Mehran Univiersity University of Engineering and Technology, at Jamshoro, due for opening on \_\_\_\_\_\_\_\_\_\_\_\_ and have agreed to make available the Equipment on the quotations and terms and conditions of the tender”.

The above condition does not apply to the manufacturers bidding directly.

* 1. The tenderers must also furnish along with their offers their Principals original Proforma Invoice failing which their offers will be rejected.

7. **Country of Origin.**

The tenderers must state in his Tender the country of origin of the Equipment offered.

8. **Alternative Proposal.**

If any tenderer elects to submit alternative proposal(s) complete information on the alternative items including all data relating to technical specifications in Vol. I, II & III shall be given as per Annexure “F”.

**IT-04**

9. **Prices.**

1. **CATEGORY-‘A’ Equipment Manufactured/Available in Pakistan without**.

**Involving Import**.

The prices quoted must be total per unit in Pakistani Rupees as shown in **Annexure “C-1”** and shall include:

* + 1. All charges for packing, marking, handling, insurance, inspection, guarantees, freight/transportation, agent’s commission; and all duties, taxes, levies, octrois etc; and.
    2. The cost of installation, putting into operation and demonstration of the working of the Equipment in the premises of the USPCAS-W / University.

b) **CATEGORY-“B”**. **Equipment Imported from approved Countries.**

The prices must be quoted for each item of Equipment in **Annexure-“C2”** separately for each of the PARTS given below:

**PART-1**. **Payment in Foreign currency.**

The C&F prices quoted by the Principals in the currency of the country of origin.

For the purpose of comparison, the prices quoted shall be converted to equivalent prices in Pakistani Rupees on the basis of the official bank rate prevalent on the date of opening of the Tender.

**PART-2 Payment in Pakistani Rupees.**

(i) The agent’s/Supplier / Contractor’s commission in Pakistani Rupees.

(ii) The insurance charges. The insurance will be arranged by the Supplier / Contractor through the University with EFU General Insurance Company. The University will assist the Supplier / Contractor in obtaining the insurance at concessional rates, if any, as allowed by the Government.

(iii)The cost of installation, putting into operation and demonstration of the working of the Equipment in the USPCAS-W, MUET, Jamshoro in Pakistani Rupees.

(iv) All the charges pertaining to handling and clearance of the Equipment at the port including all taxes, levies, octrois etc. but excluding the customs duties for the payment of which the USPCAS-W / University is exempted by the Government. However, if the customs duties are charged for any items of the Equipment for which the Government the exemption, the USPCAS-W /University will make the payment.

**IT-05**

1. The transportation charges for transporting the Equipment from the port to the premises of the USPCAS-W / University including the charges for loading the Equipment at the port and unloading the same at the USPCAS-W / University.

For the purpose of evaluation/comparison of bids, as stated in Clause-15, the total price for the Equipment under this Category shall be the sum of the amounts mentioned for Parts 1 & 2 above.

(c) In addition to what is stated in para a) & b) above, the prices given in Annexure C1 & C2 shall also include the following for the Equipment of both the Categories-A & B.

(i) Supply, detailing, manufacture, factory testing, export preparation and all costs incidental to shipping/transport up to the stage of installation in the premises of the USPCAS-W /University.

(ii) Responsibility for any loss and/or damage at any stage from manufacture to installation in the premises of the USPCAS-W /University.

(iii) Provision for clean on boards bills of landing.

(iv) The cost of export taxes, fees and charges levied and out going incurred on

exporting goods in the country of origin.

(v) The expenses on account of the certificate of origin, invoices or any other

documents issued in the country or origin.

1. **Validity of Prices/Tender**
2. The prices quoted shall be valid for a period of at least 90 days from the date of opening of the tender.
3. Until the final Contract is executed, the successful bidder shall be bound by the terms and conditions of this Tender Document.
4. **Acceptance of the Terms**
   1. The submission of the tender against this tender inquiry by the tenderer means that the tenderer has read and accepted the terms and conditions relating to all the tender documents and annexures, and that he/she has thoroughly examined the specifications and particulars in the tender inquiry. Further the tender shall be deemed to be fully aware of the nature of the Equipment and the purpose for which they are required and shall be bound to accept the Contract if placed with him/her on the basis of the prices and of the delivery schedule as indicated in Clause 12 hereof within the validity of his/her Tender.

**IT-06**

* 1. If the Tender is awarded in favour of Proprietor/Principals who has no authorized agent or distributor in Pakistan, he/she shall have to appoint a distributor or nominee for the purpose of successful completion of the contract and to provide after-sales service.

1. **Delivery Period.**
2. Shipment of Imported Items.
   1. The shipment of the items of Equipment which are to be imported shall be started as early as possible, the shipment schedule shall be submitted to the Project Director USPCAS-W, Mehran University, and shall be negotiable and subject to approval by the USPCAS-W /University.
   2. The tenderer must indicate in his/her offer the port from where the Equipment will be shipped.
3. Delivery Period.
   1. The entire Equipment must be delivered, installed and put into operation in the USPCAS-W of the University as early as possible after receiving the letter of award of the Contract.
   2. The Tenderer shall give in the offer his/her own schedule for the delivery and installation of various items of the Equipment which shall be negotiable and subject to approval of the USPCAS-W / University.
4. Delay in the Delivery of the Equipment/Chemical/Glassware/General Lab Supplies.
   1. For the Equipment delayed beyond the delivery period, as specified in the Contract, or as approved by the USPCAS-W / University as stated in Clause 12 ii b) above, there shall be levied liquidated damages as specified in Clause 22 of the Conditions of Contract given in this Tender Document.
   2. The liquidated damages may be waived fully or partially by the Project Director USPCAS-W, with the approval of the Vice Chancellor of the University, if there are reasonable grounds for such a delay.

**13. Negotiations.**

Under no circumstances will the negotiations take place with any tenderer with regard to Specifications and Prices quoted and read out at the public opening of the tenders and with regard to the substance of the offer. The tenderers cannot revise their prices after the public opening of the tenders.

**14. Rights of the USPCAS-W / University**

(a) The USPCAS-W / University reserves the right to reject any or all bids as mentioned in SPPRA rules, or not waive minor irregularities or errors in any offer. It if appears to the USPCAS-W / University that such irregularities or errors must be corrected in the offer in which they occur, the same will be corrected prior to issue of the letter of intent which may be awarded thereupon.

**IT-07**

(b) The USPCAS-W / University is neither bound to accept the lowest or any other offer nor is it bound to assign reason for rejection of any offer.

* 1. The USPCAS-W / University reserves the right to award the contract to one bidder or divide it among several bidders.
  2. The USPCAS-W / University reserves the right to increase or decrease the quantity of the Equipment at its discretion without assigning any reason whatsoever.
  3. The USPCAS-W / University reserves the right to cancel the offer of the tenderer whose bid has been found / evaluated to be the lowest if it is revealed to the USPCAS-W / University that the tenderer does not have the capability or financial resources or facilities to carry out the Contract in accordance with the terms and conditions of this Tender Document.

**15. Evaluation of Bids.**

1. In comparing bids the USPCAS-W / University will consider, besides the prices quoted, such other factors as compliance with specifications, relative quality of Equipment/Chemical/Glassware/General Laboratory Supplies, past experience of the tenderer, after-sales services facilities available in Pakistan and the tenderer’s capacity to perform.
2. The evaluation criteria specifically mentioned in the specifications will also be considered for evaluation of the bids.
3. For the purpose of evaluation, the prices to be compared shall be the total prices inclusive of all duties, taxes, freight charges etc. as stated in clause 9 titled “Prices” above.

(i) For the items quoted in Annexure-C-1, the total prices as mentioned in Clause-9(b) shall be compared.

(ii) For comparison of the items quoted in Annexure C-1 with those quoted in Annexure C-2, the total prices as mentioned in Clause-9(a) including the charges/cost packing, making, handling, insurance, inspection guarantees, clearance, freight/transportation upto the University’s premises duties, taxes, levies, octrois etc.

1. **Errors in the Bids.**

(i) Any arithmetic errors found during evaluation of bids will be rectified on the following basis:

* 1. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected by the USPCAS-W / University.
  2. If there is a discrepancy between the words and figures, the amount in figures shall prevail.

**IT-08**

* 1. If there is any discrepancy between the total tender price entered in the Articles of Agreement and the total shown in the Schedule of Prices, the amount stated in the Articles of Agreement shall be corrected by the USPCAS-W / University in accordance with the corrected schedule of Prices.

(ii) If the tenderer does not accept the corrected amount of tender, his/her Tender will be rejected and the Bid Bond submitted with the tender shall be forfeited.

1. **Foreign Exchange for Items of Equipment to be imported.**

For the items of Equipment which are to be imported and for which the prices have been quoted on C&F basis in Annexure C-2, the University will arrange payment in the foreign currency, to the extent of the C&F amount, as stated in Clause 9(b), through its bank in Pakistan in accordance with the prevailing foreign exchange control rules/regulations of the Government of Pakistan.

**CC-01**

**CONDITIONS OF CONTRACT**

**1. Scope of the Contract**

1. The **Scope of the Contract** shall be the supply, delivery, installation, putting into operation and demonstration of the working of the Equipment in the premises of the USPCAS-W / University at Jamshoro, Sindh, in accordance with the technical Specifications and Bill of Quantities enclosed in this Tender Document.
2. The Supplier / Contractor shall within a period of one month of the execution of the agreement furnish to the University a **detailed program** for supply and delivery of various items of the Equipment for necessary approval by the USPCAS-W / University.

**2. Definition of Terms**

In writing these Conditions of Contract, Specifications and Bill of Quantities, the following words shall have the meanings hereby indicated, unless there is something in the subject matter or Contract inconsistent with such constructions:

1. **The University** shall mean the Mehran University of Engineering and Technology, Jamshoro, Sindh.

1. **USPCAS-W / University** shall mean the U.S.Pakistan Center for Advanced Studies in Water, Mehran University of Engineering and Technology, Jamshoro, Sindh.
2. **The Project Director** shall mean the Project Director of USPCAS-W, Mehran University of Engineering and Technology, Jamshoro, Sindh, including his successor in office and assignees, empowered to act in all matters pertaining to the University either directly or through the Procurement Manager USPCAS-W, Mehran University of Engineering and Technology, Jamshoro.
3. **The Supplier / Contractor or Supplier / Contractor** shall mean the Tenderer (Bidder) whose Bid has been accepted by the University and shall include the Bidder’s executors, administrators, successors and permitted assignees.
4. **The Equipment** shall mean and include all the Laboratory Equipment/Chemical/Glassware/General Supplies, literature, materials and articles to be provided by the Supplier / Contractor under the Contract.
5. **The Contract** shall mean the agreement signed by the Supplier / Contractor for the supply, delivery, installation, putting into operation and demonstration for the working of the Equipment as stated under the Scope of the Contract above.
6. **The Contract Price** shall mean the sum mentioned in or calculated in accordance with the provisions of the Contract, which is to be paid to the Supplier / Contractor for satisfactory execution of the Contract in accordance with these Conditions of Contract.

**CC-02**

1. **The Specifications** shall mean the specifications annexed to or issued, herewith, and shall include the schedule and drawings attached hereto as well as the samples and patterns if any.
2. **Month** shallmean the Calendar month.
3. **Writing** shall include any manuscript, type-written, printed or other statement reproduced in any visible form and whether under seal or under hand.

**3. Contract Documents.**

a) The term **Contract Document** shall mean the following documents which shall be deemed to form an integral part of the Contract:

* 1. Articles of Agreement;
  2. Instructions to Tenderers;
  3. Conditions of Contract;
  4. Supplier / Contractor’s Proposal / Offer including the relevant correspondences prior to signing of the agreement with all Annexures duly filled in;
  5. The Specifications of the Equipment; and
  6. Bill of Quantities with prices.

b) In the event of any **conflict** between the above mentioned documents, the present Articles of Agreement and Conditions of Contract shall prevail.

**4. Signing of the Contract Agreement**

Within 30 days of the issue of the letter of intent, the successful bidder (bidders) will be required to **sign an agreement** with the USPCAS-W / University for the supply of such quantity, in whole or in part, of the tendered Equipment as will be communicated to him / her (them) in the letter of intent.

**5. Packing, Marking and Handling**

a) All the Equipment/Chemical/Glassware/General Laboratory Supplies, whether imported or locally manufactured / available, shall be delivered to the USPCAS-W / University at Jamshoro in **safe and secure condition** at the risk and cost of the Supplier / Contractor.

b) The packing, marking and handling shall be so arranged by the Supplier / Contractor as to **prevent any loss of or damage** to the Equipment.

**CC-03**

c) In case any of the items of the Equipment are to be imported by the Supplier / Contractor, the **import** shall be **arranged by the Supplier / Contractor** himself / herself with such packing and marking and through such means as deemed fit by him / her for safe and secure delivery at Jamshoro. The packing of the equipment shall be the usual export packing to ensure safe journey by air, sea, rail and road, as the case may be, of the Equipment to destination. Each packing shall be clearly marked in English with the following:

i. Port of Destination: KARACHI.

ii. Name of the Ship: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

iii. Name of the Consignee: PROJECT DIRECTOR (USPCAS-W),

MEHRAN UNIVERSITY OF

ENGINEERING & TECHNOLOGY

JAMSHORO, SINDH, PAKISTAN

i. Name of the Supplier / Contractor: SUPPLIER / CONTRACTOR’S NAME & ADDRESS

ii. Case Number & Contents: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

iii. Net Weight & Dimensions: (length, Breadth & Height)

iv. Gross Weight: (Kg.)

v. Number & Date of Contract: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ vi. Marking: **MUET** in a 6 in. x 4 in. rectangle

**MUET**

**6. Transportation and Shipment**

**a. For Equipment to be Imported**

i. All those items of Equipment which are to be imported by the Supplier / Contractor shall be **shipped** by whatever means the Supplier / Contractor deems fit **at** **his / her risk and cost**. The Supplier / Contractor must keep USPCAS-W / University informed of the shipping arrangements, schedule of shipping, arrival at the port, clearance from the port, and transportation from the port to the University at Jamshoro.

**ii. All costs** of loading of the Equipment from the wharves at port of shipment and also the cost of ship wharf age / berthing, demurrage charges, stevedoring, handling charges and other port and river dues in respect of shipment companies’ vessels at the port of shipment and all other expenditure up to the stage of placing the Equipment at rest on board the ship and the freight charges shall be **borne by the Supplier / Contractor**.

iii. Similarly all costs of unloading the Equipment at the wharves, wharf age / berthing, demurrage, stevedoring, handling charges and other port dues at the port of arrival in Pakistan and transportation from the port up to the stage of placing the Equipment position in the premises of the University shall be borne by the **Supplier / Contractor**. In order to facilitate the clearance of the Equipment at the port of arrival, a clearing agent will be engaged by the USPCAS-W / University, in consultation with the Supplier / Contractor, who will get the Equipment cleared with the assistance of the USPCAS-W / University and the Supplier / Contractor, and the clearing agent’s charges shall be **borne by the Supplier / Contractor.**

**CC-04**

iv. All things being equal, **Pakistan flag ships** should be used, as far as possible, for shipment of the Equipment. If no such ship is available, such other ships may be used consistent with the execution of this Contract with economy and efficiency.

v. The Equipment must be shipped **under deck**

vi. The Supplier / Contractor shall send by air mail / courier service or personally deliver 4(four) sets of non-negotiable shipping documents direct to the Project Director USPCAS-W, Mehran University of Engineering and Technology, Jamshoro, Sindh, so as to reach him at least 8 (eight) days before arrival of the ship at the port in Pakistan.

**b. For Equipment Manufactured / Available in Pakistan**

**i.** All those items of the Equipment which are to be manufactured in Pakistan, or are to be supplied from the locally available stocks (whether imported or manufactured in Pakistan), may be transported from the place of manufacture or availability to Jamshoro by **any mode of transportation** as deemed convenient and suitable by the Supplier / Contractor at his / her risk and cost.

ii. **All costs** of handling, loading, transportation, unloading and placing the Equipment in position in the premises of the USPCAS-W / University shall be **borne by the Supplier / Contractor**.

**7. Pre-shipment and After-fabrication Inspection**

a) The **pre-shipment inspection** and / or the inspection of the Equipment Principals/Proprietor at the premises, if desired by the USPCAS-W / University, shall be arranged by the Supplier / Contractorat his / her own cost. The responsibility for the quality, quantity, correctness and adherence to the Specifications etc. of the Equipment shall lie solely and squarely on the Supplier / Contractor.

b) The USPCAS-W / University may, at its discretion, waive pre-shipment inspection and hence issue the waiver in writing so that the Equipment could be shipped under manufacturer’s test certificate. This waiver shall be deemed as authorization to ship for the purpose of negotiating the letter of credit under Clause 13(b) ii.

c) The pre-shipment inspection and/or the waiver thereof shall in no any above the Supplier / Contractor of any of his obligations under this Contract.

**CC-05**

**8. Insurance**

The **Supplier / Contractor shall arrange** the insurance for the Equipment in whatever way he / she deems fit at his / her risk and cost. The prices quoted in the offer of the Supplier / Contractor shall include the cost of insurance. The Supplier / Contractor shall have to inform USPCAS-W / University of the Insurance Arrangements made by him / her for the Equipment.

**9. On-arrival Inspection**

There shall be inspection of the Equipment by the representatives of the University after arrival in the premises of the USPCAS-W / University in presence of the Supplier / Contractor or his authorized representatives and the representatives of the insurance company. The **inspection report**, which, inter-alia, should indicate the condition in which each item of the Equipment has been received, shall be signed by the above representatives. The Supplier / Contractor shall coordinate with the Procurement Manager, USPCAS-W, Mehran University, and the insurance company for arranging the inspection at such date and time as is convenient to the above representatives.

**10. Taking Over**

Upon receipt of the Laboratory Equipment, Chemical, Glassware & General Laboratory Supplies in the premises of the University and after inspection, as stated in Clause 9 above, the USPCAS-W / University will issue a **taking-over certificate** in respect of those items of Equipment which are received in acceptable condition. The taking-over of the damaged items will be with-held until the same are repaired / replaced and are re-inspected and found in acceptable condition.

**11. Installation and Demonstration of Equipment/Chemical/Glassware/General Lab Supplies.**

**a). Installation**

**i)** After inspection and taking over of the Equipment as stated in Clauses **9** and **10** above, if required the **Supplier / Contractor shall install** those items of Equipment which are to be permanently positioned in place in the premises of the USPCAS-W / University. For this purpose, the Supplier / Contractor shall co-ordinate with the Project Director, USPCAS-W, Mehran University, for making arrangements for the Hardware needed for the installation.

**ii)** The cost of hardware **for such installation** shall be borne by the Supplier / Contractor/ Contractor as per contract. The Supplier / Contractor shall provide, along with his offer, the details of the hardware needed for each item of the Equipment separately. The technical and other personnel needed for installation of the Equipment shall be provided by the Supplier / Contractor at his cost. The entire cost of installation, configuration, application except that of the needed hardware, shall be borne by the Supplier / Contractor.

**CC-06**

**b) Demonstration**

**i)** After installation of the Equipment, as stated in Clause **11 a)** above, the complete **working of each item** of Equipment for the purpose of performing the intended Laboratory experiments, testing of specimens and recording of the test results etc., shall be demonstrated fully to the designated staff of the University by the Supplier / Contractor or his technical personnel.

**ii)** The entire **cost**, including the T.A. / D.A. of the personnel involved in the demonstration, shall be **borne by the Supplier / Contractor**.

**12. Completion Certificate**

After completion of the installation and demonstration, as stated in Clause **11** above, a certificate is to be obtained by the Supplier / Contractor from the concerned **Department** stating that the Equipment (item-wise) have been satisfactorily installed and demonstrated by the Supplier / Contractor.

**13. Terms of Payment**

The Supplier / Contractor shall be paid for Equipment in the following manner:

a) **CATEGORY A:** **Equipment Manufactured/Available in Pakistan without involving import.**

i. For all those items of Equipment for which the completion certificate has been issued by the University, as stated in Clause **12** above, the University will pay to the Supplier / Contractor total price of the items quoted by the Supplier / Contractor.

**ii.** The payment for those items of Equipment for which the completion certificate has not been issued by the University, as stated in Clause **12** above, will be with-held and released only after the damaged items are replaced / repaired, re-inspected and found in satisfactory condition with consequent issuance of the completion certificate. The payment will be made in the same manner as stated in Clause **13 a) i** above

b) **CATEGORY-B**: **Equipment Imported from Approved Countries**.

The payment for this category of Equipment will be made in two parts as under:-

**PART-I.** **Payment in Foreign currency**

i. An irrevocable **letter of credit** of the C&F price, in the currency quoted by the Principals, will be opened in a bank in the country of origin in favor of the Principals/Supplier / Contractor within 30 days after signing the Contract.

**CC-07**

ii. The letter of credit amount will be paid against presentation of the shipping documents to the bank through the above letter of credit. The required shipping documents include:

* + - * Clean on board bill of lading;
      * Supplier / Contractor’s detailed invoice showing description of the Equipment specifications, quantity, unit price and total price;
      * Detailed packing list;
      * Certificate of origin of the Equipment and
      * Certificate of pre-shipment/after-fabrication inspection or authorization to ship the Equipment as per Clause-7.

**PART-2.** **Payment in Pakistani Rupees**

The Rupee component of the price of the Equipment as stated in Clause **9b) of “Instructions to Tenderers”** will be paid to the Supplier / Contractor in the following manner:

* 1. For all those items of Equipment for which the taking over certificate has been issued by the University, as stated in Clause **10** above, the University will pay as per contract of the total price of the items quoted by the Supplier / Contractor/ Contractor.

* 1. The payment for those items of Equipment for which the completion certificate has not been issued by the University, as stated in Clause **10** above, will be withheld and released only after the damaged items are replaced/repaired, re-inspected and found in satisfactory condition with consequent issuance of the completion certificate. The payment will be made in the same manner as stated in Clause **13 a)i** above

**14. Warranty / Guaranty**

**a)** The Supplier / Contractor shall **warranty** that the Equipment shall be fit for the purposes and operation mentioned in the relevant clauses of the “Instructions to the Tenderers” and “Conditions of Contract”, notwithstanding the fact that the entire Equipment or any item or part of the Equipment bear or are found to bear a patent or trade mark.

**b)** The Supplier / Contractor shall guarantee supply of good quality Equipment in accordance with the Specifications and as stated in Clauses 4 and 5 of the “Instructions to the Tenderers”. Further, the Equipment shall be brand new and absolutely free from all defects in material, quality and workmanship. In case of defects, the defective Equipment or the defective parts / components of the Equipment thereof, shall be replaced by the Supplier / Contractor free of cost to the University within reasonable time.

**CC-08**

**15. Breach of Contract**

In case of breach of warranty /guarantee or Contract, the **damages** suffered by the USPCAS-W / University shall be **recovered from the Supplier / Contractor** out of any payment due to the Supplier / Contractor and / or in accordance with the terms and conditions of the Contract Performance Bond given at Annexure “E” enclosed with this Tender Document, without notice to the Supplier / Contractor.

**16. Supplier / Contractor’s Default Liability**

**a)** USPCAS-W / University may upon written notice of default to the Supplier / Contractor **terminate the Contract** in the circumstances detailed hereunder:

i. If in the judgment of the University, the Supplier / Contractor fails to make delivery of the Equipment within the time specified in the Contract Agreement or within the period for which extension has been granted by the University; and

ii. If, in the judgment of the University, the Supplier / Contractor fails to comply with any of the other provisions of the Contract.

**b)** In the event the USPCAS-W / University terminates the Contract, in whole or in part, as provided in Clause **16 a)** above, the USPCAS-W / University reserves the right to **purchase**, on such terms and conditions as it may deem appropriate, Equipment similar to the one terminated, and the Supplier / Contractor will be liable to the USPCAS-W / University for any additional costs for such **similar Equipment** and / or for liquidated damages for delay, as defined in Clause **22** of the Conditions of Contract until such reasonable time as may be required for the final supply of the Equipment.

**c)** If the Contract is terminated, as provided in Clause **16 a**) above, USPCAS-W / University, in addition to any other rights provided in this Clause, may require the Supplier / Contractor to **transfer title** and deliver to the University under any of the following cases in the manner and as directed by the University:

i) Any **completed Equipment**; and

ii) Such **partially completed Equipment**, drawings, information and contract right (hereinafter called manufacturing material) as the Supplier / Contractor has specifically produced or acquired for the performance of such parts of the Contract as has been terminated.

d) The USPCAS-W / University will **pay to the Supplier / Contractor** the Contract Price for the completed Equipment delivered to and accepted by the USPCAS-W / University and also for the manufacturing materials delivered and accepted.

e) In the event the USPCAS-W / University does not terminate the Contract, as provided in Clause **16 a)** above, the Supplier / Contractor shall continue with the performance of his / her Contract, in which case the Supplier / Contractor shall be liable to the USPCAS-W / University for **Liquidated Damages for delay** as set out in Clause 22 until the Equipment are accepted.

**CC-09**

**17. Bankruptcy**

If the **Supplier / Contractor** shall become **bankrupt** or have a receiving order made against him / her or compound with his / her creditors, or being a corporation commence to be wound up, not being a voluntary winding up for the purpose of amalgamation or reconstruction, or carry on its business under a receiver for the benefit of its creditors or any of them, **USPCAS-W /** **University shall** be at liberty to:

1. **terminate the Contract** forthwith by a notice in writing to the Supplier / Contractor or to the liquidator or receiver or to any person in whom the Contract may become vested, and to act in the manner provided in Clause 16 above as though the last mentioned notice has been the notice referred in such Clause and the Equipment have been taken out of the Supplier / Contractor’s hand; and / or
2. give such liquidator, receiver, or other person the **option of carrying out the Contract** subject to his / her providing a guarantee for the due and faithful performance of the Contract upto an amount to be determined by the University.

**18. Termination of Contract**

1. If, for any cause as set forth in Clause **19** hereafter, the Supplier / Contractor finds it impracticable to continue operation or, if owing to force majeure or to any cause beyond its control, the University finds it impossible to continue operation, then **prompt notification** in writing shall be given by the party affected to the other.
2. If the delay or difficulties so caused cannot be expected to cease or become avoidable, or if operation cannot be resumed within six months, then either party shall have the right to terminate the Contract by giving ten **(10) days** **written notice** to the other.
3. In the event of termination of the Contract under this Clause, **payment** will be made to the Supplier / Contractor as follows:

i) The Supplier / Contractor shall be paid for all the Equipment for which the completion certificate has been issued, as stated in Clause 12, and for all the reimbursable expenses due and unpaid.

ii) The Supplier / Contractor shall also be paid reasonably for any work done during the said six months period as well as for settlement of any financial commitment made in connection with proper performance of the Contract and which are not reasonably defrayed by payments under i) above.

iii) On termination of the contract for any cause, the Supplier / Contractor shall see to the orderly suspension and termination of operations with due consideration to the interests of the University with respect to completion, safeguarding or storing of the Equipment produced for the performance of the Contract and the salvage and resale thereof

**CC-10**

**19. Force Majeure.**

**The Supplier / Contractor shall not be liable** for any additional cost or for liquidated damages for delay or any failure to perform the Contract arising out of force majeure or cause beyond his / her control including acts of God, or of the public enemy, or of the Government, fires, floods, epidemic quarantine restrictions, strikes, freight embargoes and default of sub Supplier / Contractors due to any such cause (unless the USPCAS-W / University shall determine that the Equipment to be furnished by the Supplier / Contractor might reasonably have been obtained from other sources in sufficient time to allow the Supplier / Contractor to meet the required time schedule), provided that the Supplier / Contractor shall within ten (10) days from the beginning of such delay notify the USPCAS-W / University in writing of the **causes of the** **delay**. The USPCAS-W / University shall ascertain the facts and the extent of the delay and **extend the time** for completing the supplies as in its judgment the findings justify.

**20. Rejection**

a) In the event any portion of the Equipment supplied by the Supplier / Contractor is found before taking over to be **defective in material or workmanship**, or otherwise not in conformity with the requirements of the Contract, the USPCAS-W / University shall have the right to either reject or require, in writing, rectification of the Equipment. In the later case, the Supplier / Contractor shall with utmost diligence, and at his own expense, make good the defects so specified or replace the defective Equipment. If the Supplier / Contractor fails to rectify or replace the rejected Equipment, USPCAS-W / University may adopt any of the following options:

i) **replace or rectify**, at its option, such defective Equipment and charge to the Supplier / Contractor the excess cost occasioned to the USPCAS-W / University plus (15%) fifteen percent; or

ii) acquire the said Equipment **at** a **reduced price** considered equitable under the circumstances; or

iii) **terminate the Contract** as provided in Clause **18** of these Conditions of Contract.

b) Nothing in this Clause shall affect any claim by the University under Clause **22** hereafter.

**21. Extension of Time**

If the completion of the Contract is delayed due to reason beyond the control of the Supplier / Contractor, the Supplier / Contractor shall without delay request USPCAS-W / University, in writing, of his **claim** for an extension of time. USPCAS-W / University on receipt of such request may agree to **extend the completion date** as may be reasonable in the circumstances of the case but without prejudice to other terms and conditions of the Contract.

**CC-11**

**22. Delay in Delivery - Liquidated Damages**

1. Should the **progress** of the Contract at any time be **lagging behind** the program agreed between the USPCAS-W / University and the Supplier / Contractor, USPCAS-W / University will notify the Supplier / Contractor in writing and the Supplier / Contractor shall there upon take such steps as he / she may deem fit to **expedite the progress** of the Contract. Non-issuance of this notice by the University shall not in any way absolve the Supplier / Contractor of the liquidated damages as stated in Clause **22 b**) below.

1. If the Supplier / Contractor **fails to complete the Contract**, in full or part, within the time laid down in the Contract Agreement or any extension thereof, there shall be deducted from the Contract Price, as **liquidated damages**, a sum of one half of one percent **(0.5%) of the Contract price** of each unit of the delayed Equipment for each calendar week of delay subject to the maximum of five percent (5%) of the Contract Price of the unit or units so delayed, and such deduction shall be in full satisfaction of the Supplier / Contractor’s liability for the said failure.

**23. Period of Guarantee**

1. The term **period of guarantee** shall mean the period of twelve **(12) months** from the date on which the Equipment have been put into operation and demonstrated to USPCAS-W staff.
2. During the period of guarantee, the Supplier / Contractor shall **remedy**, at his / her expense, **all defects** in design, materials, and workmanship that may develop or are revealed under normal use of the said Equipment upon receiving written notice from the University; the notice shall indicate in what respect the Equipment are faulty.
3. The provisions of this Clause include all the **expenses** that the Supplier / Contractor may have to incur for delivery and installation of such replacement parts, material, and equipment as are needed for satisfactory operation of the Equipment at the University premises.

**24. Non-assignment**

The Supplier / Contractor shall **not have the right to assign or transfer** without the prior approval of the University the benefit and obligations of the Contract or any part thereof.

**25. Expenditure under Contract**

The Supplier / Contractor shall not make any expenditure for the purpose of this Contract in any **country not authorized** by the Government of Pakistan

**CC-12**

**26. Certificate Not to Affect the Rights of USPCAS-W / University or the Supplier / Contractor**

No certificate of the USPCAS-W / University on account nor any sum paid on account by the USPCAS-W / University nor any extension of time for the delivery of the Equipment pursuant to Clause 19 shall affect or **prejudice the rights of the USPCAS-W / University** against the Supplier / Contractor nor relieve the Supplier / Contractor of his obligation for due performance of the Contract or be interpreted as approval of the Equipment supplied, and no certificate shall create liability of the USPCAS-W / University to pay for the alterations, amendments, variations etc. not ordered in writing by the USPCAS-W / University or discharge the Supplier / Contractor for the payment of damages or of any sum against the payment of which he / she is bound to indemnify USPCAS-W / University nor shall such certificate nor the acceptance by him / her of any sum paid affect or **prejudice the rights of the Supplier / Contractor** against the University.

**27. Payments Due from the Supplier / Contractor**

**All costs**, ascertained damages or expenses for which under the Contract the Supplier / Contractor is liable to USPCAS-W / University may be deducted by USPCAS-W / University from any money due or may become due to the Supplier / Contractor under the Contract or may be recovered by action of law or otherwise from the Supplier / Contractor.

**28 Legal Proceedings**

The Contract and the Tender Documents are governed by the **Laws of** **Pakistan** and no proceedings to or arising out of any of them shall be instituted in any courts other than those situated at Hyderabad and Karachi, Sindh Pakistan.

**29. Dispute**

Should any question or dispute arise as to the material, design, construction or delay in the supply of the Equipment or the purpose or the performance for which they are required or are warranted, USPCAS-W / University shall nominate an independent **certifier / expert** having knowledge of network equipment etc., who will, after affording the parties to the dispute an opportunity to present their contention, and after having tests made as the certifier deems fit, certify whether there has been any breach of Contract or warranty and, if so, what sum shall be paid to USPCAS-W / University in diminution or extinction of price, and such certificates shall be final and binding and shall not be questioned and shall be acted upon in arbitral or other legal proceedings. The award of the costs of the certifier will be within his / her own discretion and shall be recoverable from the party against which the costs are awarded.

**30. Arbitration**

All disputes and matters of difference whatsoever (other than those relating to the certificate of expert certifier) between USPCAS-W / University and the Supplier / Contractor relating to and arising out of the Contract and Tender Documents shall be referred to arbitration under the arbitration act 1940 with amendments and re-amendments thereof, each party nominating its own arbitrator. The umpire will be nominated by the arbitrators within the first three arbitral hearings. The **award of the arbitrators or of the umpire shall be final and binding** upon the parties. The arbitral proceedings shall be held at Jamshoro, Sindh Pakistan.

**ANNEXURE “A”**

**FORM OF TENDER**

(LETTER OF OFFER)

Tender Reference No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Dated \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name of Contract: **Supply, Installation, and successful Commission/ Operation and Demonstration required for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_at the premises of USPCAS-W, Mehran University of Engineering & Technology, Jamshoro, Sindh.**

The Project Director- USPCAS-W

Mehran University of Engineering & Technology

JAMSHORO, SINDH

Dear Sir,

1. Having examined the Tender Documents including Instructions to Tenderers, Conditions of Contract, Specifications, Drawings, Schedule of Prices and Addenda Nos. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for the execution of the above-named Contract, we, the undersigned, being a company doing business under the name and address\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and being duly incorporated under the laws of Pakistan hereby offer to execute and complete such Contract and remedy any defects therein in conformity with the said Documents including Addenda thereto for the Total Tender Price of Rs.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (in figures and words) or such other sum as may be ascertained in accordance with the said Documents.
2. We understand that all the Schedules attached hereto form part of this Tender.
3. As security for due performance of the undertakings and obligations of this Tender, we submit herewith a Bid Security referred to in Clause 3 of the Instructions Tenderers and as per Annexure “D”, in the amount of Rs. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (in words and figures) drawn in favor of or made payable to Project Director, USPCAS-W, Mehran University of Engineering and Technology, Jamshoro, and valid for a period of 28 days beyond the period of validity of this Tender.
4. We undertake, if our Tender is accepted, to complete the whole of the work comprised in the above-named Contact within the time stated in Clause 12 of the Instructions to Tenderers.
5. We agree to abide by this Tender for the period of 90 days beyond the date of opening of the Tender, and it shall remain binding upon us and may be accepted at any time before the expiration of this period.
6. Unless and until a formal Contract Agreement is signed, this Tender, together with your acceptance thereof, shall constitute a binding contract between us.
7. We undertake, if our Tender is accepted, to execute the Contract Performance Bond referred to in Clause 3 of the Instructions to Tenderers and as per Annexure “E” for the due performance of the Contract.
8. We understand that you are not bound to accept the lowest or any Tender you may receive.
9. We do hereby declare that this Tender is made without any collusion, comparison of figures or arrangement with any other person or persons making a Tender for the above-named Contract.
10. We confirm, if our Tender is accepted, that all partners of the joint venture shall be liable jointly and severely for the execution of the Contract and the composition or the constitution of the joint venture shall not be altered without the prior consent of the Project Director, USPCAS-W Mehran University of Engineering and Technology, Jamshoro. (Please delete this clause in case of Tender from a single firm).

Dated this \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ day of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2015

Signature \_\_\_\_\_\_\_\_\_\_\_ in the capacity of \_\_\_\_\_\_\_\_\_\_\_\_\_ duly authorized

to sign Tender for and on behalf of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Name of Tenderer in Block Capitals)

Address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Witness:**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Occupation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**ANNEXURE-B**

**TENDER PARTICULARS**

**THE TENDERERS MUST SUPPLY THE FOLLOWING SPECIFIC INFORMATION FOR EACH ITEM OR GROUP OF ITEMS OF THE EQUIPMENT:**

1. **Conformation of Equipment:**

Whether the Equipment offered conform to the particulars specified in the Schedules; if not, details of deviations must be stated in Annexure “F”.

**2. Manufacturing Details:**

(i) Brand of Equipment.

(ii) Name and address of Manufacturer; and

1. Country of origin of Equipment.

**3. Delivery Schedule: `**

(i)Earliest date by which delivery can be effected;

(ii) Complete schedule of delivery; and

(iii) If the delivery period is different for different items, it must be indicated item

wise.

4. **Packing Specification:**

Whether the specifications for packing given in the Tender Documents will be adhered to.

**ANNEXURE “C1”**

**FORM OF SCHEDULE TO TENDER FOR EQUIPMENT MANUFACTURED/AVAILABLE IN PAKISTAN WITHOUT INVOLVING IMPORT**

Due by\_\_\_\_\_\_\_ hours on \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_

(time) (date) (month) (year)

SCHEDULE TO TENDER NO. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DATED\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The Tender will be opened at \_\_\_\_\_\_\_\_ hours on \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_

(time) (date) (month) (year)

Delivery on or before \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_

(date) (month) (year)

**Rates and amount to be quoted in Pakistani Rupees**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S. No.** | **Code/**  **Item No.** | **Description**  **Of Equipment** | **Detailed**  **Specifications**  **of Equipment with Model No.** | **Quantity**  **Of Equipment** | **Unit** | **Rate**  **Per Unit** | **Total**  **Price.** |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** |
|  |  |  |  |  |  |  |  |
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|  |  |  |  |  |  |  |  |

**It is certifies that:**

* 1. The Equipment offered above conform in all respects with the particulars/specifications given in the Tender Documents’ and
  2. All the terms and conditions of the Tender Documents are acceptable to us.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature of the authorized person

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **SEAL**

(name of the authorized person)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of the Tenderer)

**ANNEXURE “C2”**

**FORM OF SCHEDULE TO TENDER FOR EQUIPMENT IMPORTED FROM APPROVED COUNTRIES.**

Due by\_\_\_\_\_\_\_ hours on \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_

(time) (date) (month) (year)

SCHEDULE TO TENDER NO. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ DATED\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The Tender will be opened at \_\_\_\_\_\_\_\_ hours on \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_

(time) (date) (month) (year)

Delivery on or before \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_

(date) (month) (year)

PART 1. The rates quoted in the Table below must be on C&F basis.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S.**  **No.** | **Code/**  **Item No.** | **Description**  **Of Equipment** | **Detailed**  **Specifications**  **Of Equipment with Model No.** | **Quantity**  **Of Equipment.** | **Unit** | **Rate**  **Per Unit** | **Currency** | **Total C&F Price** | **Country of Origin** |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** |
|  |  |  |  |  |  |  |  |  |  |
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PART 2. **The rates quoted in the Table below must be in Pakistani Rupees**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S.No.** | **Code/**  **Item No.** | **Description**  **of Equipment** | **Quantity**  **Of Equipment** | **Unit** | **Rate**  **Per Unit** | **Total**  **Price.** |
| **1** | **2** | **3** | **5** | **6** | **7** | **8** |
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(Continued on the next page)**ANNEXURE “C2”**

**NOTE:**

In the Table below, the columns 1 to 5 and 8 are to be filled in by the Tenderer before submitting the Tender, while the columns 6,7 and 9 are to be filled in jointly by the Project Director- USPCAS-W, Mehran University of Engineering and Technology, or his representative, and the Tenderer, or his representative, after opening of the Tender.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S.**  **No.** | **Code/**  **Item No.** | **Description**  **of Equipment** | **Total C&F Price for Part 1** | **Currency** | **Exchange Rate** | **Total Price for Part 1 (Rs.)** | **Total Price for Part II (Rs.)** | **Total Cost**  **(Rs.)** |
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** |
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**It is certified that:**

i) The Equipment offered above conform in all respects with the particulars/specifications given in the Tender Documents; and

ii) All the terms and conditions of the Tender Documents are acceptable

to us.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of the Tenderer)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **SEAL**

(signature of the authorized person)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name of the authorized person)

**ANNEXURE “D”**

**BID BOND**

(Bank Guarantee)

Guarantee No \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Executed on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Expiry date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Letter by the Guarantor (Bank) to the Employer (USPCAS-W / University)**

Name of Guarantor (Bank) with address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name of Principal (Tenderer) with address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Penal sum of Security (Bond),(in figures and words): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Tender Reference No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date of Tender \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the terms of the Tender and at the request of the said Principal (Tenderer), we the Guarantor above-named are held and firmly bound unto the Project Director, USPCAS-W, Mehran University of Engineering and Technology, Jamshoro, acting through the Procurement Manager, USPCAS-W, Mehran University of Engineering and Technology, {hereinafter called The “Employer” (“University”)}in the sum stated above, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severely, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal (Tenderer) has submitted the accompanying Tender numbered and dated as above for supply, installation, putting into operation and demonstration of Laboratory Equipment at USPCAS-W the premises Mehran University of Engineering & Technology, Jamshoro, to the said Employer (University); and

WHEREAS, the Employer (University) has required as a condition for considering the said Tender that the Principal (Tenderer) furnish a Bid Bond in the above said sum to the Employer (University), conditioned as under:

1. that the Bid Bond shall remain valid for a period of 28 days beyond the period of validity of the Tender;
2. that in the event of;
   * + 1. the Principal (Tenderer) withdraws his Tender during the period of validity of the Tender;
       2. the Principal (Tenderer) does not accept the correction of his Tender Price, pursuant to Clause 16 of “Instructions to Tenderers”; or
       3. failure of the successful Tenderer to:
3. furnish the required Contract Performance Bond, in accordance with Clause 3 of “Instructions to Tenderers”; or
4. sign the proposed Contract Agreement, in accordance with Clause 4 of the “Conditions of Contract”;

then the entire sum be paid immediately to the said Employer (University) as liquidated damages and not as penalty for the successful Tenderer’s failure to perform.

NOW THEREFORE, if the successful tenderer shall, within the period specified therefore, on the prescribed form presented to him for signature enter into a formal Contract with the said Employer (University) in accordance with his Tender as accepted and furnish within twenty eight (28) days of his being required to do so, a Contract Performance Bond with good and sufficient surety, as may be required, upon the form prescribed by the said Employer (University) for the faithful performance and proper fulfillment of the said Contract or in the event of rejection of the said Tender by the Employer (University) within the time specified then this obligation shall be void and of no effect, but otherwise to remain in full force and effect.

PROVIDED THAT, the Guarantor shall forthwith pay to the Employer (University) the said sum stated above upon first written demand of the Employer (University) without cavil or argument and without requiring the Employer (University) to prove or to show grounds or reasons for such demand notice of which shall be sent by the Employer (University) by registered post duly addressed to the Guarantor at its address given above.

PROVIDED ALSO THAT, the Employer (University) shall be the sole and final judge for deciding whether the Principal (Tenderer) has duly performed his / her obligations to sign the Contract Agreement and to furnish the required Contract Performance Bond within the time stated above, or has defaulted in fulfilling the said requirements and the Guarantor shall pay without objection the sum stated above upon first written demand from the Employer (University) forthwith and without reference to the Principal (Tenderer) or any other person.

IN WITNESS WHEREOF, the above bounden Guarantor has executed the instrument under its seal on the date indicated above, the name and seal of the Guarantor being hereto affixed and these presents duly signed by its undersigned representative pursuant to the authority of its governing body.

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Guarantor (Bank)

**Witness:**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Signature) (Signature)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Name, Title, Address and Seal) (Name)

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Signature) (Title)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Name, Title, Address and Seal) (Corporate Guarantor Seal) ANNEXURE “E”

**CONTRACT PERFORMANCE BOND**

(Bank Guarantee)

Guarantee No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Executed on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Expiry Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Letter by the Guarantor (Bank) to the Employer (University)**

Name of Guarantor (Bank) with Address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name of Principal (Supplier / Contractor) with address: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Penal Sum of Security (Bond), (in words and figures) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Letter of Acceptance No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Dated \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the Tender Documents and above said Letter of Acceptance (hereinafter called the Documents) and at the request of the said Principal (Supplier / Contractor) we, the Guarantor above named, are held and firmly bound unto the Project Director, USPCAS-W, Mehran University of Engineering and Technology, Jamshoro, Sindh, acting through the Procurement Manager, USPCAS-W, Mehran University of Engineering and Technology {hereinafter called the Employer (University)} in the penal sum of amount stated above for the payment of which sum well and truly to be made to the said Employer (University), we bind ourselves, our heirs, executors, administrators and successors, jointly and severely, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal (Supplier / Contractor) has accepted the Employer’s (University’s) above said Letter of Acceptance for the supply, installation, putting into operation and demonstration of Active & Passive Network Equipment at the premises of Mehran University of Engineering and Technology, Jamshoro, Sindh.

NOW THEREFORE, if the Principal (Supplier / Contractor) shall well and truly perform and fulfill all the undertakings, covenants, terms and conditions of the said Documents during the original terms of the said Documents and any extensions thereof that may be granted by the Employer (University), with or without notice to the Guarantor, which notice is hereby waived and shall also well and truly perform and fulfill all the undertakings, covenants, terms and conditions of the Contract and of any and all modifications of the said Documents that may hereafter be made, notice of which modifications to the Guarantor being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue till the expiry of the guaranty period as per Clause 23 of the Conditions of Contract.

Our total liability under this Guarantee is limited to the sum stated above and it is a condition of any liability attaching to us under this Guarantee that the claim for payment in writing shall be received by us within the validity period of this Guarantee, failing which we shall be discharged of our liability, if any, under this Guarantee.

We, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (the Guarantor), waiving all objections and defenses under the Contract, do hereby irrevocably and independently guarantee to pay to the Employer (University) without delay upon the Employer’s (University’s) first written demand without cavil or arguments and without requiring the Employer (University) to prove or to show grounds or reasons for such demand any sum or sums up to the amount stated above, against the Employer’s (University’s) written declaration that the Principal (Supplier / Contractor) has refused or failed to perform the obligations under the Contract which payment will be effected by the Guarantor to the Employer’s (University’s) designated Bank and Account Number.

PROVIDED ALSO THAT the Employer (University) shall be the sole and final judge for deciding whether the Principal (Supplier / Contractor) has duly performed his obligations under the Contract or has defaulted in fulfilling the said obligations, and the Guarantor shall pay without objection any sum or sums up to the amount stated above upon first written demand from the Employer (University) forthwith and without any reference to the Principal (Supplier / Contractor) or any other person.

IN WITNESS WHEREOF, the above bounden Guarantor has executed this Instrument under its seal on the date indicated above, the name and corporate seal of the Guarantor being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Guarantor (Bank)

**Witness:**

1.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Signature) (Signature)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name, Title and Address (Seal) (Name)

2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Signature) (Title)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name, Title and Address (Seal) Corporate Guarantor (Seal)

**ANNEXURE “F”**

**Statement Describing Deviation from Specifications.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.No.** | **Code No.** | **Description of Equipment** | **Statement of Variation from Specifications** | **Reasons for Variations.** |
| 1 | 2 | 3 | 4 | 5 |
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\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(signature of the authorized person)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **SEAL**

(name of the authorized person)

**On behalf of**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

(name and address of the Tenderer)

* **Procurement of Equipment, Chemical & Glassware of Soil and Water Analysis Laboratory at USPCAS-W, MUET, JAMSHORO**

**ITEM CODE**

**S&WAL/EQ**

**S&WAL/CH**

**S&WAL/GW**

**Lab Equipment:**

| **ITEM**  **CODE #** | **Item** | **Specifications** | **Qty** | **Rate** | **Amount** |
| --- | --- | --- | --- | --- | --- |
| **S&WAL/EQ/01** | **Atomic Absorption Spectrophotometer** | **Atomic Absorption Spectrophotometer** with Flame, Hydrite and graphite furnace technology in one single device. • Dual Atomizer. Can analyze liquid as well solid samples in a single instrument. •Fast and unproblematic change from flame mode to graphite technology, completely without readjustment or complicated change of autosampler – one click in the software does it all.  • Easy and simple handling for the user. 8/Eight coded-lamp turret suited for coded lamps. •Transverse heated graphite tube furnace. •Furnace camera to monitor and control sample introduction and combustion in the graphite tube. •Deuterium and Zeeman background correction. •Automatic optimization routines for flame composition and burner height.•Atomization and pyrolysis temperature, magnetic field strength, two-field and three-field correction mode. •Superior aspherical optical system with components, like a quartz coated toric mirror, provides excellent light throughput. •Magnetic field technology, 3-field mode for extension of the linear concentration range. •Two atomizers combined in a single instrument allow switching between flame, hydride and graphite furnace techniques without any mechanical movement. **High sample throughput:** •Variable sample introduction technique capable of easily processing both liquids and direct solids making it unique. •High performance autosampler, with dilution and enrichment makes over-night processing routine and guarantees the highest dosing precision. **Solid AA® — Direct analysis of solid samples:** The transversely heated graphite furnace facilitates the introduction of liquid samples as well as direct solid sample feed. The combination of the furnace with powerful background correction forms the basis for optimal results. **With Necessary Softwares:** Software package ASpect® LS, offers both routine operation and multifarious development and optimization facilities. It allows comprehensive control, monitoring and recording of all processes run in the spectrometer and its accessories. **Advanced user-friendliness. Automated optimization. Data postprocessing the easy way. Quality control and GLP.  FDA 21 CFR Part 11•Comprehensive user management,  Impotant Acessories: solid AA® — Direct solid AAS. solid AA®. •SSA 600 —** fully automatic solid sampling system with integrated microbalance**. •SSA 600L —** fully automatic solid sampling system with integrated microbalance and liquid dosing accessory**. Auto-sampler systems** for flame, hydride and atomic fluorescence technique. “**Segmented Flow Star** **SFS 6”**. Scraper etc. | **1** |  |  |
| **S&WAL/EQ/02** | **ET. Gauge** | ET-gage 255-700 with Different permeable membranes for different plant species also with a Holding stand. Accessories **1.** **Canvas** #C2, #30 and #54 Three quantity of each with each unit. **2.** Rubber Retaining Rings 3 in Quantity with each unit. Disposable wafer assembly 10 in quantity with each. **3.** Ceramic Cups two with each. **4.** Three stands for holding ET-Gauge with Height of 3, 4 and 6 feet. | 3 |  |  |
| **S&WAL/EQ/03** | **Auto clave** | For agricultural Soil and Water Research. Vertical Narrow design Having dimensions 720mm x 1180mm x 1365mm. Mobility easy to move from one place to another Capacity 60-80 litters, compact and hard. Easy to handle. Having booth systems **Water Saving System** - use only 5 liters of water a day. **Sleep Mode** - allows user to set time to switch sterilizer to minimum energy consumption **Low Rate Cycle** - you can run your sterilizer when electrical power costs are low, like after work hours, by setting a delayed start time. **Automatic off** when cycle completes. | 1 |  |  |
| **S&WAL/EQ/04** | **Plant sample Grinding Mill** | Mill for plant sample grinding. Mesh size: 2 to 4 mm. Power 220- 230V, 50Hz. With all necessary Accessories. | 2 |  |  |
| **S&WAL/EQ/05** | **Ultra Centrifuge machine** | **Centrifuge machine** a state of the art bench top ultracentrifuge complete with the necessary hardware and software along with the necessary consumable and spares parts with the following features **1. Max. Speed (RPM)** 100,000 rpm or more **2. Speed holding accuracy**: + 50 rpm **3. Maximum R. C. F.** 1,000,000 g or more **4. Capacity:** 150 ml (in fixed-angle), 20ml (in swing-out) **5.** **Rotor Temperature control range** 0-40°C (1 degree increments). **6.** **Rotor to be provided** Two Fixed Angle rotors of tube capacity: **(a)** 2 ml (RCF more than 899,000 x g) **(b)** 25 ml (RCF more than 209,000 x g). **7.** **Rotor cooling** 0-40°C**. 8. User defined programs** RPM or RCF user selectable**. 9. Programmability Upto** 20 programs with atleast 5 steps in each. **10.** **Acceleration! Deceleration Profile:** 9/9 brake off. The ultracentrifuge must accelerate the rotor to the top speed of 100,000 rpm in less than 90 seconds and must decelerate the rotor from 100,000 rpm to Orpm in less than 80 seconds **11. Timer** 1 min to 99 hours, with HOLD function. **12.** **Rotor setting method** Self-locking system. **13. Balancing:** Imbalance-tolerant drive allowing up to +/- 5% opposing load imbalance. **14. Safety:** (1) Safety lid interlock to prevent cover opening during centrifugation. 2) Provision for preventing motion of system during operation. **I5.Speed indicator:** A digital speed indicator should be provided to demonstrate the exact speed. **16. Display:** High contrast color LCD touch panel control interface **17. Power requirements:** 220/230V AC +/-10% (SO/60Hz) Single phase **18.** **Regulatory Standards:** IEC61010-2-020, EN61326, CE Marking. **19. Standard Accessories qualified:** '1'001 box, tool set and instruction manual. **20. Spares and Consumables:** Atleast 100 nos thick walled PC tube compatible for each type of rotor.  **21. Data Acquisition:** USB port for output of GMP/GLP compatible run data. **22. User Interface** Should offer speed and g-force operation, actual run timer, Real Time Clock function, step mode operation, pulse mode, at least 50 case operating history, rotor catalog, and rotor life management, dual display of, Run' & 'Set' parameters etc. | 1 |  |  |
| **S&WAL/EQ/06** | **Soil Temperature Meters** | **Soil Temperature Meters** Operating Temp. -20 t0 +60 C. Plate thickness: 5 to 10mm. Plate diameter: 80 to 100 diameter. Measuring Range: ± 2000 to 3000 W m–2. | 4 |  |  |
| **S&WAL/EQ/07** | **Water Sampling Pump** | **Water Sampling Pump** Water sampling: Physical Dimension: Lift capacity: 50 meters. Flow Rate Range: 200-500 ml/mint to 20 ml/mint. Power Requirement: Standard detachable power source Either Battery or Fuel kit. No effect on sample Chemistry. | 1 |  |  |
| **S&WAL/EQ/08** | **Fume Hood** | A fume hood designed to limit exposure to hazardous or toxic fumes, vapors or dusts. Having 2.5" width, 3" Length, 3" feet height. Constructed from primarily stress relieved, fully seam-welded, and reinforced white polypropylene for demanding high corrosive applications. All fume hoods are independently test to ISO Standard 14644-1, ASHRAE Standard 110-1995, SEFA-1-2006, and/or NSF/ANSI Standard 49. | 2 |  |  |
| **S&WAL/EQ/09** | **Constant Head Apparatus** | Cell = Plated seamless tube 100 mm diameter x 130 mm height, Base = Porous plate with three tie rods, Top plate = Machined to accept smaller tubes,Tamping rod 8 mm dia. x 300 mm. with tank and stand. | 1 |  |  |
| **S&WAL/EQ/10** | **Soil Bulk Density Measuring Kit.** | The Soil Sample Rings are made from .062w SST tubing, having capacity of volume of each 2” x 2” SST ring is 90.59 cubic centimeters. Samplers have a 1”+ gap between the tip of the core sampler and where the sample liner internal shelf begins. The samplers should has a much shorter 5/16” gap. Core Sampler Cap has a built in waste barrel which provides a full 2” of relief. Kit includes: Core sampler cup, core sampler cap, hammer head cross handle or compact slide hammer attachment, 2-1/2” open face auger, 2-3/4” regular soil bucket auger, 2-3/4” planer auger, 2ft. extension rod, 18” rubber coated cross handle, 2” x 2” stainless steel rings (25) with their own aluminum carrying case w/ foam inserts, 2” plastic end caps (50), adjustable wrenches (2), auger cleanout tool, nylon cleaning brush, impact absorbing hammer, AMS deluxe carrying case with handles and wheels for added portability. | 1 |  |  |
| **S&WAL/EQ/11** | **Soil Sample Grinding Mill** | Mortar grinders/grinding mill for processing of soil samples, for subsequent analysis within the framework of quality assurance. Feed 10-8mm sized soil sample and reproduce 0.002 to 2mm sized material. Power 120-240. | 2 |  |  |
| **S&WAL/EQ/12** | **High Air Pressure compressor of 15 Bar** | High Air Pressure compressor for 15 Bar pressure plate apparatus. Maximum Pressure 18 Bars. Slowly Produce and release Pressure, automated controlling system. Maximum Pressure continuous 5-8 Bars. Power 220-240V. | 1 |  |  |
| **S&WAL/EQ/13** | **Incubator** | **Temperature Range:** -20°C to +100°C. **Heat-up time:** -40°C ~+100°C ,within 45 min. **Pull down time:** +20°C ~-40°C , within 60 min. **Size Height** 800mm, **Width:** 600mm, **Depth:** 460mm. **Safety Device builtin:** NFB, over pressure, over heat and over current protection for compressor, Over temp. Protect, over load protect of blower, dry heat protection. Power: 220-230 VAC | 1 |  |  |
| **S&WAL/EQ/14** | **Muffle Furnace** | Temperature Range: 1500-1600 Centigrade, Min Temperature °C: 100. Max. Temperature °C: 1600 Capacity: 40-50 litters. Reach at maximum within 25 mints. Auto tune feature helps eliminate Temperature overshoot. Energy efficient insulation keeps exterior safe to touch. Power: 220-230 VAC | 1 |  |  |
| **S&WAL/EQ/15** | **Analytical Balance** | Measure a Mass at high degree of precision, Weighing Capacity 500g to 0.0001g. Protected by draft shield OR enclosure. | One |  |  |
| **S&WAL/EQ/16** | **Electronic Digital Micrometer** | Electronic Digital Micrometer for measuring Diameter with High accuracy. Count in both millimeters and inches. Least Count: 0.001mm/0.0005 inches. With field kit. | Three |  |  |
| **S&WAL/EQ/17** | **Screw Gauge** | For measuring diameter with high accuracy. Count in both millimeter and inches. Least count: 0.01mm. Made of Stainless steel. In kit or Box. | Three |  |  |
| **S&WAL/EQ/18** | **Microwave Oven** | Capacity: 23 Litters, microwave power 950W, made of Stainless steel, Body with water color, with inverter, Display LCD, Control panel popup buttons. Inclusive turn table. Reheat Auto. | 01 One |  |  |
| **S&WAL/EQ/19** | **DO-Probes** | Pro-ODO- YSI Probe, with DO- Cable, DO-sensor, Sensor Cap. For the Item 626279. Rev C). Bag for DO-meter for field. | 02  Two |  |  |
| **S&WAL/EQ/20** | **Sieve** | For sieving soil samples, Having Mesh No. 10 and 18 accord to ASTM and 2 & 1 mm size accord to I.S. Made of Stainless Steel material. | 03  Of ea |  |  |

**Chemicals:**

| **ITEM**  **CODE #** | **Item** | **Specifications** | **Qty** | **Rate** | **Amount** |
| --- | --- | --- | --- | --- | --- |
| **S&WAL/CH/01** | **Nitric Acid (HNO3)** | Nitric fuming 70% + 30% Water  For the Ionic Analysis  of Soil, Water and Plant | 5 ltrs |  |  |
| **S&WAL/CH/02** | **Silver Nitrate (AgNO3)** | 99% Pure, Shelf life 5 Years. Dry Powder or crystal form.  For the Ionic Analysis  of Soil, Water and Plant | 1kg |  |  |
| **S&WAL/CH/03** | **Ammonium Bi Carbonate (NH4HCO3)** | Purity 98.5%, pH value 7-8.5, Shelf life 5Years.  For the Ionic Analysis  of Soil, Water and Plant | 8 pkt |  |  |
| **S&WAL/CH/04** | **Ferrous Sulphate (FeSO4)** | Dry Powder, Shelf life 5Years.  For the Ionic Analysis  of Soil, Water and Plant | 8 pkt |  |  |
| **S&WAL/CH/05** | **Ethanol (CH3CH2OH)** | 99% Pure.  For the Ionic Analysis  of Soil, Water and Plant | 5 ltrs |  |  |
| **S&WAL/CH/06** | **Ferrous Ammonium Sulphate ((NH4)2Fe(SO4)2·6H2O)** | Soluble in water, Dry Powder, Shelf life 5Years.  For the Ionic Analysis  of Soil, Water and Plant | 5 pkt |  |  |
| **S&WAL/CH/07** | **Ammonium Molybdate ((NH4)2MoO4)** | 98% extra pure, Dry powder, Shelf life 5 Years.  For the Ionic Analysis  of Soil, Water and Plant | 2.0 kg |  |  |
| **S&WAL/CH/08** | **Potassium Chloride (KCl)** | 99% Pure, Powder form, Shelf life 5 Years.  For the Ionic Analysis  of Soil, Water and Plant | 3 kg |  |  |
| **S&WAL/CH/09** | **Sodium Chloride (NaCl)** | 99.5% Pure, Powder form. 100% Soluble in water. Shelf life 5 Years.  For the Ionic Analysis  of Soil, Water and Plant | 4 pkt |  |  |
| **S&WAL/CH /10** | **HCL**  **(pure Concentrated)** | Concentrated grade 37.5 or 38%.  For the Ionic Analysis  of Soil, Water and Plant | 5 ltrs |  |  |
| **S&WAL/CH/11** | **HCL**  **(Commercial 20% concentrated)** | Commercial grade 20%.  For the Ionic Analysis  of Soil, Water and Plant | 35 ltrs |  |  |
| **S&WAL/CH/12** | **Ammonium Acetate (C2H7NO2)** | Dry powder 99% pure, shelf life 5 Years.  For the Ionic Analysis  of Soil, Water and Plant | 5 kg |  |  |
| **S&WAL/CH/13** | **Boric Acid (H3BO3)** | Extra Pure, Concentrated Grade, 5 Years shelf life.  For the Ionic Analysis  of Soil, Water and Plant | 5 ltrs |  |  |
| **S&WAL/CH/14** | **Potassium Chromate (K2CrO4)** | High purity for analytical use, Shelf life 3 Years.  For the Ionic Analysis  of Soil, Water and Plant | 2 kg |  |  |
| **S&WAL/CH/15** | **Methyl Orange (C14H14N3NaO3S)** | Extra pure grade for analytical use. Shelf life 5 Years.  For the Ionic Analysis  of Soil, Water and Plant | 500 g |  |  |
| **S&WAL/CH/16** | **Potassium Di Chromate (K2Cr2O7)** | Dry powder, Extra pure grade for analytical use, Shelf life 5 Years.  For the Ionic Analysis  of Soil, Water and Plant | 5 kg |  |  |
| **S&WAL/CH/17** | **Magnesium Chloride (MgCl2)** | Purity 98% extra pure, dry Shelf life 5 Years.  For the Ionic Analysis  of Soil, Water and Plant | 2 kg |  |  |
| **S&WAL/CH/18** | **Acetic Acid (CH3COOH)** | Purity 80%, Shelf life 5 Years.  For the Ionic Analysis  of Soil, Water and Plant | 5 ltrs |  |  |
| **S&WAL/CH/19** | **Per chloride Acid (Pure strong acid) (HClO)** | Purity 70%, extra pure, Shelf life 5 Years.  For the Ionic Analysis  of Soil, Water and Plant | 5 ltrs |  |  |
| **S&WAL/CH/20** | **Sulphuric Acid (Pure Strong acid) (H2SO4)** | Purity 98%, Shelf life 5 Years.  For the Ionic Analysis  of Soil, Water and Plant | 10 ltrs |  |  |
| **S&WAL/CH/21** | **Sulphuric Acid (H2SO4) (commercial grade)** | Purity 25%, shelf life 5 years.  For the Ionic Analysis  of Soil, Water and Plant | 35 ltrs |  |  |
| **S&WAL/CH/22** | **HEDTA (Salt) (‎C10H18N2O7)** | Dry salt, powdered form, 5 years shelf life.  For the Ionic Analysis  of Soil, Water and Plant | 2.5 kg |  |  |
| **S&WAL/CH/23** | **EDTA –Na (Salt) (C10H16N2O8)** | Dry salt, powdered form, 5 years shelf life.  For the Ionic Analysis  of Soil, Water and Plant | 2.5 kg |  |  |
| **S&WAL/CH/24** | **DTPA (Salt) (C14H23N3O10)** | Dry salt, powdered form, 5 years shelf life. For the Ionic Analysis of Soil, Water and Plant. | 2.5 kg |  |  |
| **S&WAL/CH/25** | **Magnesium Sulphate (MgSO4)** | 95.5% Pure, shelf life 5 years.  For the Analysis  of Soil, Water and Plant | 5 kg |  |  |
| **S&WAL/CH/26** | **Pure Metal (Fe)** | 99.5% pure, Metal powder.  For the Analysis  of Soil, Water and Plant | 2 kg |  |  |
| **S&WAL/CH/27** | **Pure Metal (Zn)** | 99.5% pure, Metal powder.  For the Analysis  of Soil, Water and Plant | 2 kg |  |  |
| **S&WAL/CH/28** | **Pure Metal (B)** | For the Analysis  of Soil, Water and Plant | 2 kg |  |  |
| **S&WAL/CH/29** | **Pure Metal (Mn)** | 99.5% pure, Metal powder.  For the Analysis  of Soil, Water and Plant | 2 kg |  |  |
| **S&WAL/CH/30** | **Pure Metal (Mg)** | 99.5% pure, Metal powder.  For the Analysis  of Soil, Water and Plant | 2 kg |  |  |
| **S&WAL/CH/31** | **Acetone (C3H6O)** | High purity for analytical use.  For the Analysis  of Soil, Water and Plant | 5 ltrs |  |  |
| **S&WAL/CH/32** | **Phenolphthalein (C20H14O4)** | High purity for analytical use.  For the Analysis  of Soil, Water and Plant | 500g. |  |  |
| **S&WAL/CH/33** | **Aqua check Water quality test Strips (5 in 1) i. free chlorine, ii. Total chlorine. Iii. Hardness iv. Total alkalinity and pH.** | HACH company of (USA)  For the Analysis of Water | 500 Strips |  |  |
| **S&WAL/CH/34** | **Aqua check Strips for free chlorine** | For the Analysis of Water | 500 Strips |  |  |
| **S&WAL/CH/35** | **Aqua check Strips for Nitrate Nitrogen** | HACH company of (USA)  For the Analysis of Water | 500 Strips |  |  |
| **S&WAL/CH/36** | **Aqua check Strips for Total Phosphorus.** | HACH company of (USA)  For the Analysis of Water | 500 Strips |  |  |
| **S&WAL/CH/37** | **Aqua check Strips for Available Phosphorus** | HACH company of (USA)  For the Analysis  of Water | 500 Strips |  |  |
| **S&WAL/CH/38** | **Aqua check Strips for Arsenic** | HACH company of (USA)  For the Analysis of Water | 1000 Strips |  |  |
| **S&WAL/CH/39** | **Aqua check Strips for fluoride** | HACH company of (USA)  For the Analysis of Water | 1000 Strips |  |  |
| **S&WAL/CH/40** | **Aqua check Strips for Hardness** | HACH company of (USA)  For the Analysis  Of Water | 1000 Strips |  |  |
| **S&WAL/CH/41** | **Aqua check Strips for pH** | HACH company of (USA)  For the Analysis  Of Water | 1000 |  |  |
| **S&WAL/CH/42** | **Sodium Bi-Carbonate Salt** | Pure Salt for Analytical Purpose. | 1 kg |  |  |
| **S&WAL/CH/43** | **Calcium Carbide**  **CaC2** | Granular form 1-2mm, high purity, used for lab purpose. | 20 kg |  |  |
| **S&WAL/CH/43** | **NaCO3 Sodium Carbonate** | 99% Pure Salt | 2 kg |  |  |
| **S&WAL/CH/44** | * **Igepal CA-630 (C2H4O)nC14H22O)** | Non-ionic, for molecular biology/chemistry. In liquid form. Foreign Activity:  DNase and RNase, none detected, | 5 litters |  |  |
| **S&WAL/CH/45** | * **Copper sulfate (CuSO4)** | Pure salt | 2 Kg |  |  |

**Glassware:**

| **ITEM**  **CODE #** | **Item** | **Specifications** | **Qty** | **Rate** | **Amount** |
| --- | --- | --- | --- | --- | --- |
| **S&WAL/GW/01** | **Beakers** | Made of borosilicate, Pyrex. Having sizes of 10, 20, 50, 100, 250, 500 and 1000 ml. | 5 dozen of each, Except 10 & 20ml needed in 2 dozen quantity. |  |  |
| **S&WAL/GW/02** | **Conical flask (Long Neck)** | Made of borosilicate, Pyrex. Having sizes of 10, 20, 50, 100, 250, 500 and Note: 1000 ml conical flasks need only Two dozen. Flat bottom. | 3 dozen of each. While Five dozen of 500ml. |  |  |
| **S&WAL/GW/03** | **Petri dishes** | Small, medium and large. i.e: 100x15mm & 200x30mm with cover. | 5 dozen of each. |  |  |
| **S&WAL/GW/04** | **Pipettes** | Having sizes of 0.1 ml, 0.5, 1, 2, 5 and 10 ml. | 1 dozen of each. |  |  |
| **S&WAL/GW/05** | **Pipette suckers** | For the following size pipettes i.e. 0.1, 0.5, 1, 2, 5 and 10 ml. | 1 dozen of each. |  |  |
| **S&WAL/GW/06** | **Graduated measuring cylinders** | Made of borosilicate, Pyrex. Having sizes of 10, 25, 50, 100, 500 and 1000 ml. | 5 dozen of each, |  |  |
| **S&WAL/GW/07** | **Test tubes with caps and Caps.** | Made of borosilicate, Pyrex. Having sizes of 5,10, 20 and 50 ml. for handling chemicals and samples | 20 Dozen of each |  |  |
| **S&WAL/GW/08** | **Plastic washing bottles** | 250 and 500ml. | 2 dozen of each |  |  |
| **S&WAL/GW/09** | **Reagent bottles** | Of 100, 250, 500ml with lids. White in color, made of borosilicate (Pyrex) | 5 dozen of each. |  |  |
| **S&WAL/GW/10** | **Spatula** | Made of stainless steel and galvanized of small, medium and large size. 9, 10 and 15 inches in Length. | 1 dozen of each. Half of each quantity Should be in Amber. |  |  |
| **S&WAL/GW/11** | **Filter papers** | Whatman 40 and 42 micron, pore size: 8μm, thickness 210μm, flow rate and porosity medium, format circle. | 10 dozen of each. |  |  |
| **S&WAL/GW/12** | **Aspirator bottle** | Borosilicate glass aspirator bottle with bottom hose connection, in brown color. For Stock solution, 1000 & 2500ml. | 5 dozen of each. Half of both each Should be in Amber Color |  |  |
| **S&WAL/GW/13** | **Burette support stand** | 1. Iron or steel Burette stand.  2. Wooden burette stand. | 3 of each |  |  |
| **S&WAL/GW/14** | **Titrating burettes** | Made of borosilicate, Pyrex. With glass knob (Made in Germany). Having sizes of 50, &100. | 2 dozen of each |  |  |
| **S&WAL/GW/15** | **Cylindrical (Holders) for tubes.** | Cylindrical of different sizes for the holding of **tubes** and vials of different sizes i.e: 10, 15, 20, 25, 50 and 100 and 250ml. | 3 of each Size |  |  |
| **S&WAL/GW/16** | **Lab spoon** | Lab Spoons of different sizes i.e: 0.5, 1, 2, 3, 5, 10 and 25grams made of stainless steel. | 2 dozen of each |  |  |
| **S&WAL/GW/17** | **Porcelain crucibles with lid** | Of large, medium and small size i.e: 10, 20, 30, 50, 100 & 250 ml. Can bear Temperature up to 1000 to 3000 centigrade. | 4 dozen of each |  |  |
| **S&WAL/GW/18** | **Crucible tongs** | For the holding of crucibles of different sizes i.e: Large, Medium and Small. | 6 of each |  |  |
| **S&WAL/GW/19** | **Mortar with spout pestles glazed** | Of Large, Medium and small size. i.e. 100mm, 250 & 500mm. Made of ceramics. | 3 of each |  |  |
| **S&WAL/GW/20** | [**Laboratory porcelain ignition dishes pectangular glazed**](http://davidsun.en.made-in-china.com/product/pSOmldgjSMhq/China-Laboratory-Porcelain-Lgnition-Dishes-Pectangular-Glazed.html) | Can bear temperature up to 1000 °C, made of porcelain, in different Sizes i.e: Large 150\*250\*50mm. W\*L\*H, medium 125\*200\*50mm. W\*L\*H, and Small: 120\*120\*50mm.W\*L\*H | 2 dozen of each |  |  |
| **S&WAL/GW/21** | **Masks** | Dust and fume masks (Blue and Green color) | 1 dozen boxes of each. |  |  |
| **S&WAL/GW/22** | **Hand gloves** | Disposable Blue in color and Rubber gloves | 1 dozen boxes (Disposable) and 2 dozen rubber gloves (Anti strong Acids Alkalis). |  |  |
| **S&WAL/GW/23** | **Aprons** | Medium and large size. | 2 dozen of each |  |  |
| **S&WAL/GW/24** | **Lab goggles** | Use in lab for safety measures, made of good quality Plastic material long lasting. | 6 pairs |  |  |
| **S&WAL/GW/25** | **First aid box** | For laboratory. Medicine OR Material Should be as mentioned in Safety Data Sheet. | 01 |  |  |
| **S&WAL/GW/26** | **Funnels** | Made of borosilicate, having different sizes i.e: 25, 50 & 75ml. | 2 dozen of each |  |  |
| **S&WAL/GW/27** | **Distillation assembly** | For sample extraction. Made of Glass and Plastic. | 3 in quantity |  |  |
| **S&WAL/GW/28** | **Bottle Wash brushes** | For washing Laboratory glass wares of different sizes. Small, medium and large. | 1 dozen |  |  |
| **S&WAL/GW/29** | **Hot plate with magnetic Stirrer** | For dissolution of chemicals having dimensions | 2 |  |  |
| **S&WAL/GW/30** | **Plastic jug** | 500, 1000 and 2000 ml. Graduated | 6 of each |  |  |
| **S&WAL/GW/31** | **Dust bins** | Partitioned for Broken glass, Plastic, Papers and for dust. | 06 in quantity |  |  |
| **S&WAL/GW/32** | **Aluminum file** | Rolls | 02 dozen. |  |  |
| **S&WAL/GW/33** | **Zip locks polyethylene bags** | Of small medium and large size, ¼, ½, 1 and 2kg plastic bags with zip locks. | 5 kg of each |  |  |
| **S&WAL/GW/34** | **Indicators bottle with droppers** | 50 and 100 & 500ml. | 5 dozen of each |  |  |
| **S&WAL/GW/35** | **Micro pipettes/Micro syringes** | 2ml to 20µl, 5ml to 50 µl, 10ml to 100 µl and 100ml to 1000 µl. | 3 of each |  |  |
| **S&WAL/GW/36** | **Tissue rolls** | White & Pink | 10 dozen |  |  |
| **S&WAL/GW/37** | **Plastic Vials (Sterilized)** | Of 25, 50, 100, 250, 500ml for Extract or sample storage or handling. | 10 dozen of each |  |  |
| **S&WAL/GW/38** | **Vacuum forceps** | For handling test tube and Beaker at hotplate or digester, of two sizes Medium & large. | 6 of each |  |  |
| **S&WAL/GW/39** | **Graduated Bucket** | For measuring water volume, of 5, 10, 20, 40 and of 50 litters. Made of good quality, plastic. | 3 of each. |  |  |
| **S&WAL/GW/40** | **Inoculating Needles** | Needles with 5 and 10mm wire loop, wire loop made of platinum or nichrome. | 6 of each |  |  |
| **S&WAL/GW/41** | **Colony counter** | For counting bacterial cells | 2 in quantity |  |  |
| **S&WAL/GW/42** | **Droppers** | Graduated droppers 1, 2, 5, 10 and 25ml | 6 of each |  |  |
| **S&WAL/GW/43** | **Glass vials** | Made of good quality glass of different sizes i.e: 5 ml, 10, 20, 50 and 100 ml with caps. | 5 dozen |  |  |
| **S&WAL/GW/44** | **Pipette Filler** | Made of non-reactive plastic material. (Non-reactive with Acid & Alkali) | 5 dozen |  |  |
| **S&WAL/GW/45** | **Aluminum weigh boat** | Made of Aluminum 2,4 & 6 inch dia | 10 dozen |  |  |
| **S&WAL/GW/46** | **Stirring rod** | Rod made of glass | 2 dozens |  |  |
| **S&WAL/GW/47** | **Stirrer** | Use to stir soil suspension, in 100, 500 and 1000ml Graduated Cylinders and for beakers. Note: Made of Stainless steel. | 3 of each |  |  |
| **S&WAL/GW/48** | **Buchner funnels** | Made of porcelain, having sizes 50, 70 and 100mm. | 3 dozens of each. |  |  |
| **S&WAL/GW/49** | **Watch glass** | For covering 250, 500 and 1000 ml beakers, having dia sizes of 50mm,75, 100 and 125mm dia. | 5 dozens of each |  |  |
| **S&WAL/GW/50** | **Spade** | Made of stainless steel, size 200mm width, 280mm height. | 02 |  |  |
| **S&WAL/GW/51** | **Shovel** | Made of stainless steel, size 200mm width, 280mm height. | 02 |  |  |
| **S&WAL/GW/52** | **Measuring Tape** | 100 meters | 02 |  |  |
| **S&WAL/GW/53** | **Pycno-meter** | Useful to determine specific gravity of clays, sand and gravel of size smaller than 10 mm  Comprises a 1 kg glass jar with brass cone, locking ring and rubber seal. Spare: Rubber seal | 06 |  |  |
| **S&WAL/GW/54** | **Conical flask** | Made of borosilicate, Pyrex. Having sizes of 50, 100, 250, 500 and Note: 1000 ml conical flasks need only Two dozen. Flat bottom. | 5 dozens of Each. While 50 and 1000 ml conical flasks need only 2 dozens. |  |  |
| **S&WAL/GW/55** | **Ash less Filter Paper** | Circle, Diam. 70 and 100mm. (Whatman-US) | 5 dozens Pack of 100 |  |  |
| **S&WAL/GW/56** | **Crucibles** | Made of Aluminum Ceramic, with the Capacity of 5, 10, 25, 50, 75 and 100ml. | 5 dozens of each |  |  |
| **S&WAL/GW/57** | **Thermometers** | For Measuring Water Extract Temp. In Lab. Size 18 inches. (filled with red color mercury) | 2 dozens |  |  |
| **S&WAL/GW/58** | **Soil Hydrometer** | Specific Gravity 68°/68°, ASTM Soil Hydrometer-151H. | 2 dozen |  |  |
| **S&WAL/GW/59** | **Full Face Respirator** | Protect against multiple contaminants, Reuse able, Long lasting, A twin gas and vapors filter fitted directly onto the respirator, very low breathing resistance. | 1 Dozen |  |  |
| **S&WAL/GW/60** | **Eye Shields** | Safety Eye shields, anti-scratch and anti-mist coated clear lenses. | 5 five dozens |  |  |
| **S&WAL/GW/61** | **Hand Gloves (Reusable)** | Rough gloves with superb chemical Resistance. | 10 dozens |  |  |
| **S&WAL/GW/62** | **Narrow Neck Aspirator Bottles** | Made of plastic, with cap and Handle on the top. Having 3, 5 and 10L capacity. | 6 of each |  |  |
| **S&WAL/GW/63** | **Glassware Drying Rack** | Drying Rack at least 60-70 glassware holding points. | 3 in quantity |  |  |
| **S&WAL/GW/64** | **Mechanical Pipette controller** | For holding pipette and for measuring accurate amount of solution | 6 in quantity |  |  |
| **S&WAL/GW/65** | **Bottle Top Dispensers** | A Graduated Manual bottle top dispensers for glass bottles, which can pipette 10, 25, 50 and 100ml Acid Or base solution from 1, 2, 5 litter glass bottle, B. Graduated Automated bottle top for glass bottles, which can pipette 10, 25, 50 and 100ml Acid Or base solution from 1, 2, 5 litter glass bottle | 6 of each quantity |  |  |

* **Procurement of Equipment, Chemical, Glassware & General Laboratory Supplies of Advanced Water & Waste Water Quality Control Laboratory at USPCAS-W, MUET, JAMSHORO**

**ITEM CODE**

**AW&WQCL/EQ**

**AW&WQCL/CH**

**AW&WQCL/GWS**

**AW&WQCL/GLS**

**Lab Equipment:**

| **ITEM**  **CODE #** | **Item** | **Specifications** | **Quantity** | **Rate** | **Amount** |
| --- | --- | --- | --- | --- | --- |
| **AW&WQCL/EQ/01** | **Blender** | Capacity: 1 Liter/1.2 Liter, Switch Settings: Two Speed, 60 Second Mechanical Timer Base: Epoxy Coated Motor Housing Container: Stainless steel with handle and two piece vinyl and styrene lid. Heat resistant glass with handle and two piece vinyl and styrene lid. Overall Height: 15 inches/16 inches. | 4 |  |  |
| **AW&WQCL/EQ/02** | **Block heater dry with temperature control** | Holds interchangeable modular blocks Uniform temperature control. heating range ambient + 5°C to 130°C (all three QBD models) or ambient + 5°C to 200°C (QBH2), rapid heat-up time, stability and uniformity ± 0.1°C, integral timer function optional external probe for in-sample or in-block temperature control robust, compact, contemporary design, block extraction tool included as standard, for easy and safe removal of blocks. | 2 |  |  |
| **AW&WQCL/EQ/03** | **Digital Thermometer** | With digital display. | 10 |  |  |
| **AW&WQCL/EQ/04** | **Desiccator** | Cabnet type with trays inside (medium & large size) | 1 of each |  |  |
| **AW&WQCL/EQ/05** | **Magnetic Hot plate with stirrer** | Excellent temperature uniformity with consistenet stirring at all speeds. Separate digital display.chemically resistant housing.includes external RTD temperature probe kit. Max strring capacity 2500-6000 H2O. Speed range: 60-1600 /min, speed stability ±2 % , temperature range: ambient + 5-400 , temperature stability : ± 1% . Accessories: spare temperature probe, 200 mm stain less steel.  Replacement probe kit, 200 mm, and stainless steel. | 10 |  |  |
| **AW&WQCL/EQ/06** | **Microwave** | Capacity: 42 liters, dimensions: 553 Wx 470 Dx 326 H, unit with programmable power (minimum 545 W) to within ± 10 W of required power, having a corrosion-resistant, well-ventilated cavity and having all electronics protected against corrosion for safe operation. With a minimum speed of 3 rpm to insure homogeneous distribution of microwave radiation. | 1 |  |  |
| **AW&WQCL/EQ/07** | **Quartz hemispherical heating mantle** | Digital Display Temperature constant Heating Mantle,1 L ,5 L | 5 |  |  |
| **AW&WQCL/EQ/08** | **Vacuum pump** | 34 L/min pumping speed, pressure guage reads from 0-100 psig. Vaccum guage reads from 0-25” Hg . separate pressure regulating valves. two serrated hose connections for 3/8” I. (9.5 mm) tubing , handle, 3-wire cord with nline switch and plug . pump is mounted on four rubber feet. Dimensions, 10 ½ Lx5 7/8 W, 11 1/4 “ H. | 5 |  |  |
| **AW&WQCL/EQ/09** | **Filtration Apparatus** | Complete Assembly and extra glassware for TSS analysis | 5 |  |  |
| **AW&WQCL/EQ/10** | **Ampule sealer machine** | Automatically seals 20 ampules in 5 minutes. Each ampule rotated into flame to form a perfect hemispherical seal.with flame sealing torch.  Fuel requirement: bottled propane or natural gas. Commercial grade with regulator to deliever 0-50 psi (0-0.34 MPa) . Includes one carousel rack (racks hold twenty 2,5,10,50 ml ampoules) with stainless-steel base plate and two tiered polypropylene plates with ampule openings. Dimension: 1/6 ½ Lx8Wx16” H. 100 V 50/60Hz,200 w. With trimmed stem and short stem ampules of size (1,2,5,10 & 20 ml). with disposable ampule opener (1-4 ml & 5-10 ml). | 2 |  |  |
| **AW&WQCL/EQ/11** | **Multi-purpose vortexing unit Vortexer** | ABS body with vibration-dampering feet,  Continuous mixing or by pressure,  Mix several types of tubes simultaneously without swapping mixing heads. | 1 |  |  |
| **AW&WQCL/EQ/12** | **PCR Thermal cycler with 96 wells** | Capacity: 1 x 96-well plate, 96 x 0.1 ml tubes  Comments: Fast 0.1 ml format and sample block enabled to run fast chemistry, Blocks: 25 °C (5 °C Zone-to-Zone)  Dimensions: Height: 24.5cm (9.6 in.), Width: 23.7 cm (9.3 in.), Depth: 48.5 cm (19.1 in.)  Display Interface: 6.5 in. VGA 32k color with touch screen  Format: 0.1 ml tubes, 96-well plate  High Throughput Compatibility: High Throughput-Compatible  Instrument Memory: USB and On-board  Peak Block Ramp Rate: 5.0°C⁄sec  Product Size: 1 instrument  Program Features: Auto re-start (after power outages), Program overwrite protection  Reaction Speed: Fast, Standard  Reaction Volume Range: 10-30 µl  Sample Ramp Rate: ± 4.25°C⁄sec  Temperature Accuracy: ±0.25°C (35°C to 99.9°C)  Temperature Range (Metric): 4.0-99.9 °C  Temperature Uniformity: <0.5 °C (20 sec after reachinsg 95 °C)  Tm Calculator: Menu driven through touch screen, Weight: 11.4 kg (25 lb). | 1 |  |  |
| **AW&WQCL/EQ/13** | **Automated Colony Counter with CPU** | Specifications  Camera specifications  Megapixels: 17.9  Interface: USB  System specifications  Lighting:Epi white, Trans-illumination white, Epi blue, Darkfield  Filter: Two positions  Dimensions: Physical: 13W x 12.5D x 17.5H in. (343 x 318 x 445mm)  Shipping: 22.5W x 12.25D x 19.75 in.  Weight:Actual: 20 lbs.  Shipping: 27 lbs  Software: UVP’s software requires Microsoft Windows 8, Windows 7 or Vista (32-bit or 64-bit). | 1 |  |  |
| **AW&WQCL/EQ/14** | **UV VIS Spectrophotometer with RFID Technology** | Data Logger:5000 data points (result, date, time, sample-ID, user-ID)  Dimensions (HxWxD):215 mm x 500 mm x 460 mm  Display:TFT 7 inch WVGA color touch  Enclosure Rating: IP20 with closed lid  Includes:1 x Power Cord (US, EU) 1x Universal-Adapter 1x Dust Cover Matched pair of 1 inch glass sample cells(2)  Interfaces:USB type A (2), USB type B, Ethernet, RFID module  Length:460 mm  Operating Conditions:10 - 40 °C, max. 80% relative humidity (non-condensing)  Operating Mode: Transmittance (%), absorbance and concentration (wavelength, time)  Optical System: Reference beam, spectral  Photometric Accuracy:5 mAbs @ 0.0 - 0.5 Abs <1% @ 0.5 - 2.0 Abs @ 546 nm  Photometric Linearity:0.005 - 2 Abs ≤ 0.01 at > 2 Abs with neutral glass at 546 nm  Photometric Measuring Range: ± 3 Abs  Power Requirements:100 - 240 V; 50/60 Hz  Preprogrammed Methods:> 240  Sample Cell Compatibility: Rectangular: 10, 20, 30, 50 mm, 1 inch; round: 13 mm, 16 mm, 1 inch Optional 100 mm rectangular cell with additional adapter  Scanning Speed:900 nm/min (in 1 nm steps)  Specific Technology: RFID for easy method update, sample ID and Certificate of Analysis  Spectral Bandwidth:2 nm  Storage Conditions: -25 to 60 °C / max. 80% relative humidity (non-condensing)  Stray Light:KI-solution at 220 nm < 3.3 Abs/ < 0.05%  User Programs:200  Warranty:1 year  Wavelength Accuracy: ± 1 nm  Wavelength Range:190 - 1100 nm  Wavelength Reproducibility:< 0.1 nm  Wavelength Resolution:0.1 nm  Wavelength Selection: Automatic, based on method selection  Weight:11 kg | 1 |  |  |
| **AW&WQCL/EQ/15** | **Chlorine Comparator (DPD Method)** | Chlorine Comparator, DPD Method with reagent for 100 tests. | 2 |  |  |

**Chemical:**

| **ITEM**  **CODE #** | **Item** | **Specifications** | **Quantity** | **Rate** | **Amount** |
| --- | --- | --- | --- | --- | --- |
| **AW&WQCL/CH/01** | **ATU Allylthiourea (C4H8N2S)** | Density: 1.11 g/mL at 25 °C (lit.). Assay: 98% | 250 g |  |  |
| **AW&WQCL/CH/02** | **Anhydrous Potassium Borate (BK3O3)** | Assay: 99% | 250 g |  |  |
| **AW&WQCL/CH/03** | **Ammonium ferrous sulphate (NH4)Fe(SO4)2.6H2O** | Grade: ACS reagent,  Assay: 99 % | 1 Kg |  |  |
| **AW&WQCL/CH/04** | **Ammonium hydroxide (NH4OH)** | Grade: Analytical Grade  Assay: 99% | 2.5 L |  |  |
| **AW&WQCL/CH/05** | **4-Aminoantipyrine (C11H13N3O)** | Grade: Analytical Grade  Assay: ≥98.0% | 500 g |  |  |
| **AW&WQCL/CH/06** | **Aluminum potassium sulfate (AlK(SO4)2⋅12H2O)** | Grade: ACS Reagent  Assay: ≥98% | 1 Kg |  |  |
| **AW&WQCL/CH/07** | **Aluminum ammonium sulfate (AlNH4(SO4)2⋅12H2O)** | Grade :Reagent Grade  Assay: ≥99% | 1 kg |  |  |
| **AW&WQCL/CH/08** | **Anhydrous Sodium Fluoride (NaF)** | Grade: ACS reagent  Assay: ≥99% | 1kg |  |  |
| **AW&WQCL/CH/09** | **Aluminum chloride (AlCl3.6H2O)** | Grade: reagent grade  Assay: 98% | 1kg |  |  |
| **AW&WQCL/CH/10** | **Acetone (CH3COCH3)** | Grade: analytical Assay:99% pure | 2.5 L |  |  |
| **AW&WQCL/CH/11** | **Anhydrous DPD sulfate ((C2H5)2NC6H4NH2 · H2SO4)** | Assay: ≥98.0% (T) | 1 Kg |  |  |
| **AW&WQCL/CH/12** | **Anhydrous Sodium Acetate (NaC2H3O2)** | Grade: Analytical grade  Assay: >99% | 1 Kg |  |  |
| **AW&WQCL/CH/13** | **Ammonium Acetate (NH4C2H3O2)** | Grade: Reagent grade  Assay: 99% | 1 Kg |  |  |
| **AW&WQCL/CH/14** | **Ammonium Persulfate ((NH4)2S2O8)** | Grade : Reagent Grade  Assay : 98% | 1 Kg |  |  |
| **AW&WQCL/CH/15** | **Acetic acid 100%** | pH 2.5 (50 g/l, H₂O, 20 °C) | 2.5 L |  |  |
| **AW&WQCL/CH/16** | **Ammonium Chloride** | Grade:analytical grade  Assay : 99% | 1 kg |  |  |
| **AW&WQCL/CH/17** | **Barium diphenylamine sulfonate (C12H10NO3S)2Ba** | Assay: 95%-99% | 50 g |  |  |
| **AW&WQCL/CH/18** | **Boric acid (H3BO3)** | Grade: Analytical Grade  Assay: 99% pure | 2.5 L |  |  |
| **AW&WQCL/CH/19** | **Barium chloride (BaCl2.2H2O)** | Assay: 99.9% trace metals basis  Form: powder | 1 kg |  |  |
| **AW&WQCL/CH/20** | **Brucine sulphate hydrate (C46 H54 N4 O12 S)** | Grade: Analytical Grade  Assay: 99% | 25 g |  |  |
| **AW&WQCL/CH/21** | **Bromphenol blue (C19H10Br4O5S)** | Grade: Analytical Grade  Assay: 99% | 25 g |  |  |
| **AW&WQCL/CH/22** | **Cadmium sulphate (CdO4S)** | Grade: Analytical Reagent Grade  Form: solid form  Assay: 99.9% | 100 g x2 |  |  |
| **AW&WQCL/CH/23** | **Calcium Chloride Dehydrate (CaCl2. 2H2O)** | Grade: ACS reagent  Assay: 99% | 1 Kg |  |  |
| **AW&WQCL/CH/24** | **CDTA(Cyclohexylenediaminetetraacetic acid) C14H22N2O8** | Grade: ACS reagent  Assay: 98 % | 500g |  |  |
| **AW&WQCL/CH/25** | **Cupferron (C6H5N(NO)ONH4)** | Grade: reagent grade  Assay: 97% | 100 g |  |  |
| **AW&WQCL/CH/26** | **Cyclohexane (C6H12)** | Grade: anhydrous  Assay: 99.5 % | 1 L |  |  |
| **AW&WQCL/CH/27** | **Diaminonaphthalene (DAN) C10H6(NH2)2** | Assay : 97% | 500 g |  |  |
| **AW&WQCL/CH/28** | **Di-isopropyl (C6H14O)** | Grade: puriss, p.a  Assay: ≥98.5% | 1 L |  |  |
| **AW&WQCL/CH/29** | **DPD oxalate (CH3)2NC6H4NH2]2·H2C2O4** | Assay: 98% | 25 g |  |  |
| **AW&WQCL/CH/30** | **Diphenylcarbazide (1,5-diphenylcarbohydrazide) C13H14N4O** | Grade: reagent grade  Assay: ≥99% | 100 g |  |  |
| **AW&WQCL/CH/31** | **Diammonium hydrogen phosphate ((NH4)2HPO4)** | Grade: Analytical Reagent grade  Assay: 98-99.0% | 1 Kg |  |  |
| **AW&WQCL/CH/32** | **Di-Sodium hydrogen phosphate heptahydrate** | Grade: Analytical grade  Assay 99% | 1 Kg |  |  |
| **AW&WQCL/CH/33** | **Dextrin white** | Grade: Analytical grade  Assay 99% | 1 Kg |  |  |
| **AW&WQCL/CH/34** | **DPD tablets** | Grade: Analytical reagent  Assay: 99.0% | 100 g |  |  |
| **AW&WQCL/CH/35** | **Ethyl alcohol (C2H6O)** | Assay: 98-99% | 2 L x 3 |  |  |
| **AW&WQCL/CH/36** | **Ethylene diamine tatra acetic acid (EDTA)** | Grade: Anhydrous  Assay: ≥98% | 1 Kg |  |  |
| **AW&WQCL/CH/37** | **EMB Agar** | Grade: for microbiology | 2x500 g |  |  |
| **AW&WQCL/CH/38** | **Erichrome black-T (EBT)** | Grade: Analytical grade  Assay: 99% | 25 g |  |  |
| **AW&WQCL/CH/39** | **Ferric sulphate Hexahydrate (FeSO4⋅6H2O)** | Assay: 97% | 500 g |  |  |
| **AW&WQCL/CH/40** | **Glacial acetic acid (CH3COOH)** | Grade: Analytical Reagent Grade  Assay: 99.9 % | 3X1.5ML |  |  |
| **AW&WQCL/CH/41** | **Glucose monohydrate** | Grade: analytical grade  Assay: 99.9 % | 1 Kg x 10 |  |  |
| **AW&WQCL/CH/42** | **Hydrochloric acid (HCl)** | Grade: reagent grade  Assay: 99%  Concentration: 37% | 2.5 L x 3 |  |  |
| **AW&WQCL/CH/43** | **Hydrogen peroxide (H2O2)** | Grade: [ACS reagent](http://www.sigmaaldrich.com/catalog/product/sigald/216763?lang=en&region=PK)  Assay: 99% | 1 L |  |  |
| **AW&WQCL/CH/44** | **Hydroxylamine hydrochloride (NH2OH⋅HCl)** | Grade: ACS reagent  Assay: 98.0% | 1 Kg |  |  |
| **AW&WQCL/CH/45** | **Iron (II) sulphate anhydrous (FeSO4)** | Grade: Analytical Grade  Assay: 99.0% | 1 Kg |  |  |
| **AW&WQCL/CH/46** | **Iron(III) Chloride Hexahydrate (FeCl2.6H2O)** | Grade :ACS reagent  Assay: 97% | 1 Kg |  |  |
| **AW&WQCL/CH/47** | **Isopropyl alcohol (C3H8O)** | Grade: Analytical Grade  Assay: ≥ 98% | 1 Kg |  |  |
| **AW&WQCL/CH/48** | **Isopropyl Ether (C6H14O)** | Grade: analytical standard  Assay: ≥99.7% (GC) | 1 L |  |  |
| **AW&WQCL/CH/49** | **Lead carbonate, (PbCO3)** | Grade: analytical standard  Assay: ≥99.99% | 1 Kg |  |  |
| **AW&WQCL/CH/50** | **Lead (II) nitrate** | Grade: ACS reagent  Assay: ≥99.0% | 500 g |  |  |
| **AW&WQCL/CH/51** | **L-Glutamic acid** | Grade: reagent plus  Assay: ≥99% (HPLC) | 25 g |  |  |
| **AW&WQCL/CH/52** | **Magnesium Sulfate Hepta Hydrate (H14MgO11S)** | Grade: ACS grade  Assay : ≥98% | 1 Kg |  |  |
| **AW&WQCL/CH/53** | **Magnesium sulfate (MgSO4)** | Grade: anhydrous reagent grade  Assay: ≥97% | 1 Kg |  |  |
| **AW&WQCL/CH/54** | **Methyl-tert-butyl ether (MTBE) C5H12O** | Grade: anhydrous  Assay: 99.8% | 10 g x 3 |  |  |
| **AW&WQCL/CH/55** | **Methylene chloride (CH2Cl2)** | Grade: Analytical Reagent Grade  Assay: 99% | 2.5 L |  |  |
| **AW&WQCL/CH/56** | **3-Methyl, 2-benzothiazolone hydrazone Hydrochloride (C8H9N3S · HCl · H2O)** | Grade: Analytical grade  Assay: ≥99.0% | 1 L |  |  |
| **AW&WQCL/CH/57** | **Magnesium chloride (MgCl2 · 6H2O)** | Grade: anhydrous  Assay: ≥98% | 1 Kg |  |  |
| **AW&WQCL/CH/58** | **Methylene blue (C16H18ClN3S · xH2O)** | Grade: Analytical grade  Assay: ≥99.0% | 1 Kg |  |  |
| **AW&WQCL/CH/59** | **Methanol (CH3OH)** | Grade: HPLC grade  Assay: ≥99.9% | 2.5 L \*3 |  |  |
| **AW&WQCL/CH/60** | **Methyl red indicator (C₁₅H₁₅N₃O₂)** | Grade: ACS,Reag.  Assay: 99 % | 500 g |  |  |
| **AW&WQCL/CH/61** | **Methyl red sodium salt (C15H14N3NaO2)** | Grade: ACS reagent  Assay: 99 % | 25 g |  |  |
| **AW&WQCL/CH/62** | **Mercuric sulphate (HgO4S)** | Grade: ACS reagent  Assay: ≥99% | 100 g |  |  |
| **AW&WQCL/CH/63** | **Mercury (III) Chloride (HgCl2)** | Grade: ACS reagent  Assay: ≥99.5% | 500 g |  |  |
| **AW&WQCL/CH/64** | **Murexide (C8H10N6O7)** | Grade: ACS reagent  Assay: 99 % | 500 g |  |  |
| **AW&WQCL/CH/65** | **Manganese ( Mn)** | Grade: Analytical standards  Assay: ≥99.9% | 100 g |  |  |
| **AW&WQCL/CH/66** | **Methyl orange** | Grade: ACS reagent  Assay: 99 % | 25 g |  |  |
| **AW&WQCL/CH/67** | **N,N-dimethyl-p-phenylenediamine oxalate ((CH3)2NC6H4NH2]2·H2C2O4)** | Grade: Analytical grade  Assay: 98% | 25 g |  |  |
| **AW&WQCL/CH/68** | **6-Naphthalene disulfonate (C10H8O6S2)** | Grade: Analytical grade  Assay :97% | 500 g |  |  |
| **AW&WQCL/CH/69** | **n-Hexane (C6H14)** | Grade: Analytical Grade  Assay:99% | 2.5 L |  |  |
| **AW&WQCL/CH/70** | **Nitric acid 65%** | Grade: Reagent Grade  Assay: 65 % | 1 L |  |  |
| **AW&WQCL/CH/71** | **Oxalic Acid Sodium Salt (Na2C2O4)** | Grade: Analytical Grade  Assay: 99 % | 500 g |  |  |
| **AW&WQCL/CH/72** | **Potassium Hydrogen Phosphate (K2HPO4)** | Grade: Analytical Grade  Assay :≥ 99.0 % | 1 kg |  |  |
| **AW&WQCL/CH/73** | **Phosphoric acid (H3PO4)** | Grade: Analytical Grade  Assay: 99.0% | 1 kg |  |  |
| **AW&WQCL/CH/74** | **Phenol (C6H6O)** | Grade: ACS reagent  Assay: 99.% | 500 g |  |  |
| **AW&WQCL/CH/75** | **Potassium Ferricyanide ( K3Fe(CN)6)** | Grade: Analytical Grade  Assay: 99% | 250 g |  |  |
| **AW&WQCL/CH/76** | **p-dimethylaminobenzalrhodanine (C12H12N2OS2)** | Grade: Analytical Grade  Assay: 97% | 10 g |  |  |
| **AW&WQCL/CH/77** | **Potassium nitrate (KNO3)** | Grade: Analytical Grade  Assay: ≥99.0% | 1 Kg |  |  |
| **AW&WQCL/CH/78** | **Potassium Permanganate (KMnO4)** | Grade: ACS reagent  Assay: ≥99.0% | 1 Kg |  |  |
| **AW&WQCL/CH/79** | **Potassium iodide (KI)** | Grade: ACS reagent, anhydrous  Assay: ≥99% | 1 Kg |  |  |
| **AW&WQCL/CH/80** | **Potassium Iodate (KIO3)** | Grade: reagent grade  Assay: ≥98% | 500 g |  |  |
| **AW&WQCL/CH/81** | **Potassium Cyanide (KCN)** | Grade: [ACS reagent](http://www.sigmaaldrich.com/catalog/product/sigald/31252?lang=en&region=PK)  Assay: ≥97.0% | 1 Kg |  |  |
| **AW&WQCL/CH/82** | **Potassium dihydrogen phosphate** | Grade: analytical grade  Assay: ≥99.0% | 1 kg |  |  |
| **AW&WQCL/CH/83** | **Potassium dichromate** | Grade: ACS grade  Assay: ≥99.0% | 1 kg |  |  |
| **AW&WQCL/CH/84** | **Potassium Sulphate** | Grade: Analytical Grade  Assay: ≥99.0% | 1 kg |  |  |
| **AW&WQCL/CH/85** | **Potassium hydrogen phthalate**  **C8H5KO4** | Grade: reagent grade  Assay: ≥ 99.5 % | 1 kg |  |  |
| **AW&WQCL/CH/86** | **Potassium hydroxide** | Grade: analytical grade  Assay: ≥99.0% | 500 g |  |  |
| **AW&WQCL/CH/87** | **Potassium chromate** | Grade: ACS reagent  Assay: ≥99.0% | 500 g |  |  |
| **AW&WQCL/CH/88** | **Phenolphthalein** | Grade: indicator  Assay :≥ 99.0 % | 100 g |  |  |
| **AW&WQCL/CH/89** | **1-10 phenathrolin mono hydrate** | Grade: Analytical Grade  Assay :≥ 99.0 % | 25 g |  |  |
| **AW&WQCL/CH/90** | **Sodium Monohydrate Phosphate Heptahydrate (Na2HPO4.7H2O)** | Grade: ACS reagent  Assay: ≥98% | 1 kg |  |  |
| **AW&WQCL/CH/91** | **Sodium Sulfite (Na2SO3)** | Grade: Analytical Grade  Assay: ≥98% | 1 kg |  |  |
| **AW&WQCL/CH/92** | **Mercuric Nitrate (Hg(NO3)2)** | Grade: [ACS reagent](http://www.sigmaaldrich.com/catalog/product/sigald/230421?lang=en&region=PK)  Assay: ≥98.0% | 1 kg |  |  |
| **AW&WQCL/CH/93** | **SPADNS ‎( C16H9N2Na3O11S3)** | Grade: Analytical Grade  Assay: ≥80% | 50g \*4 |  |  |
| **AW&WQCL/CH/94** | **Sodium arsenite, (NaAsO2)** | Grade: Analytical Grade  Assay: ≥90% | 1 kg |  |  |
| **AW&WQCL/CH/95** | **Sodium phosphate (NaH2PO4.H2O)** | Grade: Analytical Grade  Assay: 96% | 2.5 Kg |  |  |
| **AW&WQCL/CH/96** | **Sodium acetate (CH3COONa⋅3H2O)** | Grade: Analytical Grade  Assay: >99% | 1 kg x20 |  |  |
| **AW&WQCL/CH/97** | **Sodium tetraborate (Na2B4O7)** | Grade: Analytical Grade  Assay: >99% | 500 g |  |  |
| **AW&WQCL/CH/98** | **Sodium Nitrite (NaNO2)** | Grade: ACS reagent  Assay: ≥97.0% | 1 kg |  |  |
| **AW&WQCL/CH/99** | **Sodium carbonate (Na2CO3)** | Grade: Analytical Grade  Assay: >99% | 1 kg x5 |  |  |
| **AW&WQCL/CH/100** | **Sodium Citrate Dihydrate (Na3C6H5O7⋅2H2O)** | Grade: Analytical Grade  Assay: ≥99% | 1 Kg x2 |  |  |
| **AW&WQCL/CH/101** | **Sodium Selenite (Na2SeO3)** | Grade: Analytical Grade  Assay: >99% | 1 kg |  |  |
| **AW&WQCL/CH/102** | **Silver Sulphate (Ag2O4S)** | Grade: Analytical Grade  Assay: >99% | 50 g x2 |  |  |
| **AW&WQCL/CH/103** | **Sodium Ascorbate (C6H7NaO6)** | Grade: Analytical Grade  Assay: 99.5% | 1 Kg |  |  |
| **AW&WQCL/CH/104** | **Starch** | Grade: ACS reagent  Assay: 99% | 500 g x2 |  |  |
| **AW&WQCL/CH/105** | **Sodium hydroxide pellets** | Grade: analytical grade  Assay: ≥99% | 1 kg |  |  |
| **AW&WQCL/CH/106** | **Salicylic acid** | Grade: ACS reagent Assay: ≥99.0% | 1 kg |  |  |
| **AW&WQCL/CH/107** | **Sodium azide** | Grade: Analytical Grade  Assay: ≥99.5% | 500 g |  |  |
| **AW&WQCL/CH/108** | **Sodium chloride** | Grade: ACS reagent  Assay: ≥99% | 1 kg x3 |  |  |
| **AW&WQCL/CH/109** | **Sodium sulfate Anhydrous** | Grade: analytical grade  Assay: 99% | 1 kg x3 |  |  |
| **AW&WQCL/CH/110** | **Sodium thio sulfate 5-hydrate Na2S2O3.5H2O** | Grade: analytical grade  Assay: [97%](http://www.sigmaaldrich.com/catalog/product/aldrich/753599?lang=en&region=PK) | 1 kg x2 |  |  |
| **AW&WQCL/CH/111** | **Sulphamic acid** | Grade: ACS reagent  Assay: 99.3 | 1 kg |  |  |
| **AW&WQCL/CH/112** | **Sulphuric acid** | Grade: analytical grade  Assay: 99 % | 2 L x 2 |  |  |
| **AW&WQCL/CH/113** | **Sodium thio sulfate extra pure** | Grade: analytical grade  Assay: [97%](http://www.sigmaaldrich.com/catalog/product/aldrich/753599?lang=en&region=PK) | 1 kg x 3 |  |  |
| **AW&WQCL/CH/114** | **Sodium tetrahydridoborate** | Grade: analytical grade  Assay: ≥98.0% | 100 g |  |  |
| **AW&WQCL/CH/115** | **Thioacetamide (CH3CSNH2)** | Grade: analytical grade  Assay: 98% | 500 g |  |  |
| **AW&WQCL/CH/116** | **Toluene (C6H5CH3)** | Grade: anhydrous  Assay: 99.8% | 2.5 L x3 |  |  |
| **AW&WQCL/CH/117** | **Xylene cyanol FF (C25H27N2NaO6S2)** | Grade: analytical grade  Assay: 98% | 10 g |  |  |
| **AW&WQCL/CH/118** | **Zirconyl chloride octahydrate (ZrOCl2⋅8H2O)** | Grade: analytical grade  Assay: 98% | 500 g |  |  |
| **AW&WQCL/CH/119** | **Zinc acetate (Zn(C2H3O2)2⋅2H2O)** | Grade: analytical grade  Assay: 99.99% | 50 mg |  |  |
| **AW&WQCL/CH/120** | **Zincon (2-carboxy-2′-hydroxy-5′-sulfoformazyl benzene) C20H16N4NaO6S · xNa** | Grade: analytical grade  Assay: 99 % | 500 g |  |  |
| **AW&WQCL/CH/121** | **Tryptose** | Grade: Analytical Grade  Assay 99%, | 500g |  |  |
| **AW&WQCL/CH/122** | **Dipotassium hydrogen phosphate** | Grade: Analytical Grade  Assay 99%, | 500g x3 |  |  |
| **AW&WQCL/CH/123** | **Potassium dihydrogen phosphate** | Grade: Analytical Grade  Assay :99 % | 500g x3 |  |  |
| **AW&WQCL/CH/124** | **Peptone** | solubility H2O: 2% clear, yellow  Assay:99% | 500g |  |  |
| **AW&WQCL/CH/125** | **Lactose** | Grade: Analytical Grade  Assay:99% | 500g x2 |  |  |
| **AW&WQCL/CH/126** | **Oxgall** | Base Ingredients for Media,  dried,  Assay:99% | 500g x 2 |  |  |
| **AW&WQCL/CH/127** | **Brilliant green** | Grade: Analytical Grade  certified by the Biological Stain Commission,  Composition: Dye content, ≥90% | 500g |  |  |
| **AW&WQCL/CH/128** | **Proteose Peptone** | Grade: Analytical Grade  Assay:99% | 500g x 2 |  |  |
| **AW&WQCL/CH/129** | **Neutral red** | Grade:Bio reagent,  form: powder, composition:Dye content, ≥90% | 500g |  |  |
| **AW&WQCL/CH/130** | **Bile Salts** | Grade: Analytical Grade  Assay:99% | 500g |  |  |
| **AW&WQCL/CH/131** | **Trypticase** | Grade: Analytical Grade  Assay:≥99.0% | 500 mL |  |  |
| **AW&WQCL/CH/132** | **4-Methylumbelliferyl-B-D-glucuronide(MUG)** | Grade: Analytical Grade  Assay:≥99.0% | 500g |  |  |
| **AW&WQCL/CH/133** | **Gulatamic acid** | Grade: Analytical Grade  Assay:≥99% | 1 L |  |  |
| **AW&WQCL/CH/134** | **Bromcresol green C21H14Br4O5S** | Grade: Analytical Grade  Assay:99% | 250g |  |  |
| **AW&WQCL/CH/135** | **polyethylene glyco octylphenyl ether C18H30O3** | Grade: Analytical Grade  Assay:99% | 250ml |  |  |
| **AW&WQCL/CH/136** | **P-Dimethylaminobenzal dehyde** | Grade: ACS reagent  Assay: 99% | 500mL |  |  |
| **AW&WQCL/CH/137** | **Amyl alcohal** | Grade: Analytical grade  Shelf Life 24 month,  assay:≥99% | 1 L |  |  |
| **AW&WQCL/CH/138** | **yeast extract** | Grade: Analytical Grade  Assay: 99%  Form:powder | 1 Kg x 3 |  |  |
| **AW&WQCL/CH/139** | **Inosital** | Grade:Analytical Grade | 500g |  |  |
| **AW&WQCL/CH/140** | **Aniline Blue** | Grade: Analytical Grade  Concentration:2.5% in 2% acetic acid | 500 mL |  |  |
| **AW&WQCL/CH/141** | **Carbenicillin** | Ready Made Solution, 100 mg/mL in ethanol/water, 0.2 μm filtered | 1 L |  |  |
| **AW&WQCL/CH/142** | **Phenol red agar** | BioReagent, form: powder, visual transition interval:6.8 - 8.2, yellow to red ,solubility:1 M NaOH: 1 mg/mL | 500g |  |  |
| **AW&WQCL/CH/143** | **Adonitol** | BioReagent, suitable for cell culture,  Assay:99% | 500g |  |  |
| **AW&WQCL/CH/144** | **A1 medium** | Quality Level: PREMIUM, sterility: sterile-filtered, form: liquid ,suitability :suitable for cell culture, impurities :endotoxin, tested | 1kg |  |  |
| **AW&WQCL/CH/145** | **Beaf extract** | Powder for bacterial culture. | 500 g |  |  |
| **AW&WQCL/CH/146** | **Glycerol solution** | Grade: Analytical grade  Assay: 89% | 500 ml |  |  |
| **AW&WQCL/CH/147** | **CTAB (cetyltrimethyl ammonium bromide) C19H42BrN** | Grade: Analytical grade  Assay:99% | 500 g |  |  |
| **AW&WQCL/CH/148** | **Isoamyl alcohol** | Grade: Analytical grade  Assay:≥98% | 500 ml |  |  |
| **AW&WQCL/CH/149** | **Chloroform: Isoamyl alcohol 24:1** | suitable for nucleic acid purification,  contains: 0.6-1.0% ethanol as stabilizer | 500 ml |  |  |
| **AW&WQCL/CH/150** | **polyvinylpyrrolidone** | Average mol wt 40,000, Powder, for DNA extraction | 100 g |  |  |
| **AW&WQCL/CH/151** | **b-mercaptoethanol** | Molecular biolgy grade, Assay= ≥99.0% | 10 ml |  |  |
| **AW&WQCL/CH/152** | **RNase A** | 10 mg/mL | 2 vials |  |  |
| **AW&WQCL/CH/153** | **Proteinase K** | Form: lyophilized powder | 100 mg |  |  |
| **AW&WQCL/CH/154** | **PCR master mix** | Cloning, Gene expression, ready-to-use, 2x concentrated master mix | 1 kit |  |  |
| **AW&WQCL/CH/155** | **PCR Clean-up Kit** | Removes primers, primer-dimers, nucleotides, salts and polymerase | 1 kit |  |  |
| **AW&WQCL/CH/156** | **PCR grade water (Nuclease free water)** | Purified, double-distilled, deionized, and autoclaved. | 1 L |  |  |
| **AW&WQCL/CH/157** | **Absolute Ethanol** | Grade: Microbiological grade  Assay: ≥ 99.8% | 2.5 L |  |  |
| **AW&WQCL/CH/158** | **Tris HCl** | Molecular Biology Grade, Purity: ≥99.0%, | 500 mg |  |  |
| **AW&WQCL/CH/159** | **Glacial acetic acid** | Molecular biology grade, Assay ≥99.85%, | 500 ml |  |  |
| **AW&WQCL/CH/160** | **6X gel loading dye** | Label or Dye: Bromophenol Blue, Gel Compatibility: Acrylamide Gels, Agarose Gels | 1 vial (1 ml) |  |  |
| **AW&WQCL/CH/161** | **100 bp DNA ladder (Marker)** | Size: 50 μg / 500 μl, | 1 vial (500 ul) |  |  |
| **AW&WQCL/CH/162** | **Brilliant green bile broth** | Selective media for Enterobacter, Selective media for Escherichia coli & Coliforms, grade for microbiology limited shelf life, expiry date on the label, | 500g |  |  |
| **AW&WQCL/CH/163** | **Agar** | Base Ingredients for Media, grade for microbiology form powder, transition temp gel point 33-37 °C (1.5% solution, after autoclaving) | 500g |  |  |
| **AW&WQCL/CH/164** | **Macconkey Agar** | Identification Tests & Reagents, Media, Microbiology Quality Control solubility 50 g/l pH 6.9 - 7.3 (50 g/l, H₂O, 25 °C) (after autoclaving) | 500g |  |  |
| **AW&WQCL/CH/165** | **Crystal Violet** | Grade: for microscopy (Bact., Bot., Hist., Vit.)  indicator (pH 0.1-2.0), Stains & Dyes, | 1 Itr |  |  |
| **AW&WQCL/CH/166** | **Gram Iodine** | Staining Solutions for Gram Staining, grade for microscopy shelf life limited shelf life, expiry date on the label refractive index n20/D 1.335 | 1 Itr |  |  |
| **AW&WQCL/CH/167** | **Safranin Acetone Alcohol** | Staining Solutions for Gram Staining, grade for microscopy, shelf life limited shelf life, expiry date on the label, | 1 ltr |  |  |
| **AW&WQCL/CH/168** | **EC-MUG Medium** | Selective & Differential Media for Escherichia coli & Coliforms grade for microbiology | 500g |  |  |
| **AW&WQCL/CH/169** | **Phosphate Buffer** | Grade: for microbiology  Composition: monopotassium phosphate, 26.22 g/L, sodium carbonate, 7.78 g/L. | 1 ltr |  |  |
| **AW&WQCL/CH/170** | **GAD (Glutamate acid Decarboxylase** | Grade: for microbiology | 25 g |  |  |
| **AW&WQCL/CH/171** | **Mfc Agar** | Selective & Differential Media for Escherichia coli & Coliforms, limited shelf life, expiry date on the label | 500g |  |  |
| **AW&WQCL/CH/172** | **Rosolic Acid** | Visual Interval Pass pH 8.0 Pink to Red, composition Dye content, 85%, Appearance (Form) Powder | 100g |  |  |
| **AW&WQCL/CH/173** | **Mkleb Agar** | Grade: Microbiological  Extra pure | 500g |  |  |
| **AW&WQCL/CH/174** | **Nutrient Agar** | Bacteria (General) grade for microbiology, suitability nonselective for Escherichia coli and Coliforms, shelf life limited shelf life, expiry date on the label | 500g |  |  |
| **AW&WQCL/CH/175** | **Agrose Powder** | Appearance (Color) White to Off-White Appearance (Form) Powder for DNA/RNA Electrophoresis,, Recommended Retest Period 5 years, impurities ≤10% moisture content. | 100g |  |  |
| **AW&WQCL/CH/176** | **Monopotassium phosphate**  **KH2PO4** | Grade: ACS Reagent  Assay:99%  Form: Powder | 1 Kg |  |  |
| **AW&WQCL/CH/178** | **Sodium Dihydrogen phosphate Dodecahydrate**  **Na2 HPO4.12H2O** | Grade: Analytical Grade  Assay: 99%  Form: crystallized | 1 Kg |  |  |
| **AW&WQCL/CH/179** | **Calcium Chloride**  **CaCl2** | Grade: Analytical Grade  Assay: 99%  Form: powder | 1 Kg |  |  |
| **AW&WQCL/CH/180** | **Iron(II) Chloride Hexahydrate FeCL3.6H2O** | Grade: ACS reagent  Assay: 97% | 500 g |  |  |
| **AW&WQCL/CH/181** | **Magnesium Sulfate Heptahydrate MgSO4.7H2O** | Grade: ACS Reagent  Assay: 98% | 1 Kg |  |  |
| **AW&WQCL/CH/182** | **Ammonium sulfate (NH4)2SO4** | Grade: Analytical Reagent  Solubility: 754/L | 500 g |  |  |
| **AW&WQCL/CH/183** | **Sodium bicarbonate NaHCO3** | Grade: : Analytical Reagent  Assay: 99% | 1 Kg |  |  |
| **AW&WQCL/CH/184** | **Acetate (Sodium) C2 H3 NaO2** | Grade: Analytical Reagent  Assay: 98% | 1 Kg |  |  |
| **AW&WQCL/CH/185** | **Disodium phosphate**  **Na2 HPO4** | Grade: ACS Reagent  Assay: 99% | 1 Kg |  |  |
| **AW&WQCL/CH/186** | **Potassium nitrate KNO3** | Grade: ACS Reagent  Assay: 99% | 1 Kg |  |  |
| **AW&WQCL/CH/187** | **Ferrous sulfate FeSO4.7H2O** | Grade: Analytical Grade  Assay: 99% | 1 Kg |  |  |
| **AW&WQCL/CH/188** | **Manganese (II) Chloride Tetrahydrate**  **MnCl2.4H2O** | Grade: ACS Reagent  Assay: ≥98.0% dry basis | 500 g |  |  |
| **AW&WQCL/CH/189** | **Coper chloride dihydrate CuCl2 .2H2O** | Grade: ACS Reagent  Assay: 98% | 500 g |  |  |
| **AW&WQCL/CH/190** | **Zinc sulfate Heptahydrate ZnSO4.7 H2O** | Grade: ACS Reagent  Assay: 99% | 500 g |  |  |
| **AW&WQCL/CH/191** | **Cobalt (II) Chloride Hexahydrate COCl2.6 H2O** | Grade: ACS Reagent  Assay: 99% | 500 g |  |  |
| **AW&WQCL/CH/192** | **Nickel (II) Chloride Hexahydrate**  **NiCl2.6 H2O** | Grade: Analytical Grade  Assay: 99% | 1 Kg |  |  |
| **AW&WQCL/CH/193** | **Sodium molybdate dihydrate Na2MoO4.2H2O** | Grade: ACS Reagent  Assay: 99% | 500 g |  |  |
| **AW&WQCL/CH/194** | **Potassium Persulfate H3BO4** | Grade: ACS Reagent  Assay: 99% | 500 g |  |  |
| **AW&WQCL/CH/195** | **Yeast Extract** | Grade: Microbiological  Impurities: ≥10% total nitrogen (N), ≥4.5% amino N | 1 Kg |  |  |
| **AW&WQCL/CH/196** | **Ammonium hydrogen carbonate**  **NH4HCO3** | grade: analytical  assay: 99% | 500 g |  |  |
| **AW&WQCL/CH/197** | **Potassium chloride**  **KCl** | grade: for molecular biology  assay: ≥99.0% | 1 Kg |  |  |
| **AW&WQCL/CH/198** | **Ferrous chloride tetrahydrate**  **FeCl2.4H2O** | grade: analytical  assay : ≥99% | 500 g |  |  |
| **AW&WQCL/CH/199** | **Resazurin C12H7NO4** | grade: analytical  form: powder  composition  : Dye content, ~80%  3.8 - 6.5, orange to violet  Absorption:  600 nm | 25 g |  |  |
| **AW&WQCL/CH/200** | **Disodium selenite Na2SeO3** | grade: analytical  assay  : 99%  mp: >350 °C(lit.) | 25 g |  |  |
| **AW&WQCL/CH/201** | **Ammonium molybdate solution NH4MoO7.4H2O** | grade : analytical  assay : 99.98% trace metals basis  form : solid | 25 g |  |  |
| **AW&WQCL/CH/202** | **Zinc chloride** | grade : analytical  assay : 99.999% trace metals basis  form: crystals | 500 g |  |  |
| **AW&WQCL/CH/203** | **Boric Acid H3BO3** | grade : analytical  assay: ≥99% | 500 g |  |  |
| **AW&WQCL/CH/204** | **Hexane**  **CH3(CH2)4CH3** | grade  : anhydrous analytical grade  Assay : 98 % | 1 L |  |  |
| **AW&WQCL/CH/205** | **tert-Butyl methyl ether C5H12O** | grade : anhydrous  assay : 99.8%  impurities : <0.003% water | 500 g |  |  |
| **AW&WQCL/CH/206** | **Linoleic acid** | grade: analytical  assay : ≥99% | 25 g |  |  |
| **AW&WQCL/CH/207** | **Diethyl Ether(C2H5)2O** | grade: anhydrous  assay : ≥99% | 1 L |  |  |
| **AW&WQCL/CH/208** | **Mercury(II) sulfate**  **HgSO4** | grade  : ACS reagent  assay  : ≥98% | 500 g |  |  |
| **AW&WQCL/CH/209** | **Ammonium Iron(II) Sulfate Hexahydrate Fe(NH4)2(SO4)2.6H2O** | Grade: ACS reagent  Assay: 98.5% | 500 g |  |  |
| **AW&WQCL/CH/210** | **Disodium hydrogen phosphate heptahydrate**  **Na2HPO4, .7H2O** | Grade: ACS reagent  Assay: 98.0% | 500 g |  |  |
| **AW&WQCL/CH/211** | **Nitrapyrin 2-Chloro-6-(trichloromethyl)pyridine,** | Grade: Analytical grade  Assay: 98.0% | 500 g |  |  |
| **AW&WQCL/CH/212** | **Manganese(II) Sulfate Tetrahydrate MnSO4.4H2O,** | Grade: Analytical grade  Assay: ≥ 98.5 % | 500 g |  |  |
| **AW&WQCL/CH/213** | **Manganese(II) Sulfate Dihydrate**  **MnSO4.2H2O** | Grade: Analytical grade  Assay: ≥ 99% | 500 g |  |  |
| **AW&WQCL/CH/214** | **Potassium di-iodate KH(IO3)2** | Grade: Analytical grade  Assay: ≥99.8% | 500 g |  |  |
| **AW&WQCL/CH/215** | **Cobalt(II) chloride**  **CoCl2** | Grade: Analytical grade  Assay: 97% | 500 g |  |  |
| **AW&WQCL/CH/216** | **Granular Activated Carbon (2 mm particle size)** | 2 mm particle size | 1 Kg |  |  |
| **AW&WQCL/CH/217** | **Dichloromethane CH2Cl2** | Grade: Anhydrous grade  Assay: ≥99.8% | 1 L |  |  |
| **AW&WQCL/CH/218** | **Malathion C10H19O6PS2** | Grade: Analytical grade  Assay: 99% | 1 L |  |  |
| **AW&WQCL/CH/219** | **Anthracene** | Grade: Analytical grade  Standard for GC-MS  Assay: 99% | 1 Kg |  |  |
| **AW&WQCL/CH/220** | **VisualaNA (DNA Staining Dye)** | It replaces Ethidium Bromide (toxic, potential mutagen) for visualization of DNA or RNA in Agarose gel. VisualaNA is non-carcinogenic and causes significantly fewer mutations in the Ames-test and tests negative in both the mouse marrow chromophilous erythrocyte micronucleus test and mouse spermary spermatocyte chromosomal aberration test. | 2 vials of 1 ml |  |  |
| **AW&WQCL/CH/221** | **Sybergreen PCR master mix** | PCR master mix with dNTPS, PCR buffer, MgCl2, high fidelity polymerase, Sybergreen for qPCR experiments | 1 kit for 200 reactions |  |  |

**Glassware:**

| **ITEM**  **CODE #** | **Item** | **Specifications** | **Qty** | **Rate** | **Amount** |
| --- | --- | --- | --- | --- | --- |
| **AW&WQCL/GW/01** | **Aspirator bottle** | Borosilicate glass aspirator bottle with bottom hose connection, in brown color. | 20 |  |  |
| **AW&WQCL/GW/02** | **BOD bottles** | 300 ml | 100 |  |  |
| **AW&WQCL/GW/03** | **Beakers** | Made of borosilicate, Pyrex. Having sizes of 10,20, 50, 100, 250, 500 and 1000 ml. | 100 each |  |  |
| **AW&WQCL/GW/04** | **Boiling flask** | 1 L, with inlet tube and provision for water-cooled condenser | 5 |  |  |
| **AW&WQCL/GW/05** | **Conical flask** | Made of borosilicate, Pyrex. Having sizes of 10, 20, 50, 100, 250, 500 and 1000 ml. | 100 each |  |  |
| **AW&WQCL/GW/06** | **Crucible tongs** | For the holding of crucibles of different sizes i.e: Large, Medium and Small. | 5 each |  |  |
| **AW&WQCL/GW/07** | **Centrifuge bottles** | 60-mL screw-capped fluorocarbon | 500 |  |  |
| **AW&WQCL/GW/08** | **Droppers** | 10ml glass graduated dropper belt rubber suction ball  Disposable droppers 3 ml. | 50 of each |  |  |
| **AW&WQCL/GW/09** | **Distillation apparatus** | Flat bottom with a side delivery tube, terminating in a joint. Condenser tabulations are 10 mm, capacity 1000 ml, stopper size 27.with all accessories. | 5 |  |  |
| **AW&WQCL/GW/10** | **Distilling flask** | 125-mL,250 ml | 10 each |  |  |
| **AW&WQCL/GW/11** | **Extraction apparatus, Soxhlet** | With 125-mL extraction flask. | 5 |  |  |
| **AW&WQCL/GW/12** | **Flask Kjeldahl/ Erlenmeyer flask.** | 10, 20, 50, 100, 250, 500 and 1000ml | 25 each |  |  |
| **AW&WQCL/GW/13** | **Filter holders** | Holder for 0.45 µm .Borosilicate glass filter holder assemblies for the microanalysis of liquids for biological or particulate contamination under vacuum. 13 mm | 5 |  |  |
| **AW&WQCL/GW/14** | **Glass Petri dishes** | Made of glass, Small, medium and large. | 500 each |  |  |
| **AW&WQCL/GW/15** | **Graduated measuring cylinders** | Made of borosilicate, Pyrex. Having sizes of 10, 25, 50, 100, 500,1000 and 2000 ml. | 100 each |  |  |
| **AW&WQCL/GW/16** | **Graduated round-bottom tubes with caps** | 17 × 100 mm | 1 packet |  |  |
| **AW&WQCL/GW/17** | **Glass Funnels** | Made of borosilicate, having different sizes i.e: 25, 50, 100, 250, 500ml | 50 each |  |  |
| **AW&WQCL/GW/18** | **Indicators bottle with droppers** | 50 and 100 ml | 15 each |  |  |
| **AW&WQCL/GW/19** | **Ice pads** | For maintaining 4 oC in ice box while collecting samples in field. | 10 |  |  |
| **AW&WQCL/GW/20** | **Imhoff cone** | A clear, cone-shaped container marked with graduations.Plastic, ring mark at 1000 mL, graduated to 1000 mL | 10 |  |  |
| **AW&WQCL/GW/21** | **Micro pipettes with stand/Digital with tips** | 2 to 20µl, 5 to 50 µl, 10 to 100 µl, 100 to 1000, 100 to 5000 µl. | 5 each |  |  |
| **AW&WQCL/GW/22** | **Mortar with spout pestles glazed** | Large,Medium and small size. | 5 each |  |  |
| **AW&WQCL/GW/23** | **Petri dishes (disposable)** | Made of plastic, 100 mm diameter, working volume 12.5 mL, No. of pack=10, no. per case=240, sterile | 500 cases |  |  |
| **AW&WQCL/GW/24** | **Pipette** | Made of borosilicate, Pyrex. Having sizes of 0.1, 1, 2, 5,10, 25ml, 50 ml. | 50 each |  |  |
| **AW&WQCL/GW/25** | **Pipette suckers** | For the following size pipettes i.e: 0.1, 1, 2, 5 and 10ml. | 50 each |  |  |
| **AW&WQCL/GW/26** | **Pipette Stands** | Accommodates up to six pipetters | 10 |  |  |
| **AW&WQCL/GW/27** | **Plastic washing bottles** | 250 and 500ml | 100 each |  |  |
| **AW&WQCL/GW/28** | **Porcelain crucibles with lid** | Large, medium and small size. Can bear Temperature up to 1000 to 3000 centigrade. | 25 each |  |  |
| **AW&WQCL/GW/29** | **Reagent bottles (with pipettes)** | 100, 300 and 500 & 1000 ml with lids and pipettes | 100 each |  |  |
| **AW&WQCL/GW/30** | **Reagent Dark Bottles** | 100, 300 and 500 & 1000 ml with lids and pipettes | 100 each |  |  |
| **AW&WQCL/GW/31** | **Reflux apparatus** | Consisting of 250 ml erlenmeyer flasks with ground glass 24/40 neck and 300 mm jacket liebig, west, or equivalent condenser with 24/40 ground-glass joint, and a hot plate having sufficient power to produce at least 1.4 W/cm^2 of heating surface, or equivalent. | 5 |  |  |
| **AW&WQCL/GW/32** | **Suction flasks** | 1000 ml with tubing nozzle, vacuum filtration apparatus accessories | 10 |  |  |
| **AW&WQCL/GW/33** | **Separatory funnel** | 2-L, 125-mL, Squibb form stopcock. 1000-mL, Squibb form, with ground-glass stoppers and TFE, 500-mL, preferably with inert TFE stopcocks and stoppers. | 20 of each |  |  |
| **AW&WQCL/GW/34** | **Test tubes with stoppers** | Made of borosilicate. Having sizes of 10, 15 and 20 ml. | 500 each |  |  |
| **AW&WQCL/GW/35** | **Titrating burettes** | Made of borosilicate. Having sizes of 50, and100 ml. | 25 each |  |  |
| **AW&WQCL/GW/36** | **Test tubes/Glass tubes** | 5, 10, 15, 20 and 25 with caps/lids. | 2 dozen of each |  |  |
| **AW&WQCL/GW/37** | **Volumetric flask** | volumetric flask Class A Polyethylene stopper, capacity: 1, 2, 5, 10 , 50, 100, 250, 500, &1000 mL | Case of 24 |  |  |
| **AW&WQCL/GW/38** | **Fermentation bottles** | 500 ml ,1000 ml | 10 of each |  |  |
| **AW&WQCL/GW/39** | **Media bottles** | 50 ml ,100 ml,250 ml,1000 ml | 10 of each |  |  |
| **AW&WQCL/GW/40** | **wide tipped pipette** | Transfer Pipet, Wide Bore, Large Bulb, 125mm, 5.5mm Tip Inner Diameter, 500/Dispenser Box | 2 pkts |  |  |
| **AW&WQCL/GW/41** | **cotton-plugged bottles** | 1-2 liters, borosilicate glass  Suitable for storage of distilled water and solutions, where glass stability is important For all procedures involving either hot air or steam pressure sterilization  Not suitable for direct application of flame,Necks are 35 mm i.d., smoothly finished to take cotton plug, cork or size 8 rubber stopper | 10 of each |  |  |
| **AW&WQCL/GW/42** | **Digestion vessels; Borosilicate culture tubes** | 16-100-mm, 20-150-mm, or 25-mm, with TFE lined screw caps, | 30 of each |  |  |

**General Laboratory Supplies:**

| **ITEM**  **CODE #** | **Item** | **Specifications** | **Quantity** | **Rate** | **Amount** |
| --- | --- | --- | --- | --- | --- |
| **AW&WQCL/GLS/01** | **Aluminum foil** | Rolls (W × L :12 in. × 1,000 ft ) | 10 |  |  |
| **AW&WQCL/GLS/02** | **Adjustable Angle Clamps** | Grips rods up to 0.75 in. (19mm) dia.; Locked w/wingnut; Jaw type: Three-prong; For irregular shapes; Max. grip size: 2.25 in. (57mm); 0.62 in. (16mm) | 10 |  |  |
| **AW&WQCL/GLS/03** | **American Educational Products C-Clamps** | Firmly secure instruments or apparatus onto workbench or table.,6 inch | 3 |  |  |
| **AW&WQCL/GLS/04** | **Burette support stand** | Made of Iron Or steel. | 20 |  |  |
| **AW&WQCL/GLS/05** | **Boiling chips** | Approximately 10/40 mesh | 1 Kg |  |  |
| **AW&WQCL/GLS/06** | **Buchner funnel** | Capacity 320, 550, 700, 1,060, 1860 mL | 5 each |  |  |
| **AW&WQCL/GLS/07** | **Bottle-top dispenser** | Analog-adjustable volume, 0.2-2 mL, 1-10 mL, 25-25 mL with SafetyPrime | 5 each |  |  |
| **AW&WQCL/GLS/08** | **Bench-top biohazard bags** | Autoclavable bags have one long flap to facilitate easy opening. When picking up individual pieces of waste that need to be discarded, the bag is turned inside out, over the hand, then turned right side out with waste safely inside the bag. Feature one long flap for ease in opening , Provide a convenient, space saving, disposal unit for use in fume hoods. Bright orange-red bags ,Made of High Molecular Weight, High-Density (HMHD) Polyethylene, Printed with the biohazard symbol and a sterilization indicator patch that darkens when exposed to steam sterilization | pack of 100 ea x 2 |  |  |
| **AW&WQCL/GLS/09** | **Clamp Retort Combined** | Diecast alloy clamp retort, PVC coated jaws with boss head which accommodates rods up to 15mm in diameter. Length 30 cm. | 10 |  |  |
| **AW&WQCL/GLS/10** | **Clamp Holder** | For rods up to 19mm in diameter; Made of cast iron body w/brass thumb screws. | 10 |  |  |
| **AW&WQCL/GLS/11** | **Cast-Iron L-Shaped Base Support Stands** | Stand, Support; Cast-iron; Nickel-plated steel rod; L-shaped base; With 3-mounting holes; Includes one 24L x 0.5 in. (610 x 13mm) diameter, Jackson support,Three mounting holes tapped for 0.5 in. (13mm) diameter support rods, Heavy cast-iron base has two 6.75 in. (17cm) legs that impart stability Bases can be nested for easy storage, with 610 x 13mm nickel-plated steel rod | 10 |  |  |
| **AW&WQCL/GLS/12** | **Cast Iron Support Ring Stand** | Stand made from cast iron, Acid resistant, Plated steel support rod, Rod threaded to fit base, with Zinc plated steel rod that screws into the base support | 10 |  |  |
| **AW&WQCL/GLS/13** | **Cooler/ Ice box** | Field Work ,small, medium, large | 3 of each |  |  |
| **AW&WQCL/GLS/14** | **Centrifuge Tube** | Polypropylene, capacity 10, 25, 50 ,60 mL | 100 each |  |  |
| **AW&WQCL/GLS/15** | **Drying racks** | non-electrical, benchtop or wall mounted, single sided, made of 20 gauge, type 304 stainless steel, polished to a #4 finish, includes pegs and mounting bracket | 2 |  |  |
| **AW&WQCL/GLS/16** | **Dressing tissue forcep** | L 6 in., 8in., 12 in. | 5 each |  |  |
| **AW&WQCL/GLS/17** | **Double Burette Clamp** | High strength alloy, to hold two burettes up to 100mL, length 29cm | 10 |  |  |
| **AW&WQCL/GLS/18** | **Evaporating dishes** | Dishes of 100-mL capacity made of one of the following materials: 1)      Porcelain, 90-mm diam. 2)      Platinum—Generally satisfactory for all purposes. 3)      High-silica glass. | 3 pkts |  |  |
| **AW&WQCL/GLS/19** | **Extraction thimble** | Cellulose,dia:22-33 mm, length:65-118 mm, Wall thickness of standard thimbles 1mm . | 1 pkt |  |  |
| **AW&WQCL/GLS/20** | **Extension Clamps** | Steel, Plastisol, length = 10 in., Plastic-covered jaws hold beakers and flasks firmly at any angle at a variable distance from their support | 10 |  |  |
| **AW&WQCL/GLS/21** | **Economy Support Stand** | Stands; support; Economy; Rustproof; Wide polycarbonate chemical-resistant base; Autoclavable; Offset stainless-steel support rod secures mounting. Sturdy and stable support stand features polycarbonate plastic base with stainless-steel support rod secured to the base with two hex nuts. Length (Metric) Rod 46 cm, Diameter (Metric) Rod =0.9 cm | 20 |  |  |
| **AW&WQCL/GLS/22** | **Fixed Position Medium Two-Prong Clamp** | For holding apparatus near lab frame where no adjustment is required after set-up, Clamp, Fixed position;Medium; Two prong; Built-in holder grips rods up to 19mm (0.75 in.) in diameter; w/Non-slip vinyl sleeves; Grip: 0 to 77mm (0 to 3 in.); 133mm L (5.24 in.) | 10 |  |  |
| **AW&WQCL/GLS/23** | **First Safety Gas Cylinder Stands and Brackets** | Straps rate 1138psi, primary means of support as they enable cylinders to be held tight and secure against brackets, Edges protected with steel reinforced vinyl guarding to help maintain cylinders and provide extra grip, Steel parts sealed with powder paint to assure long service life and chemical resistance, Support straps = 3.81 × 137.16cm (1.5 × 54 in.) polypropylene with steel cinch buckle, All steel, finishing, packaging and labor made 100 percent in the USA and Canada, Hold 10.16 to 25.40 (4 to 10 in.) diameter cylinders. | 1 |  |  |
| **AW&WQCL/GLS/24** | **Filter papers** | Wattman 40 and 42 micron, pore size: 8μm, thickness 210μm, flow rate and porosity medium, format circle. 0.22µm ,0.45µm, 47 mm | 40 pkts. |  |  |
| **AW&WQCL/GLS/25** | **Fritted-glass filter** | Fine (‘‘F’’) porosity, with a maximum pore size of 5 μm.without organic binder | 5 |  |  |
| **AW&WQCL/GLS/26** | **Filter paper** | Acid-washed, ashless hard-finish, sufficiently retentive for fine precipitates. Whatman, 1703-050 | 2 pkts |  |  |
| **AW&WQCL/GLS/27** | **Filter funnels** | Buchner type with fritted disk | 5 |  |  |
| **AW&WQCL/GLS/28** | **Faceshield** | Lightweight, flexible headbands adjust to accommodate head sizes 61/2 to 8 , Effective against most flying fragments, particles, splashes, and similar hazards , Optional nitrometer chin guard protects against upsweep of particles and splash ,Use with approved spectacles or goggles , Assemblies comply with ANSI Z87.1 | 3 |  |  |
| **AW&WQCL/GLS/29** | **Glass-fiber filter disks** | whatman grade 934AH;Gelman type A/E.practical filters diameter are 2.2-12.5 cm. without organic binder | 2 packets |  |  |
| **AW&WQCL/GLS/30** | **Glass beads** | Acid-washed, 710-1,180 μm (16-25 U.S. sieve), 212-300 μm (50-70 U.S. sieve) | 1kg in poly bottles, |  |  |
| **AW&WQCL/GLS/31** | [**Glass Fiber Filter,**](https://www.hach.com/tss-glass-fiber-filter-pore-size-1-5-m-diameter-47-mm-100-pk/product?id=7640232688) | Pore Size 1.5 µm, Diameter 47 mm, | 100/pk x30 |  |  |
| **AW&WQCL/GLS/32** | **Heavy Duty Holder** | Type clamp, Accommodates all shafts 1/4in. (6.4mm) to 1in. (25.4mm) diameter, Oversized, easy to grip knobs for precise tightening, Supports rods on a 4in. (10.2cm) long surface to prevent vibrations | 10 |  |  |
| **AW&WQCL/GLS/33** | **Heavy-Duty Support Stand** | Stand, Support; Polypropylene; 21.5 x 4.5cm (8.5 x 16 in.) x 5cm (1.75 in.) thick; 12.5mm (0.5 in.) x 76cm (30 in.) long rod screws; Deep thread; With rod at center, A rod with a deep thread and sturdy tightening knob can be screwed to stand in three ways: into the center of the base, or at either end, The base has a smooth surface for easy cleaning and weighs 2.5kg (5.5 lbs.) for stability. Diameter Rod=1.2 cm, Length Rod =76.2 cm | 5 |  |  |
| **AW&WQCL/GLS/34** | **Inoculating Loop** | loop size 1 μL, metallic | 10 |  |  |
| **AW&WQCL/GLS/35** | **Kimwipes** | L × W : 4 1/2 in. × 8 1/2 in | 30 Pkts |  |  |
| **AW&WQCL/GLS/36** | **Lab spoon** | Lab Spoons of different sizes i.e: 0.5, 1, 2, 3, 4, 5, 10 and 25grams made of stainless steel. | 20 each |  |  |
| **AW&WQCL/GLS/37** | **Label tape** | White, green, red, w= 3/4 in. (1.91 cm), core size= 3 in. (7.62 cm), roll size= 2160 in. (55 m) | 5 each |  |  |
| **AW&WQCL/GLS/38** | **Lead free filter paper** | 7 cm dia, whatman no.42 or equivalent | 1 packet |  |  |
| **AW&WQCL/GLS/39** | **Magnetic bar for stirrer** | Small, medium and large | 50 each |  |  |
| **AW&WQCL/GLS/40** | **Microcentrifuge tube** | Polypropylene, capacity 1.5 mL, 2.5 mL | Pack of 500 x2 each |  |  |
| **AW&WQCL/GLS/41** | **Multi-Purpose Extension Clamps** | to securely hold every type of laboratory glassware and apparatus, Length (Metric) Arm=12.7cm, Size (Metric) Grip =7.11 size medium | 10 |  |  |
| **AW&WQCL/GLS/42** | **Polythene rolls** | Thin sheets for covering beakers and petridishes. | 10 |  |  |
| **AW&WQCL/GLS/43** | **Plastic jug** | Of 100, 500, 1000 and 2000ml. | 20 each |  |  |
| **AW&WQCL/GLS/44** | **Porcelain crucible** | Capacity 10,30 50, 100 mL, with cap | 10 each |  |  |
| **AW&WQCL/GLS/45** | **Polyester filters** | 13mm diam 0.2µm | 10 pkts |  |  |
| **AW&WQCL/GLS/46** | **Plastic reagent bottles** | 500 and 1000ml | 10 ea |  |  |
| **AW&WQCL/GLS/47** | **Polypropylene tubes** | Graduated, round-bottom tubes with caps, 17 × 100 mm | 100 |  |  |
| **AW&WQCL/GLS/48** | **Pipette tips** | Colorless tips, volume range volume range 100-5000 μL | 5 Pkts |  |  |
| **AW&WQCL/GLS/49** | **Polypropylene Burette Clamps with standard rod** | Polypropylene, Includes Adapter to fit to narrower 0.37 in. rod, 0.49 and 0.37 in. bushing | 10 |  |  |
| **AW&WQCL/GLS/50** | **Printer** | General type | 2 |  |  |
| **AW&WQCL/GLS/51** | **pH-strips** | pH indicating strips, 0 to 14 range, with color development. plastic container with a snug fitting top, | 2 pkts |  |  |
| **AW&WQCL/GLS/52** | **3-Prong Dual Adjust Nickel-Plated Zinc Clamp** | 3-Prong, Clamp;nonChemical; Talboys; 3-Prong Dual Adjust; Nickel-Plated Zinc Clamp,Large grip adjustment range, 3-prong construction, Single or dual adjust,Nickel-plated zinc | 10 |  |  |
| **AW&WQCL/GLS/53** | **Quantitative filter paper,** | ashless, Grade 40 circles, diam. 42.5 mm, diam. 55 mm, 90 mm,110 mm, 125 mm, 150 mm,185 mm, 240 mm | pack of 100 x5 |  |  |
| **AW&WQCL/GLS/54** | **Rubber stopper** | Rubber, white, different size to be fit with medium and large volumetric, storage flasks | 10 |  |  |
| **AW&WQCL/GLS/55** | **Round Jaw Burette Clamp** | For holding any burette during titration experiments. Round jaw; w/PVC dipped steel jaws which open from 15 to 45mm; Clamp attaches to rods up to 13mm in diameter; Threaded rod/wing nut for adjustment | 10 |  |  |
| **AW&WQCL/GLS/56** | **Round Buret Clamps** | Round jaws open from 0.5 to 1.75 in. (15 to 45mm), Attaches to rods up to 0.5 in. O.D. (13mm), Coated jaws can be rotated and locked at any angle | 10 |  |  |
| **AW&WQCL/GLS/57** | **Sampling bottles** | 120ml., (1-L/glass TFE-lined screw cap) | 100 |  |  |
| **AW&WQCL/GLS/58** | **Serum-vial support** | no. of holes, 72, for tubes, 10 × 13 mm no. of holes, 40, for tubes, 16 × 20 mm | 5 |  |  |
| **AW&WQCL/GLS/59** | **Silanized glasswool** | Pesticide Grade (Silanized), pkg of 100 g (Supelco) | 2 pkts |  |  |
| **AW&WQCL/GLS/60** | **Support for Imhoff Cones** | Support, Cone; For Imhoff cones; Sturdy wooden stand; For Wheaton, Pyrex, Kontes, or Nalgene cones; Holds up to three cones | 4 |  |  |
| **AW&WQCL/GLS/61** | **Syringe filter** | Corning syringe filters are 100% integrity tested and are certified nonpyrogenic and noncytotoxic  0.45 µm . | 3 pkts |  |  |
| **AW&WQCL/GLS/62** | **Stainless steel pan** | 500ml. | 5 |  |  |
| **AW&WQCL/GLS/63** | **Support Stand with Rings** | Stand; support; 4 in.; 6 in.; Support Stand with Rings; 2 ring, Stand made from cast iron, Acid resistant, Plated steel support rod, Rod threaded to fit base | 5 |  |  |
| **AW&WQCL/GLS/64** | **Safety goggles** | Resist mild acids, caustics, aromatics, hydrocarbons, and methylene chloride (excludes hydrofluoric acid). Coated with chemically resistant Silicote-6. Meets ANSI Z87.1-1989 requirements. | 5 |  |  |
| **AW&WQCL/GLS/65** | **Spatula** | Made of stainless steel and galvanized of small, medium and large size. | 10 each |  |  |
| **AW&WQCL/GLS/66** | **Stopcocks** | used with seperatory 2L funnel | 5 |  |  |
| **AW&WQCL/GLS/67** | **Soft Glass Beads** | Solid Borosilicate Glass | 2 pkts of each |  |  |
| **AW&WQCL/GLS/68** | **Test tube stand** | For tubes, 10 - 13 mm, 13-16 mm, 16-20 mm, 20-25mm, 25-30 mm | 20 |  |  |
| **AW&WQCL/GLS/69** | **Temperature guage** | With digital display | 6 |  |  |
| **AW&WQCL/GLS/70** | **Timer** | Timing capacity: 99 Minute:59 Second, digital | 5 |  |  |
| **AW&WQCL/GLS/71** | **TFE sealed screw cap vial** | 7 and 14- mL amber glass | 200 |  |  |
| **AW&WQCL/GLS/72** | **Tweezer** | Sharp, stainless steel | 5 |  |  |
| **AW&WQCL/GLS/73** | **Transfer pipets** | 14.6- and 23-cm (5.75- and 9-in.) disposable glass pasteur pipets. with built-in pipette bulb . | 2 Pkts |  |  |
| **AW&WQCL/GLS/74** | **Three-Prong Dual Adjust Swivel Clamp** | Swivel Clamp, Swivel Clamp, Vinyl and Fiberglass sleeves prong covers, length= 178mm, size grip= 0 to 69mm | 10 |  |  |
| **AW&WQCL/GLS/75** | **Tubing clamps** | Mohr Pinchcock Clamp, made of steel wire, nickel plated | 10 |  |  |
| **AW&WQCL/GLS/76** | **Tong** | crucible and flask tongs, stainless steel, L 9 in. (229 mm) | 5 |  |  |
| **AW&WQCL/GLS/77** | **Tripod Base Support Stands** | Tripod Base Support Stand, Cast iron. Diameter (Metric) Rod=1.3cm , 0.8cm. Length (Metric) Rod=91.4cm, 48.3cm | 3 each |  |  |
| **AW&WQCL/GLS/78** | **Universal Swivel Clamp for Overhead Stirrers** | Clamp, Swivel; For overhead stirrers; Universal; 3 knobs: lower and raising stirrer, locking on support rod and controlling swivel setting; Precision machined aluminum; Fits stirring stands from 1/2 in. to 3/4 in. (12mm to 19mm) diameter | 10 |  |  |
| **AW&WQCL/GLS/79** | **volumetric pipet** | 3-mL and a 5-mL graduated pipet with manual pipet bulbs. | 10 each |  |  |
| **AW&WQCL/GLS/80** | **Wooden holding block (20 vial capacity)** | Made from laminated plywood with drilled holes to accept vials, dimensioned to fit snugly onto the shaker table. | 5 |  |  |
| **AW&WQCL/GLS/81** | **wrap-around safety spectacles** | ANSI compliant | 20 |  |  |
| **AW&WQCL/GLS/82** | **Weight measuring plastic** | Small,medium & Large (disposable) | 20 Pkts |  |  |
| **AW&WQCL/GLS/83** | **Watch glass** | Medium, large | 20 each |  |  |
| **AW&WQCL/GLS/84** | **Stand-up thio bag** | Water and waste water sampling sterilized bags, 100 and 300 ml capacity | 10 pkts |  |  |
| **AW&WQCL/GLS/85** | **Bio-hazard autoclave gloves** | Excellent for handling hot objects out of an autoclave or oven, with wrist and forearm protection, powder-free, latex free, reusable, Soft, pliant, all-cotton terry cloth gloves, Heat-resistant up to 232°C (450°F). medium and large size. | 20 pkts |  |  |
| **AW&WQCL/GLS/86** | **Tape autoclave indicator** | Impregnated to show words Autoclaved after 15 minutes of exposure at 250°F (121°C) in a steam autoclave. | 5 pkts |  |  |
| **AW&WQCL/GLS/87** | **Carton sealing tape** | Strong, water-resistant, clear PP tape meets postal regulations. | 5 Pkts |  |  |
| **AW&WQCL/GLS/88** | **Bio-hazard bags** | Suitable for temperatures up to 135°C, complete with black warning symbol on yellow background and safety use instructions.. | 3 pkts |  |  |
| **AW&WQCL/GLS/89** | **Glass slides with cover slips** | Slide specs: Thickness 1.0 to 1.2mm, L×W= 75mm × 25mm, Cover slip thickness 0.13 to 0.17mm, L×W=22 x 22mm | 5 pack |  |  |
| **AW&WQCL/GLS/90** | **Wooden applicator stick** | Applicator Sticks, Cotton Tipped, 15.2cm (6"), sterile. | 1 pack ea |  |  |
| **AW&WQCL/GLS/91** | **Wooden applicator stick** | Applicator Sticks, Cotton Tipped, 7.6cm (3"), Sterile | 1 pack ea |  |  |
| **AW&WQCL/GLS/92** | **Wire loop** | Nichrome Inoculating Loop with Double Twisted Wire, 2 mm (i.d.) | 5 |  |  |
| **AW&WQCL/GLS/93** | **Wire loop** | Medium Loop / 2.91mm ID, Mfr. No. L1103 | 5 |  |  |
| **AW&WQCL/GLS/94** | **Cellulose Filters 0.45 micron** | filter media; cellulose acetate+CN, pore size 0.45µm, size 47mm, cat# MFGWS047045MCE, LOT# MF1550/MS, Micropore filteration products | 1 pack of 100 |  |  |
| **AW&WQCL/GLS/95** | **Cellulose Filters 0.22 micron** | Filter media; cellulose acetate+CN, pore size 0.22µm, size 47mm, cat# MFGWS047022MCE, LOT# MF202, Micropore filteration products | 1 pack of 100 |  |  |
| **AW&WQCL/GLS/96** | **Sprite lamp** | Capacities 60 mL With metal wick holder screw-on type and glass top cover, superior quality. | 4 |  |  |
| **AW&WQCL/GLS/97** | **Centrifuge tubes** | Micro centrifuge Tube, 1.5mL, Attached Locking Snap Cap, Rnase, Dnase, Pryogen, ATP and Human DNA Free, Sterile | 500 |  |  |
| **AW&WQCL/GLS/98** | **Tips boxes** | 10 µl, 100 µl, 1000 µl, Sterilized, volume range 0.1-10µl (1000/bag), 10-100µl (1000/bag), 100-1000µl (1000/bag). | 1 bag of each |  |  |
| **AW&WQCL/GLS/99** | **PCR tubes** | 0.2 ml thin-walled tubes with flat cap, Order number=844-70016-20D, 20 pieces, clear | 5 pkts |  |  |
| **AW&WQCL/GLS/100** | **Ice block** | Aluminum Cooling Block for 0.2mL Tubes, Strips or 96-Well Plates. | 1 |  |  |
| **AW&WQCL/GLS/101** | **Tube racks** | Kicute Excellent 80 Place 0.2ml, 1.5ml, and 2ml Micro Centrifuge Polypropylene Test Tube Rack Holder | 4 |  |  |
| **AW&WQCL/GLS/102** | **Cryopreservation box** | 1.5 ml ,Water-repellant, fiberboard cryo box (2-inch) for 1-8ml tubes, Dimensions (L x W x H) 5 x 5 x 2 in. (12.7 x 12.7 x 5cm) | 5 |  |  |
| **AW&WQCL/GLS/103** | **Falcon tubes** | 15 ml & 50mL,Sterile Conical Centrifuge Tubes (polystyrene), with screw caps, Length (Metric) 115mm, with 33mm polyethylene flat-top screw caps | 500 tubes |  |  |
| **AW&WQCL/GLS/104** | **Fermentation tube** | White ceramic enamel graduations start at o.3ml, vertical tube O.D.Xl: 13 x 100mm, Approx. O.D of Bulb: 30mm, with heat resistant plastic caps. | 5 |  |  |
| **AW&WQCL/GLS/105** | **Parafilm** | roll size 4 in × 125 feet | 10 |  |  |
| **AW&WQCL/GLS/106** | **Acids, Flammable, Corrosive material storage cabinet** | 45 gal, [two shelves](http://www.sigmaaldrich.com/catalog/product/aldrich/z196711?lang=en&region=US), [sliding-door](http://www.sigmaaldrich.com/catalog/product/aldrich/z196711?lang=en&region=US), H × W × D  , 65 in. × 43 in. × 18 in. Constructed of 18 gauge cold-rolled steel sides, top and bottom; double-walled with 11/2 in. air space between walls and doors. Vents are equipped with flame arresters and removable 2 in. NPT steel plugs; grounding connector is built-in. Equipped with 3-point key lock and 2 in., raised, leak-proof door sill and high-gloss enamel door with red warning legend. For all cabinets, unless otherwise specified, subtract 3 in. from each dimension to get inside dimensions.  Door latchs open by an FM-approved fusible link that melts and automatically closes once the fusible link reaches a temperature of 165°F. | 2 |  |  |
| **AW&WQCL/GLS/107** | **silver membrane filters** | A 25 mm Hydrophilic Pure Silver membrane filter with a 0.45 um ( 0.45 micron filter ) pore size. Used for air monitoring of carbon black, coal tar products, coke oven emissions & silica. | 5 pkts |  |  |
| **AW&WQCL/GLS/108** | **peroxides test strips** | 1-100 mg/L range of application | 2 pkts |  |  |
| **AW&WQCL/GLS/109** | **Glass Wool** | Glass wool is an insulating material made from fibres of glass arranged using a binder into a texture similar to wool. | 2 pkts |  |  |
| **AW&WQCL/GLS/110** | **Peristalic Pump** | flow control, flow range should be less than 50 ml/min | 3 |  |  |
| **AW&WQCL/GLS/111** | **Solid Phase Extraction Cartridge (SPE)** | With Solid Phase Extraction Manifold Total column length= 20.4 cm  Internal diameter= 1.1 cm | 1 pkts |  |  |
| **AW&WQCL/GLS/112** | **Ultra-tuff Waste Bags** | 11" X 14" 1-6 Gallon 1.5 Mil - Model 50-42 | 5 pkts |  |  |
| **AW&WQCL/GLS/113** | **Biohazard Waste Disposable Bag,** | 7-10 gallon Capacity, 24" Length x 24" Width, Medium, Red | 5 pkts |  |  |
| **AW&WQCL/GLS/114** | **Sharps Disposal Container** | Slide access opening (2"x1.5") with built in cap holder for single handed re-capping and the needle unwinder port. | 2 |  |  |
| **AW&WQCL/GLS/115** | **Glass Disposal Boxes** | Floor Model dimensions: 12L x 12W x 27 in.H (30.5 x 30.5 x 68.6cm) and Benchtop Model dimensions: 12L x 12W x 10 in.H (30.5 x 30.5 x 25.4cm), Polybag liner, Separate broken and contaminated glassware from other waste | 2 |  |  |
| **AW&WQCL/GLS/116** | **Safety Shower** | Provides full-body shower and eye wash while protecting lab against water and chemical splashes. Immediate-response operation handles are easy to activate. | 2 |  |  |
| **AW&WQCL/GLS/117** | **Cupboard for chemical storage** | 1.0mm thickness high quality cold rolled steel plates and painted by epoxy resin powder in gray color with good corrosive resistance performance., Doors are double wall structure , Each cabinet is equipped adjustable shelves for maximum storage. Windows are made by 5mm tempered glass which can prevent the dangerous when glass broken. | 2 |  |  |
| **AW&WQCL/GLS/118** | **Cupboard with lab coat hanging** | Double wall door, along hanging compartment, adjustable racks. | 2 |  |  |
| **AW&WQCL/GLS/119** | **Drum For Waste** | For disposing of laboratory waste. Medium size. | 4 |  |  |
| **AW&WQCL/GLS/120** | **Cover Spectacles** | Anti-UV, Anti-scratch, Chemical resistant, Antifog, Lenses(Clear PC), Color(Blue). | 20 spectacles |  |  |
| **AW&WQCL/GLS/121** | **Surgical gloves** | Latex, sterile, powder-free, textured finish, size(small & medium). | 500 pairs of each |  |  |
| **AW&WQCL/GLS/122** | **Chemical Resistant gloves** | latex, nitrile, PVC, Chemstop Neoprene, cryogenic, Chemstop butyl and viton-butyl, 9 & 10 size. | 2 pairs of each |  |  |
| **AW&WQCL/GLS/123** | **Cold resistant gloves** | Cryogenic Gloves Low Temperature Resistant LN2 Cold proof Nitrogen Protective Gloves Mid-Arm, Low temperature resistant: (-200℃)~(-360℃), Soft and flexible; Delivering cylinders of cryogenic liquids Attaching metal mesh-Cold resistant , waterproof and keep warm. | 2 pairs |  |  |
| **AW&WQCL/GLS/124** | **Laboratory coats with tags** | White color, Medium & large size, type(cotton), with USPCASW, MUET, logo with number code. | 20 pieces of each |  |  |
| **AW&WQCL/GLS/125** | **Surgical masks, with hand band** | Color( Blue and white) | 2x 500 masks |  |  |
| **AW&WQCL/GLS/126** | **Boufant Caps** | Closure Type Elastic Color Green, Blue, White, Pink, Red Fabric Type Single Ply Polypropylene, Medium Weight Polypropylene HPIS Code 760\_110\_50\_0 Latex, Size Medium, and Regular/Large. | 2000 caps of each |  |  |
| **AW&WQCL/GLS/127** | **Shoe covers** | Disposable Polypropylene Shoe Covers, L, Disposable polypropylene shoe covers protect carpets and floors Economical and disposable Made of polypropylene nonwoven fabric, 50-pairs of blue shoe covers Fit shoes up to size 7,8,10. | 10 pkts of each |  |  |
| **AW&WQCL/GLS/128** | **Safety shoes** | Size(7& 8), Water resistant microfiber upper Padded collar Elastic under tongue, to aid fitting Anti-bacterial moisture wicking textile lining Clean design for clean liquid run off Replaceable, full length cushioned EVA footbed. Perforated to aid airflow Internal steel toe cap - 200 joules impact resistance Single density, slip resistant polyurethane sole Anti static Oil resistant Shock absorbing heel | 3 pairs of each |  |  |
| **AW&WQCL/GLS/129** | **Eye wash station with one bottle** | 1\*500ml bottle, PLUM OPEN EYE WASH STATION; 1 BOTTLE, 500ML STERILE SALINE | 2 |  |  |
| **AW&WQCL/GLS/130** | **Disposable bags** | polyproylene, 40 uM thick, clear, with biohazard printing, Autoclave able, 12 litre capacity. | 500 bags |  |  |
| **AW&WQCL/GLS/131** | **Boxes for broken glassware** | Material Polybag liner For Use With (Application) Separate broken and contaminated glassware from other waste, the lid and flap to seal, Benchtop Model dimensions: 12L x 12W x 10 in.H (30.5 x 30.5 x 25.4cm) | 6 |  |  |
| **AW&WQCL/GLS/132** | **Pouches and Bag rolls for sterilization** | Environmentally friendly printing Assured sterility/ Outstanding moisture resistance / Superior tear and  puncture resistance  Suitable for Hydrogen Peroxide (Plasma), EtO, Gamma, and E-beam  sterilization. | 1000 pouches |  |  |
| **AW&WQCL/GLS/133** | **Steam Sterilization Bag** | Made for steam sterilization under controlled conditions  (250˚F to 260˚F [121˚C to 127˚C] at 30 psi for 30 minutes), size(LxW)400mm x 500mm, 50mm x 200mm and 120mm x 250mm | 500 pieces |  |  |
| **AW&WQCL/GLS/134** | **Laboratory glassware washer** | 400w of drying power gently circulates heated air into and around items, Heat selector knob with three temperature settings: high, medium and low Power button, 8 Amp at 120V, circuit breaker and independent thermo-fuse, replaceable polyurethane foam filter air flow by inserting plugs instead of pegs into unused peg holes Sturdy bases with excellent balance; placed on any flat surface Removable polypropylene baskets for storage of small lab ware and extra pegs 120V, Two or three tier option Baskets hold small glassware including test tubes, pipets | 1 |  |  |
| **AW&WQCL/GLS/135** | **Congo red paper or other pH test paper** | Size: 20 mm × 70 mm  Dye content: ≥35 % | 4 pkts |  |  |
| **AW&WQCL/GLS/136** | **Arsenic Kit** | Range: 4, 6, 8, 10, 12, 14, 16, 20, 30, 40, 50, 60, 80, 100, 140, 160 ppb # of tests: 50 Method: Test strip (color) Weight: 8 lbs (3.6 kg) | 5 kits |  |  |

**Note:**

1. Vendors are required to submit the hard, soft copies of technical proposals along with duplicate copy.
2. Instructions to tenderers (IT) & Condition of Contract (CC) in the tender document should be read, signed & stamped by the vendors.

Signature with Stamp Signature

Contractor Procurement Manager

USPCAS-W, MUET, Jamshoro