

PROCUREMENT DOCUMENTS

Bidding Document for Procurement of Goods

Procurement of

Supply, Installation and Testing of Equipment, Chemicals and Glassware for Water Quality Monitoring and Surveillance Laboratory in Project Districts of Assam under Neer Nirmal Pariyojana- Assam



NCB No.: IN-SPMU-ASSAM-22846-GO-RFB
Project: Neer Nirmal Pariyojana- Assam (Rural Water Supply and Sanitation Project for Low Income States- Assam)
Purchaser: State Project Management Unit (SPMU)
Neer Nirmal Pariyojana- Assam (NNP-Assam)
Represented by:
Project Director, SPMU, NNP-Assam
Country: India
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PART 1 – Bidding Procedures



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Section I. Instructions to Bidders

A. General

- 1. Scope of Bid**
- 1.1 In connection with the Invitation for Bids, **specified in the Bid Data Sheet (BDS)**, the Purchaser, **as specified in the BDS**, issues these Bidding Documents for the supply of Goods and Related Services incidental thereto as specified in Section VII, Schedule of Requirements. The name, identification and number of lots (contracts) of this International Competitive Bidding (ICB) procurement are **specified in the BDS**.
- 1.2 Throughout these Bidding Documents:
- (a) the term "in writing" means communicated in written form (e.g. by mail, e-mail, fax, telex) with proof of receipt;
 - (b) if the context so requires, "singular" means "plural" and vice versa; and
 - (c) "day" means calendar day.
- 2. Source of Funds**
- 2.1 The Borrower or Recipient (hereinafter called "Borrower") **specified in the BDS** has applied for or received financing (hereinafter called "funds") from the International Bank for Reconstruction and Development or the International Development Association (hereinafter called "the Bank") in an amount **specified in BDS**, toward the project named **in BDS**. The Borrower intends to apply a portion of the funds to eligible payments under the contract for which these Bidding Documents are issued.
- 2.2 Payment by the Bank will be made only at the request of the Borrower and upon approval by the Bank in accordance with the terms and conditions of the Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the Loan (or other financing) account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of the Bank, is prohibited by decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan (or other financing) Agreement or have any claim to the proceeds of the Loan (or other financing).
- 3. Corrupt and Fraudulent Practices**
- 3.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Section VI.
- 3.2 In further pursuance of this policy, Bidders shall permit and shall cause its agents (where declared or not), sub-contractors, sub-consultants, service providers or suppliers and to permit the Bank to inspect all accounts, records and other documents



relating to the submission of the application, bid submission (in case prequalified), and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.

- 4. Eligible Bidders**
- 4.1 A Bidder may be a firm that is a private entity, a government-owned entity—subject to ITB 4.5—or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the bidding process and, in the event the JV is awarded the Contract, during contract execution. **Unless specified in the BDS,** there is no limit on the number of members in a JV.
- 4.2 A Bidder shall not have a conflict of interest. Any Bidder found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this bidding process, if the Bidder:
- (a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or
 - (b) receives or has received any direct or indirect subsidy from another Bidder; or
 - (c) has the same legal representative as another Bidder; or
 - (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the bid of another Bidder, or influence the decisions of the Purchaser regarding this bidding process; or
 - (e) participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which such Bidder is involved. However, this does not limit the inclusion of the same subcontractor in more than one bid; or
 - (f) any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the bid; or
 - (g) any of its affiliates has been hired (or is proposed to be hired) by the Purchaser or Borrower for the Contract implementation; or
 - (h) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the



project specified in the BDS ITB 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or

- (i) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved in the preparation of the bidding documents or specifications of the contract, and/or the bid evaluation process of such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Bank throughout the procurement process and execution of the contract
- 4.3 A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 4.7. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed sub-contractors or sub-consultants for any part of the Contract including related Services.
- 4.4 A Bidder that has been sanctioned by the Bank in accordance with the above ITB 3.1, including in accordance with the Bank's Guidelines on Preventing and Combating Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants ("Anti-Corruption Guidelines"), shall be ineligible to be prequalified for, bid for, or be awarded a Bank-financed contract or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined. The list of debarred firms and individuals is available at the electronic address specified in the BDS.
- 4.5 Bidders that are Government-owned enterprises or institutions in the Purchaser's Country may participate only if they can establish that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not dependent agencies of the Purchaser. To be eligible, a government-owned enterprise or institution shall establish to the Bank's satisfaction, through all relevant documents, including its Charter and other information the Bank may request, that it: (i) is a legal entity separate from the government (ii) does not currently receive substantial subsidies or budget support; (iii) operates like any commercial enterprise, and, inter alia, is not obliged to pass on its surplus to the government, can acquire rights and liabilities, borrow funds and be liable for



repayment of its debts, and can be declared bankrupt; and (iv) is not bidding for a contract to be awarded by the department or agency of the government which under their applicable laws or regulations is the reporting or supervisory authority of the enterprise or has the ability to exercise influence or control over the enterprise or institution.

- 4.6 A Bidder shall not be under suspension from bidding by the Purchaser as the result of the operation of a Bid-Securing Declaration.
- 4.7 Firms and individuals may be ineligible if so indicated in Section V and (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of goods or the contracting of works or services required; or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country.
- 4.8 A Bidder shall provide such evidence of eligibility satisfactory to the Purchaser, as the Purchaser shall reasonably request.

5. Eligible Goods and Related Services

- 5.1 All the Goods and Related Services to be supplied under the Contract and financed by the Bank may have their origin in any country in accordance with Section V, Eligible Countries.
- 5.2 For purposes of this Clause, the term "goods" includes commodities, raw material, machinery, equipment, and industrial plants; and "related services" includes services such as insurance, installation, training, and initial maintenance.
- 5.3 The term "origin" means the country where the goods have been mined, grown, cultivated, produced, manufactured or processed; or, through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.

B. Contents of Bidding Document

6. Sections of Bidding Document

- 6.1 The Bidding Documents consist of Parts 1, 2, and 3, which include all the Sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 8.

PART 1 Bidding Procedures

- Section I. Instructions to Bidders (ITB)
- Section II. Bidding Data Sheet (BDS)



- Section III. Evaluation and Qualification Criteria
- Section IV. Bidding Forms
- Section V. Eligible Countries
- Section VI. Bank Policy-Corrupt and Fraudulent Practices

PART 2 Supply Requirements

- Section VII. Schedule of Requirements

PART 3 Contract

- Section VIII. General Conditions of Contract (GCC)
- Section IX. Special Conditions of Contract (SCC)
- Section X. Contract Forms

- 6.2 The Invitation for Bids issued by the Purchaser is not part of the Bidding Document.
- 6.3 Unless obtained directly from the Purchaser, the Purchaser is not responsible for the completeness of the document, responses to requests for clarification, the Minutes of the pre-Bid meeting (if any), or Addenda to the Bidding Document in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Purchaser shall prevail.
- 6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents and to furnish with its Bid all information or documentation as is required by the Bidding Documents.
- 7. Clarification of Bidding Documents**
- 7.1 A Bidder requiring any clarification of the Bidding Document shall contact the Purchaser in writing at the Purchaser's address specified in the BDS. The Purchaser will respond in writing to any request for clarification, provided that such request is received prior to the deadline for submission of bids within a period specified in the BDS. The Purchaser shall forward copies of its response to all Bidders who have acquired the Bidding Documents in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. If so specified in the BDS, the Purchaser shall also promptly publish its response at the web page identified in the BDS. Should the clarification result in changes to the essential elements of the Bidding Documents, the Purchaser shall amend the Bidding Documents following the procedure under ITB 8 and ITB 22.2.
- 8. Amendment of Bidding Document**
- 8.1 At any time prior to the deadline for submission of bids, the Purchaser may amend the Bidding Documents by issuing addenda.



- 8.2 Any addendum issued shall be part of the Bidding Documents and shall be communicated in writing to all who have obtained the Bidding Documents from the Purchaser in accordance with ITB 6.3. The Purchaser shall also promptly publish the addendum on the Purchaser's web page in accordance with ITB 7.1.
- 8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, the Purchaser may, at its discretion, extend the deadline for the submission of bids, pursuant to ITB 22.2.

C. Preparation of Bids

- 9. Cost of Bidding** 9.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Purchaser shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
- 10. Language of Bid** 10.1 The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, shall be written in the language specified in the BDS. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages into the language specified in the BDS, in which case, for purposes of interpretation of the Bid, such translation shall govern.
- 11. Documents Comprising the Bid** 11.1 The Bid shall comprise the following:
- (a) Letter of Bid in accordance with ITB 12;
 - (b) completed schedules, in accordance with ITB 12 and 14
 - (c) Bid Security or Bid-Securing Declaration, in accordance with ITB 19.1;
 - (d) alternative bids, if permissible, in accordance with ITB 13;
 - (e) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.2;
 - (f) documentary evidence in accordance with ITB 17 establishing the Bidder's qualifications to perform the contract if its bid is accepted;
 - (g) documentary evidence in accordance with ITB 17 establishing the Bidder's eligibility to bid;
 - (h) documentary evidence in accordance with ITB 16, that the Goods and Related Services to be supplied by the Bidder are of eligible origin;
 - (i) documentary evidence in accordance with ITB 16 and 30, that the Goods and Related Services conform to the



Bidding Documents;

(j) any other document **required in the BDS.**

11.2 In addition to the requirements under ITB 11.1, bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all members and submitted with the bid, together with a copy of the proposed Agreement.

11.3 The Bidder shall furnish in the Letter of Bid information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.

**12. Letter of Bid
and Price
Schedules**

12.1. The Letter of Bid and Price Schedules shall be prepared using the relevant forms furnished in Section IV, Bidding Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITB 20.2. All blank spaces shall be filled in with the information requested.

13. Alternative Bids

13.1. Unless otherwise **specified in the BDS**, alternative bids shall not be considered.

**14. Bid Prices and
Discounts**

14.1 The prices and discounts quoted by the Bidder in the Letter of Bid and in the Price Schedules shall conform to the requirements specified below.

14.2 All lots (contracts) and items must be listed and priced separately in the Price Schedules.

14.3 The price to be quoted in the Letter of Bid in accordance with ITB 12.1 shall be the total price of the bid, excluding any discounts offered.

14.4 The Bidder shall quote any discounts and indicate the methodology for their application in the Letter of Bid, in accordance with ITB 12.1.

14.5 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account, **unless otherwise specified in the BDSA** bid submitted with an adjustable price quotation shall be treated as nonresponsive and shall be rejected, pursuant to ITB 29. However, if in accordance with the BDS, prices quoted by the Bidder shall be subject to adjustment during the performance of the Contract, a bid submitted with a fixed price quotation shall not be rejected, but the price adjustment shall be treated as zero.

14.6 If so specified in ITB 1.1, bids are being invited for individual lots (contracts) or for any combination of lots (packages). Unless otherwise **specified in the BDS**, prices quoted shall



correspond to 100 % of the items specified for each lot and to 100% of the quantities specified for each item of a lot. Bidders wishing to offer discounts for the award of more than one Contract shall specify in their bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITB 14.4 provided the bids for all lots (contracts) are opened at the same time.

14.7 The terms EXW, CIP, and other similar terms shall be governed by the rules prescribed in the current edition of Incoterms, published by The International Chamber of Commerce, **as specified in the BDS.**

14.8 Prices shall be quoted as specified in each Price Schedule included in Section IV, Bidding Forms. The dis-aggregation of price components is required solely for the purpose of facilitating the comparison of bids by the Purchaser. This shall not in any way limit the Purchaser's right to contract on any of the terms offered. In quoting prices, the Bidder shall be free to use transportation through carriers registered in any eligible country, in accordance with Section V, Eligible Countries. Similarly, the Bidder may obtain insurance services from any eligible country in accordance with Section V, Eligible Countries. Prices shall be entered in the following manner:

(a) For Goods manufactured in the Purchaser's Country:

- (i) the price of the Goods quoted EXW (ex-works, ex-factory, ex warehouse, ex showroom, or off-the-shelf, as applicable), including all customs duties and sales and other taxes already paid or payable on the components and raw material used in the manufacture or assembly of the Goods;
- (ii) any Purchaser's Country sales tax and other taxes which will be payable on the Goods if the contract is awarded to the Bidder; and
- (iii) the price for inland transportation, insurance, and other local services required to convey the Goods to their final destination (Project Site) **specified in the BDS.**

(b) For Goods manufactured outside the Purchaser's Country, to be imported:

- (i) the price of the Goods, quoted CIP named place of destination, in the Purchaser's Country, **as specified in the BDS;**
- (ii) the price for inland transportation, insurance, and other local services required to convey the Goods from the named place of destination to their final



destination (Project Site) specified in the BDS;

- (c) For Goods manufactured outside the Purchaser's Country, already imported:
- (i) the price of the Goods, including the original import value of the Goods; plus any mark-up (or rebate); plus any other related local cost, and custom duties and other import taxes already paid or to be paid on the Goods already imported.
 - (ii) the custom duties and other import taxes already paid (need to be supported with documentary evidence) or to be paid on the Goods already imported;
 - (iii) the price of the Goods, obtained as the difference between (i) and (ii) above;
 - (iv) any Purchaser's Country sales and other taxes which will be payable on the Goods if the contract is awarded to the Bidder; and
 - (v) the price for inland transportation, insurance, and other local services required to convey the Goods from the named place of destination to their final destination (Project Site) specified in the BDS.
- (d) for Related Services, other than inland transportation and other services required to convey the Goods to their final destination, whenever such Related Services are specified in the Schedule of Requirements:
- (i) the price of each item comprising the Related Services (inclusive of any applicable taxes).

15. Currencies of Bid and Payment

- 15.1 The currency(ies) of the bid and the currency(ies) of payments shall be as specified in the BDS. The Bidder shall quote in the currency of the Purchaser's Country the portion of the bid price that corresponds to expenditures incurred in the currency of the Purchaser's country, unless otherwise specified in the BDS.
- 15.2 The Bidder may express the bid price in any currency. If the Bidder wishes to be paid in a combination of amounts in different currencies, it may quote its price accordingly but shall use no more than three foreign currencies in addition to the currency of the Purchaser's Country.

16. Documents Establishing the Eligibility and Conformity of the Goods and

- 16.1 To establish the eligibility of the Goods and Related Services in accordance with ITB 5, Bidders shall complete the country of origin declarations in the Price Schedule Forms, included in Section IV, Bidding Forms.
- 16.2 To establish the conformity of the Goods and Related Services to



Related Services

the Bidding Documents, the Bidder shall furnish as part of its Bid the documentary evidence that the Goods conform to the technical specifications and standards specified in Section VII, Schedule of Requirements.

- 16.3 The documentary evidence may be in the form of literature, drawings or data, and shall consist of a detailed item by item description of the essential technical and performance characteristics of the Goods and Related Services, demonstrating substantial responsiveness of the Goods and Related Services to the technical specification, and if applicable, a statement of deviations and exceptions to the provisions of the Section VII, Schedule of Requirements.
- 16.4 The Bidder shall also furnish a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the Goods during the period specified in the BDS following commencement of the use of the goods by the Purchaser.
- 16.5 Standards for workmanship, process, material, and equipment, as well as references to brand names or catalogue numbers specified by the Purchaser in the Schedule of Requirements, are intended to be descriptive only and not restrictive. The Bidder may offer other standards of quality, brand names, and/or catalogue numbers, provided that it demonstrates, to the Purchaser's satisfaction, that the substitutions ensure substantial equivalence or are superior to those specified in the Section VII, Schedule of Requirements.

**17. Documents
Establishing the
Eligibility and
Qualifications
of the Bidder**

- 17.1 To establish Bidder's their eligibility in accordance with ITB 4, Bidders shall complete the Letter of Bid, included in Section IV, Bidding Forms.
- 17.2 The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Purchaser's satisfaction:
- (a) that, if **required in the BDS**, a Bidder that does not manufacture or produce the Goods it offers to supply shall submit the Manufacturer's Authorization using the form included in Section IV, Bidding Forms to demonstrate that it has been duly authorized by the manufacturer or producer of the Goods to supply these Goods in the Purchaser's Country;
 - (b) that, if **required in the BDS**, in case of a Bidder not doing business within the Purchaser's Country, the Bidder is or will be (if awarded the contract) represented by an Agent in the country equipped and able to carry out the Supplier's maintenance, repair and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical



Specifications; and

- (c) that the Bidder meets each of the qualification criterion specified in Section III, Evaluation and Qualification Criteria.

18. Period of Validity of Bids

18.1. Bids shall remain valid for the period **specified in the BDS** after the bid submission deadline date prescribed by the Purchaser in accordance with ITB22.1. A bid valid for a shorter period shall be rejected by the Purchaser as nonresponsive.

18.2. In exceptional circumstances, prior to the expiration of the bid validity period, the Purchaser may request bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. If a Bid Security is requested in accordance with ITB Clause 19, it shall also be extended for a corresponding period. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its bid, except as provided in ITB 18.3.

18.3. If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial bid validity, the Contract price shall be determined as follows:

- (a) In the case of fixed price contracts, the Contract price shall be the bid price adjusted by the factor **specified in the BDS**.
- (b) In the case of adjustable price contracts, no adjustment shall be made.
- (c) In any case, bid evaluation shall be based on the bid price without taking into consideration the applicable correction from those indicated above.

19. Bid Security

19.1. The Bidder shall furnish as part of its bid, either a Bid-Securing Declaration or a bid security, as **specified in the BDS**, in original form and, in the case of a bid security. In the amount and currency **specified in the BDS**.

19.2. A Bid Securing Declaration shall use the form included in Section IV, Bidding Forms.

19.3. If a bid security is specified pursuant to ITB 19.1, the bid security shall be a demand guarantee in any of the following forms at the Bidder's option :

- (a) an unconditional guarantee issued by a bank or financial institution (such as an insurance, bonding or surety company);
- (b) an irrevocable letter of credit;



- (c) a cashier's or certified check; or
- (d) another security **specified in the BDS,**

from a reputable source from an eligible country. If the unconditional guarantee is issued by a financial institution located outside the Purchaser's Country, the issuing financial institution shall have a correspondent financial institution located in the Purchaser's Country to make it enforceable. In the case of a bank guarantee, the bid security shall be submitted either using the Bid Security Form included in Section IV, Bidding Forms, or in another substantially similar format approved by the Purchaser prior to bid submission. The bid security shall be valid for twenty-eight (28) days beyond the original validity period of the bid, or beyond any period of extension if requested under ITB 18.2.

- 19.4. If a Bid Security is specified pursuant to ITB 19.1, any bid not accompanied by a substantially responsive Bid Security shall be rejected by the Purchaser as non-responsive.
- 19.5. If a Bid Security is specified pursuant to ITB 19.1, the Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing the contract and furnishing the Performance Security pursuant to ITB 42.
- 19.6. The Bid Security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the contract and furnished the required performance security.
- 19.7. The Bid Security may be forfeited or the Bid Securing Declaration executed:
 - (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid, or any extension thereto provided by the Bidder ; or
 - (b) if the successful Bidder fails to:
 - (i) sign the Contract in accordance with ITB41; or
 - (ii) furnish a performance security in accordance with ITB 42.
- 19.8. The bid security or Bid- Securing Declaration of a JV must be in the name of the JV that submits the bid. If the JV has not been legally constituted into a legally enforceable JV at the time of bidding, the bid security or Bid-Securing Declaration shall be in the names of all future members as named in the letter of intent referred to in ITB 4.1 and ITB 11.2.
- 19.9. If a bid security is **not required in the BDS,** pursuant to ITB 19.1, and



- (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid, or
- (b) if the successful Bidder fails to: sign the Contract in accordance with ITB41; or furnish a performance security in accordance with ITB 42;

the Borrower may, **if provided for in the BDS**, declare the Bidder ineligible to be awarded a contract by the Purchaser for a period of time **as stated in the BDS**.

20. Format and Signing of Bid

- 20.1 The Bidder shall prepare one original of the documents comprising the bid as described in ITB 11 and clearly mark it "ORIGINAL." Alternative bids, if permitted in accordance with ITB 13, shall be clearly marked "ALTERNATIVE." In addition, the Bidder shall submit copies of the bid, in the number **specified in the BDS** and clearly mark them "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail.
- 20.2 The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation **as specified in the BDS** and shall be attached to the bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the bid where entries or amendments have been made shall be signed or initialed by the person signing the bid.
- 20.3 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.
- 20.4 Any inter-lineation, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the bid.

D. Submission and Opening of Bids

21. Sealing and Marking of Bids

- 21.1. The Bidder shall enclose the original and all copies of the bid, including alternative bids, if permitted in accordance with ITB 13, in separate sealed envelopes, duly marking the envelopes as "ORIGINAL", "ALTERNATIVE" and "COPY." These envelopes containing the original and the copies shall then be enclosed in one single envelope.
- 21.2. The inner and outer envelopes shall:
 - (a) bear the name and address of the Bidder;
 - (b) be addressed to the Purchaser in accordance with ITB 24.1;
 - (c) bear the specific identification of this bidding process indicated in ITB1.1; and



- (d) bear a warning not to open before the time and date for bid opening.
- 21.3. If all envelopes are not sealed and marked as required, the Purchaser will assume no responsibility for the misplacement or premature opening of the bid.
- 22. Deadline for Submission of Bids**
- 22.1. Bids must be received by the Purchaser at the address and no later than the date and time **specified in the BDS**. When **specified in the BDS**, bidders shall have the option of submitting their bids electronically. Bidders submitting bids electronically shall follow the electronic bid submission procedures **specified in the BDS**.
- 22.2. The Purchaser may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Documents in accordance with ITB 8, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.
- 23. Late Bids**
- 23.1. The Purchaser shall not consider any bid that arrives after the deadline for submission of bids, in accordance with ITB 22. Any bid received by the Purchaser after the deadline for submission of bids shall be declared late, rejected, and returned unopened to the Bidder.
- 24. Withdrawal, Substitution, and Modification of Bids**
- 24.1. A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization (the power of attorney) in accordance with ITB 20.2, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the bid must accompany the respective written notice. All notices must be:
- (a) prepared and submitted in accordance with ITB 20 and 21 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked "WITHDRAWAL," "SUBSTITUTION," or "MODIFICATION;" and
- (b) received by the Purchaser prior to the deadline prescribed for submission of bids, in accordance with ITB 22.
- 24.2. Bids requested to be withdrawn in accordance with ITB 24.1 shall be returned unopened to the Bidders.
- 24.3. No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Letter of Bid or any extension thereof.
- 25. Bid Opening**
- 25.1. Except as in the cases specified in ITB 23 and 24, the Purchaser shall publicly open and read out in accordance with ITB 25.3 all



bids received by the deadline at the date, time and place **specified in the BDS** in the presence of Bidders' designated representatives and anyone who choose to attend. Any specific electronic bid opening procedures required if electronic bidding is permitted in accordance with ITB 22.1, shall be as **specified in the BDS**.

- 25.2. First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding bid shall not be opened, but returned to the Bidder. If the withdrawal envelope does not contain a copy of the "power of attorney" confirming the signature as a person duly authorized to sign on behalf of the Bidder, the corresponding bid will be opened. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening. Next, envelopes marked "SUBSTITUTION" shall be opened and read out and exchanged with the corresponding Bid being substituted, and the substituted Bid shall not be opened, but returned to the Bidder. No Bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at bid opening. Envelopes marked "MODIFICATION" shall be opened and read out with the corresponding Bid. No Bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Bid opening. Only bids that are opened and read out at Bid opening shall be considered further.
- 25.3. All other envelopes shall be opened one at a time, reading out: the name of the Bidder and whether there is a modification; the total Bid Prices, per lot (contract) if applicable, including any discounts and alternative bids; the presence or absence of a Bid Security, if required; and any other details as the Purchaser may consider appropriate. Only discounts and alternative bids read out at Bid opening shall be considered for evaluation. The Letter of Bid and the Price Schedules are to be initialed by representatives of the Purchaser attending bid opening in the manner **specified in the BDS**. The Purchaser shall neither discuss the merits of any bid nor reject any bid (except for late bids, in accordance with ITB 25.1).
- 25.4. The Purchaser shall prepare a record of the bid opening that shall include, as a minimum: the name of the Bidder and whether there is a withdrawal, substitution, or modification; the Bid Price, per lot (contract) if applicable, including any discounts, and alternative bids; and the presence or absence of a Bid Security, if one was required. The Bidders' representatives who are present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to



all Bidders.

E. Evaluation and Comparison of Bids

- 26. Confidentiality** 26.1 Information relating to the evaluation of bids and recommendation of contract award, shall not be disclosed to bidders or any other persons not officially concerned with the bidding process until information on Contract Award is communication to all Bidders in accordance with ITB 40.
- 26.2 Any effort by a Bidder to influence the Purchaser in the evaluation or contract award decisions may result in the rejection of its Bid.
- 26.3 Notwithstanding ITB 26.2, from the time of bid opening to the time of Contract Award, if any Bidder wishes to contact the Purchaser on any matter related to the bidding process, it should do so in writing.
- 27. Clarification of Bids** 27.1 To assist in the examination, evaluation, comparison of the bids, and qualification of the Bidders, the Purchaser may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder in respect to its Bid and that is not in response to a request by the Purchaser shall not be considered. The Purchaser's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease, in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Purchaser in the Evaluation of the bids, in accordance with ITB 31.
- 27.2 If a Bidder does not provide clarifications of its bid by the date and time set in the Purchaser's request for clarification, its bid may be rejected.
- 28. Deviations, Reservations, and Omissions** 28.1 During the evaluation of bids, the following definitions apply:
- (a) "Deviation" is a departure from the requirements specified in the Bidding Documents;
- (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Documents; and
- (c) "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Documents
- 29. Determination of Responsiveness** 29.1 The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself, as defined in ITB 11.
- 29.2 A substantially responsive Bid is one that meets the requirements of the Bidding Documents without material deviation, reservation, or omission. A material deviation, reservation, or



omission is one that:

- (a) if accepted, would
 - (i) affect in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or
 - (ii) limit in any substantial way, inconsistent with the Bidding Documents, the Purchaser's rights or the Bidder's obligations under the Contract; or
- (b) if rectified, would unfairly affect the competitive position of other bidders presenting substantially responsive bids.

29.3 The Purchaser shall examine the technical aspects of the bid submitted in accordance with ITB 16 and ITB 17, in particular, to confirm that all requirements of Section VII, Schedule of Requirements have been met without any material deviation or reservation, or omission.

29.4 If a bid is not substantially responsive to the requirements of Bidding Documents, it shall be rejected by the Purchaser and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

30. Nonconformities, Errors and Omissions

30.1 Provided that a Bid is substantially responsive, the Purchaser may waive any nonconformities in the Bid.

30.2 Provided that a bid is substantially responsive, the Purchaser may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

30.3 Provided that a bid is substantially responsive, the Purchaser shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component.

31. Correction of Arithmetical Errors

31.1 Provided that the Bid is substantially responsive, the Purchaser shall correct arithmetical errors on the following basis:

- (a) if there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected;



- (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
 - (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.
- 31.2 Bidders shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with ITB 31.1, shall result in the rejection of the Bid.
- 32. Conversion to Single Currency**
- 32.1 For evaluation and comparison purposes, the currency(ies) of the Bid shall be converted in a single currency as **specified in the BDS.**
- 33. Margin of Preference**
- 33.1 **Unless otherwise specified in the BDS,** a margin of preference shall not apply.
- 34. Evaluation of Bids**
- 34.1 The Purchaser shall use the criteria and methodologies listed in this Clause. No other evaluation criteria or methodologies shall be permitted.
- 34.2 To evaluate a Bid, the Purchaser shall consider the following:
- (a) evaluation will be done for Items or Lots (contracts), as **specified in the BDS;** and the Bid Price as quoted in accordance with clause 14;
 - (b) price adjustment for correction of arithmetic errors in accordance with ITB 31.1;
 - (c) price adjustment due to discounts offered in accordance with ITB 14.3;
 - (d) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITB 32;
 - (e) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 30.3;
 - (f) the additional evaluation factors are specified in Section III, Evaluation and Qualification Criteria;
- 34.3 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.
- 34.4 If these Bidding Documents allows Bidders to quote separate prices for different lots (contracts), the methodology to determine the lowest evaluated price of the lot (contract) combinations, including any discounts offered in the Letter of Bid Form, is specified in



Section III, Evaluation and Qualification Criteria

- 34.5 The Purchaser's evaluation of a bid will exclude and not take into account:
- (a) in the case of Goods manufactured in the Purchaser's Country, sales and other similar taxes, which will be payable on the goods if a contract is awarded to the Bidder;
 - (b) in the case of Goods manufactured outside the Purchaser's Country, already imported or to be imported, customs duties and other import taxes levied on the imported Good, sales and other similar taxes, which will be payable on the Goods if the contract is awarded to the Bidder;
 - (c) any allowance for price adjustment during the period of execution of the contract, if provided in the bid.
- 34.6 The Purchaser's evaluation of a bid may require the consideration of other factors, in addition to the Bid Price quoted in accordance with ITB 14. These factors may be related to the characteristics, performance, and terms and conditions of purchase of the Goods and Related Services. The effect of the factors selected, if any, shall be expressed in monetary terms to facilitate comparison of bids, unless otherwise **specified in the BDS** from amongst those set out in Section III, Evaluation and Qualification Criteria. The criteria and methodologies to be used shall be as specified in ITB 34.2 (f).
- 35. Comparison of Bids**
- 35.1 The Purchaser shall compare the evaluated prices of all substantially responsive bids established in accordance with ITB 34.2 to determine the lowest evaluated bid. The comparison shall be on the basis of CIP (place of final destination) prices for imported goods and EXW prices, plus cost of inland transportation and insurance to place of destination, for goods manufactured within the Borrower's country, together with prices for any required installation, training, commissioning and other services. The evaluation of prices shall not take into account custom duties and other taxes levied on imported goods quoted CIP and sales and similar taxes levied in connection with the sale or delivery of goods.
- 36. Qualification of the Bidder**
- 36.1 The Purchaser shall determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated and substantially responsive bid meets the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.
- 36.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17.
- 36.3 An affirmative determination shall be a prerequisite for award of the Contract to the Bidder. A negative determination shall result



in disqualification of the bid, in which event the Purchaser shall proceed to the next lowest evaluated bid to make a similar determination of that Bidder's qualifications to perform satisfactorily.

- 37. Purchaser's Right to Accept Any Bid, and to Reject Any or All Bids** 37.1 The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all bids submitted and specifically, bid securities, shall be promptly returned to the Bidders.

F. Award of Contract

- 38. Award Criteria** 38.1 Subject to ITB 37.1, the Purchaser shall award the Contract to the Bidder whose bid has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Documents, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.
- 39. Purchaser's Right to Vary Quantities at Time of Award** 39.1 At the time the Contract is awarded, the Purchaser reserves the right to increase or decrease the quantity of Goods and Related Services originally specified in Section VII, Schedule of Requirements, provided this does not exceed the percentages **specified in the BDS**, and without any change in the unit prices or other terms and conditions of the bid and the Bidding Documents.
- 40. Notification of Award** 40.1 Prior to the expiration of the period of bid validity, the Purchaser shall notify the successful Bidder, in writing, that its Bid has been accepted. The notification letter (hereinafter and in the Conditions of Contract and Contract Forms called the "Letter of Acceptance") shall specify the sum that the Purchaser will pay the Supplier in consideration of the supply of Goods (hereinafter and in the Conditions of Contract and Contract Forms called "the Contract Price"). At the same time, the Purchaser shall also notify all other Bidders of the results of the bidding and shall publish in *UNDB online* the results identifying the bid and lot (contract) numbers and the following information:
- (i) name of each Bidder who submitted a Bid;
 - (ii) bid prices as read out at Bid Opening;
 - (iii) name and evaluated prices of each Bid that was evaluated;
 - (iv) name of bidders whose bids were rejected and the reasons for their rejection; and
 - (v) name of the successful Bidder, and the Price it offered, as well as the duration and summary scope of the contract awarded.
- 40.2 Until a formal Contract is prepared and executed, the notification



of award shall constitute a binding Contract.

40.3 The Purchaser shall promptly respond in writing to any unsuccessful Bidder who, after notification of award in accordance with ITB 40.1, requests in writing the grounds on which its bid was not selected.

41. Signing of Contract

41.1 Promptly after notification, the Purchaser shall send the successful Bidder the Contract Agreement.

41.2 Within twenty-eight (28) days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Purchaser.

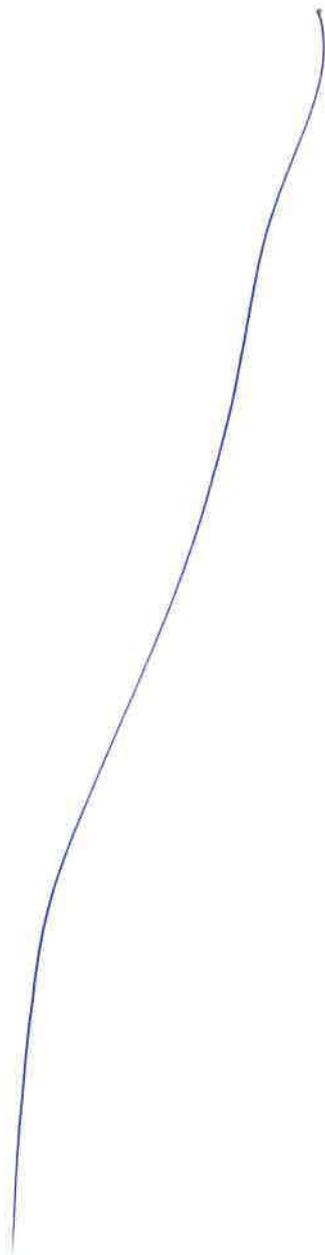
41.3 Notwithstanding ITB 41.2 above, in case signing of the Contract Agreement is prevented by any export restrictions attributable to the Purchaser, to the country of the Purchaser, or to the use of the products/goods, systems or services to be supplied, where such export restrictions arise from trade regulations from a country supplying those products/goods, systems or services, the Bidder shall not be bound by its bid, always provided however, that the Bidder can demonstrate to the satisfaction of the Purchaser and of the Bank that signing of the Contract Agreement has not been prevented by any lack of diligence on the part of the Bidder in completing any formalities, including applying for permits, authorizations and licenses necessary for the export of the products/goods, systems or services under the terms of the Contract.

42. Performance Security

42.1 Within twenty eight (28) days of the receipt of notification of award from the Purchaser, the successful Bidder, if required, shall furnish the Performance Security in accordance with the GCC, subject to ITB 34.5, using for that purpose the Performance Security Form included in Section X, Contract Forms, or another Form acceptable to the Purchaser. If the Performance Security furnished by the successful Bidder is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Bidder to be acceptable to the Purchaser. A foreign institution providing a bond shall have a correspondent financial institution located in the Purchaser's Country.

42.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event the Purchaser may award the Contract to the next lowest evaluated Bidder, whose bid is substantially responsive and is determined by the Purchaser to be qualified to perform the Contract satisfactorily.





Section II. Bid Data Sheet (BDS)

The following specific data for the goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

ITB Clause Reference	A. General
ITB 1.1	The reference number of the Invitation for Bids is: IN-SPMU-ASSAM-22846-GO-RFB.
ITB 1.1	The Purchaser is: State Project Management Unit (SPMU) Neer Nirmal Pariyojana-Assam (NNP-Assam) Represented by: Project Director, SPMU, NNP-Assam
ITB 1.1	The name of the NCB is: Supply, Installation and Testing of Equipment, Chemicals and Glassware for Water Quality Monitoring and Surveillance Laboratory in Project Districts of Assam under Neer Nirmal Pariyojana- Assam The identification number of the NCB is: IN-SPMU-ASSAM-22846-GO-RFB. The number and identification of lots (contracts) comprising this NCB is: Single Lot.
ITB 2.1	The Borrower is: India.
ITB 2.1	Loan or Financing Agreement amount: US\$500.00 million equivalent
ITB 2.1	The name of the Project is: Neer Nirmal Pariyojana, Assam (Rural Water Supply and Sanitation Project for Low Income States, Assam)
ITB 4.1	Maximum number of members in the JV shall be: Not Applicable.
ITB 4.4	A list of debarred firms and individuals is available on the Bank's external website: http://www.worldbank.org/debarr .
B. Contents of Bidding Documents	
ITB 7.1	For Clarification of bid purposes only, the Purchaser's address is: Attention: Project Director, SPMU, NNP-Assam Address: Redstone Building, G.S Road, Dispur Floor number: 5th Floor



	<p>City: Guwahati</p> <p>ZIP Code: 781022</p> <p>Country: : India</p> <p>Telephone: 091-0361-2334345</p> <p>Facsimile number: Not available</p> <p>Electronic mail address: assam_worldbank@rediffmail.com</p> <p>Requests for clarification should be received by the Employer no later than: 15 days from the date of issue of bidding document.</p>
ITB 7.1	Web page: www. http://nnpphedassam.org
	C. Preparation of Bids
ITB 10.1	<p>The language of the bid is: English.</p> <p>All correspondence exchange shall be in English language.</p> <p>Language for translation of supporting documents and printed literature is English.</p>
ITB 11.1 (j)	The Bidder shall submit the following additional documents in its bid: Not Applicable
ITB 13.1	Alternative Bids shall not be considered.
ITB 14.5	The prices quoted by the Bidder shall not be subject to adjustment during the performance of the Contract.
ITB 14.6	<p>Prices quoted for each lot (contract) shall correspond at least to 100 percent of the items specified for each lot (contract).</p> <p>Prices quoted for each item of a lot shall correspond at least to 100 percent of the quantities specified for this item of a lot.</p>
ITB 14.7	The Incoterms edition is: INCOTERMS 2010 published by the International Chamber of Commerce.
ITB 14.8 (b) (i) and (c) (v)	Place of Destination: CIP (Bongaigaon, Hailakandi, Jorhat, Guwahati, Morigaon, and Sivasagar as detailed in Part 2 – Supply Requirements)
ITB 14.8 (a) (iii);(b)(ii) and (c)(v)	Final destination (Project Site): Water Quality Monitoring and Surveillance Laboratories of District Project Management Units (DPMU) of Bongaigaon, Hailakandi, Jorhat, Kamrup, and Sivasagar as detailed in Part 2 – Supply Requirements)
ITB 15.1	<p>The prices shall be quoted by the bidder in: Indian Rupees (INR).</p> <p>The Bidder is required to quote in the currency of the Purchaser's Country the portion of the bid price that corresponds to expenditures incurred in</p>



	that currency.
ITB 16.4	Period of time the Goods are expected to be functioning (for the purpose of spare parts): 10 years.
ITB 17.2 (a)	Manufacturer's authorization is: Not required.
ITB 17.2 (b)	After sales service is: Required.
ITB 18.1	The bid validity period shall be 119 days (17 weeks) from the deadline for bid submission.
ITB 18.3 (a)	The bid price shall be adjusted by the following factor(s): Not applicable
ITB 19.1	A <i>Bid Security</i> shall be required. A Bid-Securing Declaration shall not be required. If a bid security shall be required, the amount and currency of the bid security shall be INR2,85,000.00
ITB 19.3 (c)	Bid security in the form of a cashier's or certified cheque is not acceptable.
ITB 19.3 (d)	Other types of acceptable securities: Fixed Deposit Receipts
ITB 19.9	Not Applicable
ITB 20.1	In addition to the original of the bid, the number of copies is: One.
ITB 20.2	The written confirmation of authorization to sign on behalf of the Bidder shall consist of: A board resolution or its equivalent, or power of attorney specifying the representative's authority to sign the Bid on behalf of, and to legally bind, the Bidder. If the Bidder is an intended or an existing joint venture, the power of attorney should be signed by all partners and specify the authority of the named representative of the joint venture to sign on behalf of, and legally bind, the intended or existing joint venture. If the joint venture has not yet been formed, also include evidence from all proposed joint venture partners of their intent to enter into a joint venture in the event of a contract award.
	D. Submission and Opening of Bids
ITB 22.1	For bid submission purposes only, the Purchaser's address is: Attention: Project Director, SPMU, NNP-Assam Address: Redstone Building, G.S Road, Dispur Floor number: 5th Floor City: Guwahati ZIP Code: 781022 Country: : India The deadline for bid submission is:

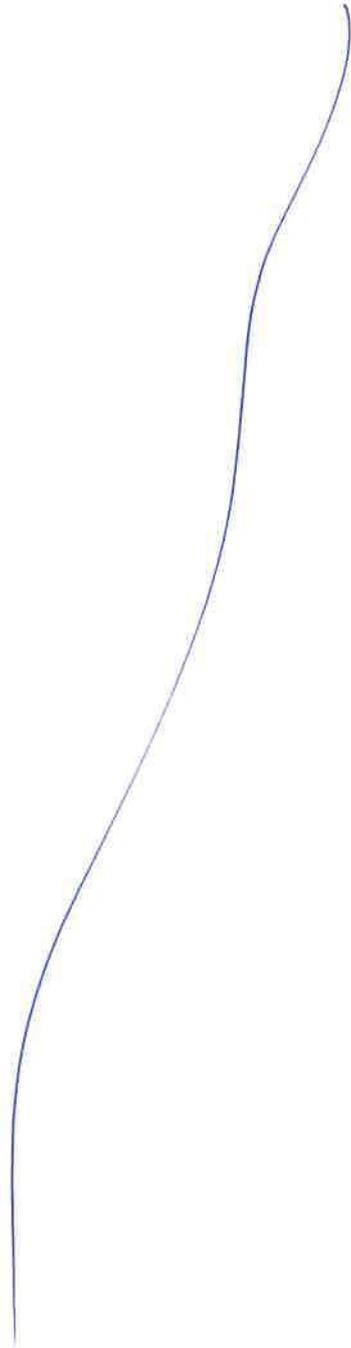


	<p>Date: 21 February 2018</p> <p>Time: 3.00 p.m.</p> <p>Bidders shall have the option of submitting their bids electronically.</p> <p>If bidders have the option of submitting their bids electronically, the electronic bidding submission procedures shall be: as available in https://assamtenders.gov.in/</p>
ITB 25.1	<p>The bid opening shall take place at:</p> <p>Address: Redstone Building, G.S Road, Dispur</p> <p>Floor number: 5th Floor</p> <p>City: Guwahati</p> <p>ZIP Code: 781022</p> <p>Country: : India</p> <p>Date: 23 February 2018</p> <p>Time: 3.30 p.m.</p> <p>If bidders have the option of submitting their bids electronically, the electronic bidding opening procedures shall be: as described in Appendix BDS 2</p>
ITB 25.3	<p>The Letter of Bid and Price Schedules shall be initialed by two representatives of the Purchaser conducting Bid opening. The bids shall be numbered and any modification to the unit or total price shall be initialed by the by the three representative of the Purchaser.</p>
E. Evaluation and Comparison of Bids	
ITB 32.1	<p>The currency that shall be used for bid evaluation and comparison purposes to convert all bid prices expressed in various currencies into a single currency is: Indian Rupees (INR)</p> <p>The source of exchange rate shall be: Not Applicable.</p> <p>The date for the exchange rate shall be: Not Applicable.</p>
ITB 33.1	<p>A margin of domestic preference shall not apply.</p>
ITB 34.2(a)	<p>Evaluation will be done as below:</p> <p>Bids will be evaluated item by item. If a Price Schedule shows items listed but not priced, their prices shall be assumed to be included in the prices of other items. An item not listed in the Price Schedule shall be assumed to be not included in the bid, and provided that the bid is substantially responsive, the average price of the item quoted by substantially responsive bidders will be added to the bid price and the equivalent total cost of the bid so determined will be used for price comparison.</p>
ITB 34.6	<p>The adjustments shall be determined using the following criteria, from</p>



	<p>amongst those set out in Section III, Evaluation and Qualification Criteria:</p> <p>(a) Deviation in Delivery schedule: No</p> <p>(b) Deviation in payment schedule: No</p> <p>(c) the cost of major replacement components, mandatory spare parts, and service: No</p> <p>(d) the availability in the Purchaser's Country of spare parts and after-sales services for the equipment offered in the bid: No</p> <p>(e) the projected operating and maintenance costs during the life of the equipment: No</p> <p>(f) the performance and productivity of the equipment offered; No</p>
	F. Award of Contract
ITB 39.1	<p>The maximum percentage by which quantities may be increased is: 10%</p> <p>The maximum percentage by which quantities may be decreased is: 10%</p>





Section III. Evaluation and Qualification Criteria

This Section contains all the criteria that the Purchaser shall use to evaluate a bid and qualify the Bidders. in accordance with ITB 34 and ITB 36, no other factors, methods or criteria shall be used.

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1. Margin of Preference (ITB 33)**Not Applicable****2. Evaluation (ITB 34)****2.1. Evaluation Criteria (ITB 34.6)**

The Purchaser's evaluation of a bid may take into account, in addition to the Bid Price quoted in accordance with ITB Clause 14.8, one or more of the following factors as specified in ITB34.2(f) and in BDS referring to ITB34.6, using the following criteria and methodologies.

- (a) Delivery schedule. (as per Incoterms specified in the BDS)

The Goods specified in the List of Goods are required to be delivered within the acceptable time range (after the earliest and before the final date, both dates inclusive) specified in Section VII, Schedule of Requirements. No credit will be given to deliveries before the earliest date, and bids offering delivery after the final date shall be treated as nonresponsive.

- (b) Deviation in payment schedule.

The SCC stipulates the payment schedule specified by the Purchaser. If a bid deviates from the schedule, the bid shall be treated as nonresponsive.

- (c) Cost of major replacement components, mandatory spare parts, and service.

The bidder will submit the list of items and quantities of major assemblies, components, and selected spare parts, likely to be required during the initial period of operation specified in the BDS16.

- (d) Availability in the Purchaser's Country of spare parts and after sales services for equipment offered in the bid.

If the minimum service facilities and parts inventories are not available in the Purchaser's Country, the bid shall be treated as nonresponsive. The bidder shall certify in this regard.

- (e) Projected operating and maintenance costs.

Not Applicable.

- (f) Performance and productivity of the equipment.

Not applicable.

2.2. Multiple Contracts (ITB 34.4)

Not Applicable

2.3. Alternative Bids (ITB 13.1)

Not Applicable

3. Qualification (ITB 36)

3.1 Postqualification Requirements (ITB 36.1)

After determining the lowest-evaluated bid in accordance with ITB 35.1, the Purchaser shall carry out the postqualification of the Bidder in accordance with ITB 36, using only the requirements specified. Requirements not included in the text below shall not be used in the evaluation of the Bidder's qualifications.

(i) Financial Capability

The Bidder shall furnish documentary evidence that it meets the following financial requirement(s):

- (a) Submission of audited financial statements or, if not required by the law of the Bidder's country, other financial statements acceptable to the Purchaser, for the last 3 years to demonstrate the current soundness of the Bidder's financial position. As a minimum, the Bidder's net worth for the last year calculated as the difference between total assets and total liabilities should be positive.
- (b) Minimum average annual turnover of INR11.40 million over the last 3 years, calculated as total payments received by the Bidder for contracts completed or under execution.
- (c) Availability of or access to liquid assets, lines of credit and other finances sufficient to meet cash flow requirement of INR10 million.

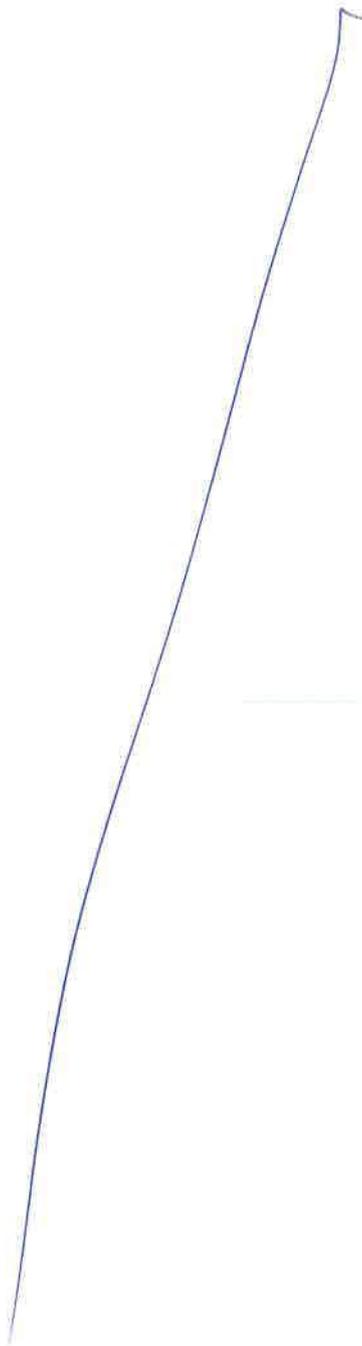
(ii) Experience and Technical Capacity

The Bidder shall furnish documentary evidence to demonstrate that it has successfully completed at least one contract of similar goods in the past 3 years.

(iii) Documentary Evidence

The Bidder shall furnish documentary evidence to demonstrate that the Goods it offers meet the requirements for use in water quality testing laboratory.





Section IV. Bidding Forms

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Letter of Bid

The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and address.

Note: All italicized text is for use in preparing these form and shall be deleted from the final products.

Date: [insert date (as day, month and year) of Bid Submission]

NCB No.: IN-SPMU-ASSAM-22846-GO-RFB

Invitation for Bid No.: SPMU/PROC/Lab. Equip./198/2016-17/4256 Dated 10 January 2018

To: **Project Director**

**State Project Management Unit, Neer Nirmal Pariyojana-Assam
Redstone Building, G. S. Road, 5th Floor
Guwahati, Pin: 781022, India**

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB 8)___;
- (b) We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;
- (c) We have not been suspended nor declared ineligible by the Purchaser based on execution of a Bid Securing Declaration in the Purchaser's country in accordance with ITB 4.6
- (d) We offer to supply in conformity with the Bidding Documents and in accordance with the Delivery Schedules specified in the Schedule of Requirements the following Goods:

Supply, Installation and Testing of Equipment, Chemicals and Glassware for Water Quality Monitoring and Surveillance Laboratory in Seven Districts of Assam under Neer Nirmal Pariyojana- Assam

- (e) The total price of our Bid, excluding any discounts offered in item (f) below is:

Total price of the Bid [insert the total price of the bid in words and figures, indicating the various amounts and the respective currencies];

- (f) The discounts offered and the methodology for their application are:

(i) The discounts offered are: [Specify in detail each discount offered.]

(ii) The exact method of calculations to determine the net price after application of discounts is shown below:[Specify in detail the method that shall be used to apply the discounts];



- (g) Our bid shall be valid for a period of *[specify the number of calendar days]* days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (h) If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents;
- (i) We are not participating, as a Bidder or as a subcontractor, in more than one bid in this bidding process in accordance with ITB 4.2(e), other than alternative bids submitted in accordance with ITB 13;
- (j) We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by a member of the World Bank Group or a debarment imposed by the World Bank Group in accordance with the Agreement for Mutual Enforcement of Debarment Decisions between the World Bank and other development banks. Further, we are not ineligible under the Employer's country laws or official regulations or pursuant to a decision of the United Nations Security Council;
- (k) We are not a government owned entity/ We are a government owned entity but meet the requirements of ITB 4.5;¹
- (l) We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract: **[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]**

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate "none.")

- (m) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed; and
- (n) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

¹Bidder to use as appropriate



- (o) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any type of fraud and corruption

Name of the Bidder* [insert complete name of person signing the Bid]

Name of the person duly authorized to sign the Bid on behalf of the Bidder** [insert complete name of person duly authorized to sign the Bid]

Title of the person signing the Bid [insert complete title of the person signing the Bid]

Signature of the person named above [insert signature of person whose name and capacity are shown above]

Date signed [insert date of signing] day of [insert month], [insert year]

*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

**: Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedules.



Bidder Information Form

[The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted.]

Date: *[insert date (as day, month and year) of Bid Submission]*
NCB No.: **IN-SPMU-ASSAM-22846-GO-RFB**

Page _____ of _____ pages

1. Bidder's Name <i>[insert Bidder's legal name]</i>
2. In case of JV, legal name of each member : <i>[insert legal name of each member in JV]</i>
3. Bidder's actual or intended country of registration: <i>[insert actual or intended country of registration]</i>
4. Bidder's year of registration: <i>[insert Bidder's year of registration]</i>
5. Bidder's Address in country of registration: <i>[insert Bidder's legal address in country of registration]</i>
6. Bidder's Authorized Representative Information Name: <i>[insert Authorized Representative's name]</i> Address: <i>[insert Authorized Representative's Address]</i> Telephone/Fax numbers: <i>[insert Authorized Representative's telephone/fax numbers]</i> Email Address: <i>[insert Authorized Representative's email address]</i>
7. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i> <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITB 4.3. <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 4.1. <input type="checkbox"/> In case of Government-owned enterprise or institution, in accordance with ITB 4.5 documents establishing: <ul style="list-style-type: none"> • Legal and financial autonomy • Operation under commercial law • Establishing that the Bidder is not dependent agency of the Purchaser
2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.



Bidder's JV Members Information Form

[The Bidder shall fill in this Form in accordance with the instructions indicated below. The following table shall be filled in for the Bidder and for each member of a Joint Venture]].

Date: *[insert date (as day, month and year) of Bid Submission]*

NCB No.: **IN-SPMU-ASSAM-22846-GO-RFB**

Page _____ of _____ pages

1. Bidder's Name: <i>[insert Bidder's legal name]</i>
2. Bidder's JV Member's name: <i>[insert JV's Member legal name]</i>
3. Bidder's JV Member's country of registration: <i>[insert JV's Member country of registration]</i>
4. Bidder's JV Member's year of registration: <i>[insert JV's Member year of registration]</i>
5. Bidder's JV Member's legal address in country of registration: <i>[insert JV's Member legal address in country of registration]</i>
6. Bidder's JV Member's authorized representative information Name: <i>[insert name of JV's Member authorized representative]</i> Address: <i>[insert address of JV's Member authorized representative]</i> Telephone/Fax numbers: <i>[insert telephone/fax numbers of JV's Member authorized representative]</i> Email Address: <i>[insert email address of JV's Member authorized representative]</i>
7. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i> <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.3. <input type="checkbox"/> In case of a Government-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and absence of dependent status, in accordance with ITB 4.5.
2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.



Price Schedule Forms

*[The Bidder shall fill in these Price Schedule Forms in accordance with the instructions indicated. The list of line items in column 1 of the **Price Schedules** shall coincide with the List of Goods and Related Services specified by the Purchaser in the Schedule of Requirements.]*



Price Schedule: Goods Manufactured Outside the Purchaser's Country, to be Imported

Date: _____ NCB No: IN-SPMU-ASSAM-22846-GO-RFB Page No _____ of _____								
(Group C bids, goods to be imported) Currencies in accordance with ITB 15								
1	2	3	4	5	6	7	8	9
Line Item No	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price CIP <i>[insert place of destination]</i> in accordance with ITB 14.8(b)(i)	CIP Price per line item (Col. 5x6)	Price per line item for inland transportation and other services required in the Purchaser's country to convey the Goods to their final destination specified in BDS	Total Price per Line item (Col. 7+8)
<i>[insert number of the item]</i>	<i>[insert name of good]</i>	<i>[insert country of origin of the Good]</i>	<i>[insert quoted Delivery Date]</i>	<i>[insert number of units to be supplied and name of the physical unit]</i>	<i>[insert unit price CIP per unit]</i>	<i>[insert total CIP price per line item]</i>	<i>[insert the corresponding price per line item]</i>	<i>[insert total price of the line item]</i>
Total Price								

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]* Date *[insert Date]*



Price Schedule: Goods Manufactured Outside the Purchaser's Country, already imported*

Date: _____ NCB No: IN-SPMU-ASSAM-22846-GO-RFB											
Page No _____ of _____											
(Group C bids, Goods already imported)											
Currencies in accordance with ITB 15											
1	2	3	4	5	6	7	8	9	10	11	12
Line Item No	Description of Goods	Country of Origin	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price including Custom Duties and Import Taxes paid, in accordance with ITB 14 8(c)(i)	Custom Duties and Import Taxes paid per unit in accordance with ITB 14 8(c)(ii), (to be supported by documents)	Unit Price net of custom duties and import taxes, in accordance with ITB 14 8 (c) (iii) (Col 6 minus Col 7)	Price per line item net of Custom Duties and Import Taxes paid, in accordance with ITB 14 8(c)(i) (Col 5x8)	Price per line item for inland transportation and other services required in the Purchaser's country to convey the goods to their final destination, as specified in BDS in accordance with ITB 14 8 (c)(v)	Sales and other taxes paid or payable per item if Contract is awarded (in accordance with ITB 14 8(c)(iv))	Total Price per line item (Col 9+10)
[insert number of the item]	[insert name of Goods]	[insert country of origin of the Good]	[insert quoted Delivery Date]	[insert number of units to be supplied and name of the physical unit]	[insert unit price per unit]	[insert custom duties and taxes paid per unit]	[insert unit price net of custom duties and import taxes]	[insert price per line item net of custom duties and import taxes]	[insert price per line item for inland transportation and other services required in the Purchaser's country]	[insert sales and other taxes payable per item if Contract is awarded]	[insert total price per line item]
Total Bid Price											

Name of Bidder [insert complete name of Bidder] Signature of Bidder [signature of person signing the Bid] Date [insert date]

* [For previously imported Goods, the quoted price shall be distinguishable from the original import value of these Goods declared to customs and shall include any rebate or mark-up of the local agent or representative and all local costs except import duties and taxes, which have been and/or have to be paid by the Purchaser. For clarity the bidders are asked to quote the price including import duties, and additionally to provide the import duties and the price net of import duties which is the difference of those values.]



Price Schedule: Goods Manufactured in the Purchaser's Country

Purchaser's Country <u>India</u> (Group A and B bids) Currencies in accordance with ITB 15									
Date: _____ NCB No: IN-SPMU-ASSAM-22846-GO-RFB Page No _____ of _____									
1	2	3	4	5	6	7	8	9	10
Line Item No	Description of Goods	Delivery Date as defined by Incoterms	Quantity and physical unit	Unit price EXW	Total EXW price per line item (Col 4x5)	Price per line item for inland transportation and other services required in the Purchaser's Country to convey the Goods to their final destination	Cost of local labor, raw materials and components from with origin in the Purchaser's Country % of Col 5	Sales and other taxes payable per line item if Contract is awarded (in accordance with ITB 14.8(a)(ii))	Total Price per line item (Col. 6+7)
[insert number of the item]	[insert name of Good]	[insert quoted Delivery Date]	[insert number of units to be supplied and name of the physical unit]	[insert EXW unit price]	[insert total EXW price per line item]	[insert the corresponding price per line item]	[insert cost of local labor, raw material and components from within the Purchase's country as a % of the EXW price per line item]	[insert sales and other taxes payable per line item if Contract is awarded]	[insert total price per item]
Total Price									

Name of Bidder [insert complete name of Bidder] Signature of Bidder [signature of person signing the Bid] Date [insert date]



Form of Bid Security

(Bank Guarantee)

[The bank shall fill in this Bank Guarantee Form in accordance with the instructions indicated.]

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: Project Director
State Project Management Unit, Neer Nirmal Pariyojana-Assam
Redstone Building, G. S. Road, 5th Floor
Guwahati, Pin: 781022, India

IFB No.: SPMU/PROC/Lab. Equip./198/2016-17/4256 Dated 10 January 2018

Date :*[Insert date of issue]*

BID GUARANTEE No.:*[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that _____ *[insert name of the Bidder, which in the case of a joint venture shall be the name of the joint venture (whether legally constituted or prospective) or the names of all members thereof]* (hereinafter called "the Applicant") has submitted or will submit to the Beneficiary its bid (hereinafter called "the Bid") for the execution of _____ under Invitation for Bids No. _____ ("the IFB").

Furthermore, we understand that, according to the Beneficiary's conditions, bids must be supported by a bid guarantee.

At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ (_____) upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:

- (a) has withdrawn its Bid during the period of bid validity set forth in the Applicant's Letter of Bid ("the Bid Validity Period"), or any extension thereto provided by the Applicant; or
- (b) having been notified of the acceptance of its Bid by the Beneficiary during the Bid Validity Period or any extension thereto provided by the Applicant, (i) has failed to execute the contract agreement, or (ii) has failed to furnish the performance security, in



accordance with the Instructions to Bidders (“ITB”) of the Beneficiary’s bidding document.

This guarantee will expire: (a) if the Applicant is the successful bidder, upon our receipt of copies of the contract agreement signed by the Applicant and the performance security issued to the Beneficiary in relation to such contract agreement; or (b) if the Applicant is not the successful bidder, upon the earlier of (i) our receipt of a copy of the Beneficiary’s notification to the Applicant of the results of the bidding process; or (ii) twenty-eight days after the end of the Bid Validity Period.

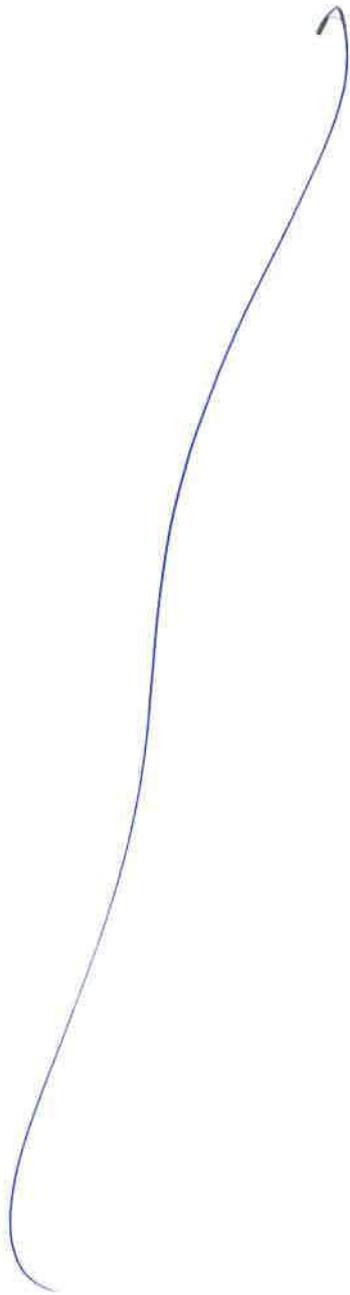
Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758.

[Signature(s)]

Note: All italicized text is for use in preparing this form and shall be deleted from the final product.





Section V. Eligible Countries

Eligibility for the Provision of Goods, Works and Non Consulting Services in Bank-Financed Procurement

In reference to ITB 4.7 and 5.1, for the information of the Bidders, at the present time firms, goods and services from the following countries are excluded from this bidding process:

Under ITB 4.7(a) and 5.1: **none.**

Under ITB 4.7(b) and 5.1: **none.**



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Section VI. Bank Policy - Corrupt and Fraudulent Practices

Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011.

“Fraud and Corruption:

1.16 It is the Bank’s policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.² In pursuance of this policy, the Bank:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
- (i) “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;³
 - (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;⁴
 - (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;⁵
 - (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;⁶
 - (v) “obstructive practice” is:

² In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

³ For the purpose of this sub-paragraph, “another party” refers to a public official acting in relation to the procurement process or contract execution. In this context, “public official” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

⁴ For the purpose of this sub-paragraph, “party” refers to a public official; the terms “benefit” and “obligation” relate to the procurement process or contract execution; and the “act or omission” is intended to influence the procurement process or contract execution.

⁵ For the purpose of this sub-paragraph, “parties” refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other’s bid prices or other conditions.

⁶ For the purpose of this sub-paragraph, “party” refers to a participant in the procurement process or contract execution.



- (aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or
 - (bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 1.16(e) below.
- (b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
 - (c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
 - (d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank's sanctions procedures,⁷ including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated⁸;
 - (e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to

⁷ A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank's sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

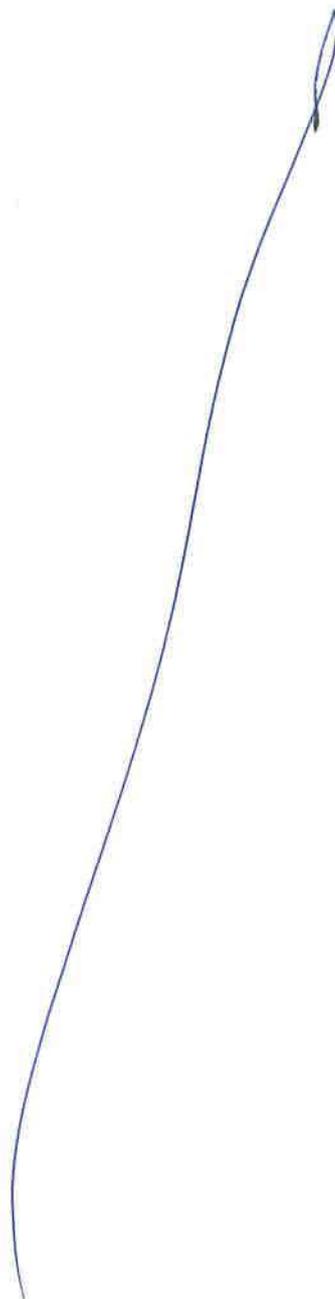
⁸ A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.



the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank.”

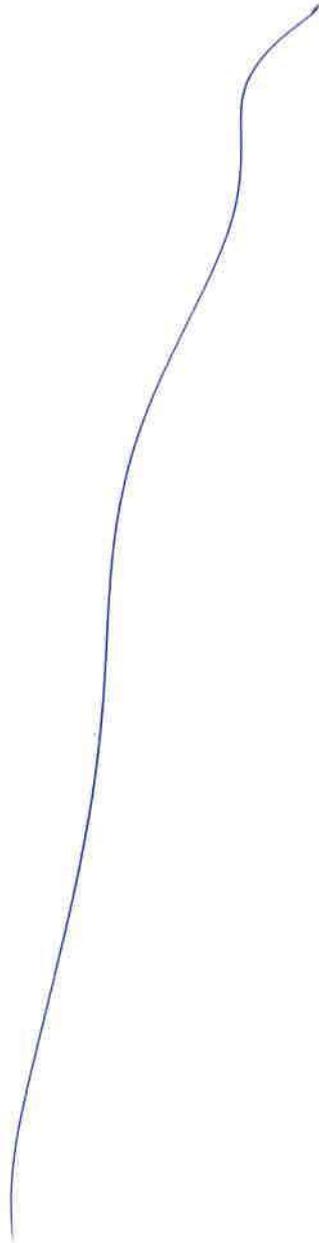
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PART 2 – Supply Requirements





Section VII. Schedule of Requirements

Contents

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1. List of Goods and Delivery Schedule

Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		Bidder's offered Delivery date (to be provided by the bidder)
					Earliest Delivery Date	Latest Delivery Date	
1	<p>Digital pH meter</p> <p>* Confirms to National Accreditation Board for Testing and Calibration Laboratories (NABL) & National Institute of Standards & Technology (NIST) guidelines * automatic electrode recognition * built in GLP function * graphic LCD display of pH, ORP readings, temperature, electrode status, calibration points, battery life, date and time * hard & waterproof casing * Help Menu * pH Range: 0-14 pH * resolution: 0.01pH * accuracy: ± 0.01 pH * calibration point: Up to 5 * Buffer sets * auto temperature compensation * windows compatible software * USB cable for PC connection * rechargeable batteries & battery charger</p> <p>Portable pH meter</p> <p>* Multi-Point Calibration (up to 5 points) with Auto-Buffer Recognition - choice of USA * NIST or pure water buffer standards with ± 0.01 pH accuracy * Automatic Temperature Compensation (ATC) for the highest accuracy under * fluctuating temperatures * Hold Function momentarily freezes reading for easy viewing and recording * Auto-Power Off saves battery power after non-use * Self-Diagnostic with message codes for easy troubleshooting * Large Custom LCD</p>	1	No.	Jorhat, Assam, India	30 days from the date of issue of Notice to Proceed	60 days from the date of issue of Notice to Proceed	



Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Inc terms) Date		
					Earliest Delivery Date	Latest Delivery Date	Bidder's offered Delivery date (to be provided by the bidder)
	<p>provides optimum viewing even at a distance * Protective Rubber Boot shields meter from accidental knocks and features a sturdy built-in stand for easy bench-top operation * Rugged Carrying Case (Optional) provides handy on-site meter calibration and measurement.</p> <p>Technical specification:</p> <ul style="list-style-type: none"> * pH Range - 0.00 to 14.00 pH * Resolution & Accuracy- 0.01 pH & ± 0.01 pH * Temperature Range - 0 to 100.0 °C Resolution & Accuracy- 0.1 °C & ± 0.5 °C * mV Range -1000 to + 1000 mV * Resolution & Accuracy - 1 mV & ± 1 mV * Temperature Compensation-Automatic / Manual (0 to 100 °C) * No. of Calibration Points - Up to 5 points <p>The unit should be supplied with (i) Microprocessor based pH Meter with Single Junction pH Electrode, (ii) ATC Probe & pH Carrying Kit Set (Includes at least 1 x pH 4.01, (iii) pH 7.00 Buffer Solutions, (iv) Storage Solution & 1 x Deionised (Rinse) Water (60 ml Each), (v) 480 ml each of colour coded standard buffer solution pH 4.01 (red coloured), (vi) pH 7.00 (Yellow coloured) & pH 10.01 (Blue coloured), (vii) operating manual, carrying case.</p>						
2	<p>Digital TDS meter</p> <ul style="list-style-type: none"> * Conforms to NABL & NIST guidelines * displays Conductivity, TDS and Temperature * automatic electrode recognition * built in GLP function * up to 1000 samples data set storage * range - 1 μS/cm to 200 mS/cm * windows compatible software * USB cable for PC connection <p>Portable Digital TDS meter</p> <ul style="list-style-type: none"> * Multi-Point Push-button Calibration (up to 5 points) with $\pm 1\%$ full scale accuracy * Automatic or Manual Calibration - for quick, easy calibration; use automatic mode * with pre-set calibration points at most popular values or manually set values in themanual mode for more flexibility * Auto-Ranging 	1	No.				



Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		Bidder's offered Delivery date (to be provided by the bidder)
					Earliest Delivery Date	Latest Delivery Date	
	<p>for Conductivity/TDS measurements for fast response and best resolution over wide measurement range * Adjustable TDS Factor for more accurate measurement (for TDS 6 model only) * Automatic Temperature Compensation (ATC) for the optimum accuracy under fluctuating temperatures * Hold Function momentarily freezes reading for easy viewing * Auto-Power Off saves battery power after non-use * Self-Diagnostic with message codes for easy troubleshooting * Large Custom LCD provides optimum viewing even at a distance * Electrode with Built-in ATC designed for minimal air bubble entrapment during measurement * Protective Rubber Boot shields meter from drops and features a sturdy built-in stand for easy bench-top operation.</p> <p>Technical specifications:</p> <ul style="list-style-type: none"> * TDS Range-0.00 - 9.99 ppm / 10.0 - 99.9 ppm/ 100 - 999 ppm / 1.00 - 9.99 ppt / 10.0 - 99.9 ppt * Resolution-0.05 % full scale Accuracy-±1 % of full scale ±1 LSD * TDS Factor-0.30 to 1.00 * Temperature Range-0.0 to 80.0 °C * Resolution-0.1 °C * Accuracy-±0.5 °C * Compensation Automatic/Manual (0 to 80 °C) * Normalization 20.0 or 25.0 °C Operating Temperature-5 to 45 °C * Calibration Points-4 (1 per range) auto, 5(1 per range) manual Temperature Coefficient-0.0 - 10.0 % * Cell-Constant-0.1, 1.0, 10.0 Auto-Off-20 min after last key pressed * Input-BNC, 2.5 mm phono socket Power-4 x 1.5 V 'AAA' alkaline batteries to be included <p>The meter should be supplied with (i) Basic meter with conductivity electrode with cell constant 1.0, (ii) TDS calibration solutions (50 ppm, 300 ppm, 3000 ppm), (iii) DI</p>						



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	rinse water (60 mL each). (iv) Grip-Clip, (v) batteries in hard carrying case, (vi) operating manual & 480 ml of 300 ppm TDS calibration solution.						
3	Refrigerator * Capacity-180 L * frost free * 5 star rating * single door * freezer type - top freezer * in built inverter	1	No.				
4	Refrigerator * Capacity- 300 L * frost free * 5 star rating * double door * freezer type - top freezer in built inverter	1	No.				
5	Water still * Distillation Unit made of Stainless steel * capacity 5 litre/ hour * wall mounting model – equipped with brackets for wall mounting * to work on 220- 230 volts AC supply	1	No.				
6	Voltage stabilizer * Capacity- 3 KVA * servo stabilizer * 5 star rating	1	No.				
7	Hot plate * Body to be fabricated out of thick mild steel sheet, duly finished in epoxy powder coated * The Hot Plate top to be made of Stainless steel thick sheet & smoothed duly finished should be firmly mounted on the body * Heavy duty heating elements should be securely laid under the plate to operate on 220/230V AC supply * Temperature in controlled by energy regulators fitted with an indicator lamp for the mains * To be supplied with main cord and plug. Technical Specifications * Top plate size: 30 x 45cm * Load: 2 KW	2	No.				
8	Hot air oven - Standard make * The unit should be of double walled with outer body made of Mild Steel Sheet treated for degreasing & rust proofing duly powder coated and inner chamber is to be made of Stainless Steel Sheet (304 Grade) with adjustable Stainless-Steel Wire Mesh shelves * Space between inner chamber and outer wall should be filled with high grade mineral wool as insulation *	1	No.				



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9	<p>The Double Walled Door should have synthetic rubber / fibre gasket. Unit should have ventilation slides on two sides to control inner air/ vapour circulation * To be fitted with beaded heating elements placed in ribs, at bottom and sides for uniform heat distribution. To work on 220/230 volts AC supply. Technical Specifications</p> <ul style="list-style-type: none"> * Temperature control-By capillary type thermostat with arbitrary scale dial for temperature control from +5° C ambient to 250°C ± 2°C at 100°C and with in-built L-type capillary thermometer & energy regulator to reduce temperature fluctuation in higher temperature. * Working chamber size: 450x450x600 mm (2 trays)-approximately 120 lit <p>Bacteriological Incubator</p> <ul style="list-style-type: none"> * The unit should be double walled with outer body to be made of MS sheet treated for degreasing & rust proofing duly powder coated and inner chamber to be made of Stainless Steel (304 Grade) sheet * To be provided with adjustable Stainless Steel Wire Mesh / perforated shelves * Space between inner chamber and outer wall should be filled with high grade mineral wool for minimal heat loss * The Double Walled Door to be fitted with glass window to facilitate viewing inside chamber without disturbing the inner temperature and should be of synthetic rubber/fibre gasket. Unit should have ventilation slides on two sides to control inner air/ vapour circulation * To be fitted with beaded heating elements placed in ribs, at bottom and sides for uniform heat distribution. Unit has to be fitted with two lamps and ON / OFF switch * To work on 220/230 volts AC supply. <p>Technical Specifications:</p> <ul style="list-style-type: none"> * Temperature control-By Digital Temperature Indicator-cum-Controller (with display for Set Value and Present Value) from +5° C ambient to 70°C, ± 0.5°C at 50°C. To be fitted with Air Circulating Fan to maintain uniform temperature throughout 	1	No.				



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	the working chamber. * Working chamber size: 459x450x600 mm (2 trays)- approximately 120 lit						
10	Autoclave * The outer chamber should be made of heavy gauge Stainless Steel Sheet duly polished * The inner chamber should be made of thick 304 Grade Stainless Steel Sheet. Lid should be made of thick machined high grade Stainless Steel plate * The unit should have Radial Locking arrangement made of high grade Stainless Steel duly polished with paddle lifting mechanism * The unit has to be fitted with Spring Loaded Safety Valve, Pressure Gauge, Pressure Release Valve, water Level Indicator, Drain Valve, Automatic Pressure Control Switch, Automatic Low Water Cut-off Device & automatic interval timer * The unit should be hydraulically tested to withstand up to 40 psi pressure * All internal joints of the unit should be Argon arc welded ground and polished to give crevice free internals * Moulded joint-less Silicon Rubber Gasket has to be provided for leak proofing * The unit would be electrically heated by flange type/immersion type heaters. To be supplied with Control Box, fitted with Mains & Heating Indicators, ON / OFF Switch, Cord & Plug to work on 220/230V, 50Hz, AC supply * Working chamber size: 300 mm X 500 mm (approximately 35 lit).	1	No.				
11	Magnetic stirrer * The body should be made of mild steel duly finished in epoxy powder coating and to be mounted with a stainless-steel top stirring has to be done by fractional horsepower motor, rotating magnetic field applied below the liquid container * The stirring would be accomplished by a PTFE encapsulated magnetic needle to be placed in the liquid to be stirred * The unit should be supplied with pilot lamp, plug cord and continuously variable speed regulator * Maximum speed 1400 RPM. The unit shall be workable on 220/230V AC single	1	No.				



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	phase. To be supplied with TWO PTFE coated magnetic needle (dia X length):8x15mm & 8x25mm one each Stirring Capacity: Approximately. 2 lit						
12	Microscope * Binocular * with LCD display * connectivity with and without CPU	1	No.				
13	Vacuum pump * Maximum power 80 watts * maximum vacuum- 670 mm of Hg * maximum flow rate- 34 lit/ min * rotation- 1450 RPM * HP- 1/6 HP * noise level- 52 dB	1	No.				
14	Flame Photometer * Microprocessor Flame Photometer (Graphical Display & Inbuilt Printer) having provision for Four Element measurement in a single aspiration (Na, K, Li, Ca and Ba) * Provision for Calibration curve fit routines first order and second order * Data displayed should be in concentration units i.e. ppm & mcg/litre * The unit should have provision for automatic filter selection; auto calibration, auto Gas Cut off (in case of power failure feature) * Printer attachment, PC connecting compatibility, Sample data storage (at least 300 results) * The unit would have alphanumeric key board for easy data entry, Graphical LCD display for easy to read, Curve calibration using at least up to 5 standards multiple calibration curve saving facility * The unit should be supplied with Stainless steel burner with Sodium & Potassium Filter, air Compressor, LPG cylinder with valve, wire-knitted gas rubber tube, NIST traceable Sodium & Potassium standard (1000 mg/L strength) each of 125 ml pack, 12 nos. certified volumetric Flask- class A of 100ml capacity, 3 nos. 1ml & 3 nos. 10 ml certified graduated Mohr's pipette of Class A made of borosilicate glass.	1	No.				
15	UV Laminar Air Flow chamber * Working area 91.44cm x 60.96cm x 60.96 cm * blower fitted with HP motors * pre-filters made of high grade nylon	1	No.				



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16	Net fixed in stainless steel frame for first Stage air purification, through blower system * closed inner chamber fitted with HEPA having very accurate performance rate of air filtration, rating 99.99% resulting in ceasing all air borne molecule of particles up to 0.3 micron in working Area of Laminar Bench Millipore Filtration assembly * With a Vacuum pump * complete with a glass filter holder 47 mm * with funnel, fitted base, cap & clamp	1	No.				
17	Plate count and colony counter * Hand held * micro controller based * 6 digit [999999] LCD counter * built in buzzer, marker pen, and counters * memorizes last count * as per GMP specifications * hold and count correction facility	1	No.				
18	(a) Arsenic testing instrument - portable type * Digital meter based on colorimetry /densitometry * complete with tri filter arsenic trap * 100 reaction vessel * destruction filter holder * detection filter holder * hydrogen sulphide filter * reagents for 420 tests * visual comparison chart * forceps * gloves * dilution tubes * cuvette * brush * 9V battery * screwdrivers * instrument manual	1	No.				
19	(b) Arsenic testing accessories - for spectrophotometer * Reagent for Arsenic Analysis: package of 250 tests - Hydrochloric Acid analytical grade 500 ml X4, Zinc filling (3-5 mm grain size) 500 gmX3, Potassium Iodide analytical grade 1X100 gm, Stannous Chloride analytical grade 1X100 gm, Morpholine 1X500ml, Lead acetate 1X500 gm, Chloroform HPLC/Spectroscopy grade 2X 1 lit, Silver diethyl dithiocarbamate ACS grade 5 mXI, glass wool 250 gmXI, Acetone analytical grade 500 mlXI * Arsine generator complete with 100 ml Erlenmeyer flask with standard joint, glass wool adaptor with matching std joint, absorber tube with matching standard joint, 5 ml volumetric Flask- package of 12 sets- all made of Borosilicate glass * Volumetric Flask 100 ml	1	No.				



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20	<p>- 3 numbers, Mohr's type graduated pipette 1ml, 5 ml, 10 ml, 25 ml- 6 nos. each * Glass dropper- 2 nos * Stainless steel forceps- 1 no.</p> <p>Dissolved Oxygen Meter</p> <p>* Waterproof Hand-held Meters for the determination of Dissolved oxygen on site. The meter should be of Rugged, water resistant (IP 67) & to be designed for field use. Should have PC interface (USB / serial or analogue) & backlit LCD display.</p> <p>Technical specifications:</p> <p>* Measurement: Oxygen partial pressure, Oxygen Concentration, Oxygen Saturation, Temperature measurement, Automatic absolute air pressure measurement</p> <p>Should have Auto Hold Function, Alarm Function, Data Logger facility & with required Software, Easy calibration against oxygen in air, Salinity correction & shall have Self-polarising galvanic oxygen probe which should allow instant measurement after system be switched on.</p> <p>* Should have the features for Low battery and battery change indicator, auto off function, Sensor evaluation after calibration in the display & should have Shock-absorbing rubber protective armouring. 02 concentration 0.0 ... 70.0 mg/l</p> <p>* Accuracy 02 concentration 0 ... 25 mg/l \pm 1.5 % \pm 0.2 mg/l/ 25 ... 70 mg/l \pm 2.5 % \pm 0.3 mg/l</p>	1	No.				
21	<p>Cool box with icepacks</p> <p>* Material: PC thermoplastic / Non toxic gel well * dimension: 134mm x 92 mm</p>	2	No.				
22	<p>Specific ion meter - for Fluoride, Chloride and Nitrate etc</p> <p>* Microprocessor based pH/ISE meter with large, backlit graphic LCD display, Informative display should show H/mV/RmV/ISE results and temperature along with electrode status, time, date, sample ID, user ID and calibration points * Tech specs for Ion measurement: Range: 0 to 19999</p>	1	No.				



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23	<p>* Resolution: Up to 3 significant digits * Relative Accuracy: ± 0.2 mV or ± 0.05 % of reading whichever is greater * Units: ppm, M, mg/L, %, ppb, none * Calibration Points: Up to 5 * Calibration Editing: possible * Calibration Features: Timed end point, linear point to point, non-linear selectable auto-blank, low concentration range stability</p> <p>The unit shall be supplied with pH electrode, ATC probe, stainless steel probe, Star stirrer probe, Electrode arm with holder & Universal power adapter. The unit shall be supplied with Fluoride & Nitrate ion selective electrode with electrode filling solution, TISAB-III for Fluoride, total ionic strength buffer solution for nitrate electrode, NIST traceable Standard solution for 1000 mg/L of Fluoride & Nitrate - 500 ml of each type, variable volume micropipette 1-5 ml with micro-tip (100 nos.) - 1 set & any other consumables required for Fluoride & Nitrate analysis.</p> <p>Fume cup board</p> <p>* Work table size 91.44cm x 60.96cm x 60.96 cm * exhaust ducting * table material: granite * outer mild steel body</p>	1	No.				
24	<p>Auto Burette (100 ml capacity, Automatic Zero, Accuracy as per Class A IS 1997: 2008 / ISO 385: 2005, With Reservoir, Rubber Bellow, PTFE Stopcock with Certificate)</p>	1	No.				
25	<p>Auto-Pipette</p> <p>* Single channel Variable Volume automatic pipette * air-displacement type * Conformity * Certified with Individual Work Certificate * Range: 500 - 5000 μl * Division: 10 μl * Accuracy $R \leq \pm 0.8$</p>	1	No.				
26	<p>Thermometer</p> <p>* Range -20°C to 250°C * displays both in Fahrenheit & Centigrade scale/ inter switchable * accuracy - ± 0.2°C * resolution-0.1° * water resistant</p> <p>Single Stage distillation apparatus</p> <p>* Output - 5 litres * auto cut * metallic stand * complete with other accessories * 230 volts</p>	1	No.				
27		1	No.				



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28	Quartz Distillation apparatus Dist. Water Output Cap.(Approx) – 5 Ltr/Hr, 230-250 Volts Single phase 4.4kw, Cooling Water consumption – 60 Ltr/Hr. Pyrogen free, PH 6-7, Conductivity –S/cm-<3 x 10-6, Distillate Temperature 65-750C, with Distillation Apparatus Power Supply (DAPS), Quartz boiler, Borosilicate Condenser and Quartz Condenser, Distillation Unit, Single Stage, All Quartz (Boiler & Condenser), with Built-in Quartz Heater, Vertical Panel Mounted to be complete with low water level cut-off device, Conductivity of distilled water should be around 2 us/cm or less.	1	No.				
29	Kjeldal distillation apparatus * unit of 6 test mantle type	1	No.				
30	Pressure Pump * Maximum pressure- 80 psi * rotation- 1400 rpm * Motor capacity- 1/8 HP * maximum power- 125 Watt * maximum current- 0.6 Ampere	1	No.				
31	Membrane filtration	1	No.				
32	Deep Freezer * -20'C * horizontal	1	No.				
33	Micropipette * variable volume of 0.5 µl to 10µl	1	No.				
34	Centrifuge machine with rotors * Microprocessor Based * Maximum Speed 5200 rpm * Square MS body duly powder coated * Double walled light weight ABS Lid. * Fitted with Micro Processor based 2 lines 16 characters LCD panel for 0-59 minute Count-down timer * The unit should be supplied with rotor head of 8X15 ml swing out head & 16 nos * Centrifuge tube	1	No.				
35	Portable Chemical Field Test Kit * Capable of testing 30 samples/ GPs	15	No.				
36	H2S Vials for Bacteriological testing * 100 vials/GP for each of the 15 GPs	1500	No.				



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37	Real Time PCR system as per specifications	1	No.				
38	Conical Flasks *Flat bottom support * Conical body * Cylindrical neck * Graduated * complies with IS 915, ISO 1042 for volumetric flasks 100 ml capacity 150 ml capacity 250 ml capacity 500 ml capacity 1000 ml capacity	16 16 30 16 6	No. No. No. No. No.				
39	Beakers * Flat bottom * cylindrical shape * small spout for clean and precise pouring * graduated to indicate the exact content 100 ml capacity 250 ml capacity 500 ml capacity 1000ml capacity 2000ml capacity						
40	Ordinary Pipette * Large bulb with a long narrow portion above with a single graduation mark * Calibrated for a single volume * accurate measurement and decanting of liquid * each pipette coded with unique number 5 ml capacity 10 ml capacity 20 ml capacity 25 ml capacity 50 ml capacity	8 12 8 8 4	No. No. No. No. No.				
41	Graduated Pipette * Long tube with a series of graduations to indicate different calibrated volumes for delivery from zero mark to the last graduation marks 1 ml capacity	4	No.				



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	5 ml capacity	6	No.				
	10 ml capacity	8	No.				
	20 ml capacity	4	No.				
42	Ordinary Burette * Straight tube with a graduation scale & a stop cock with one dispenser tube * No after drainage period * complies with ISO 385						
	25 ml capacity	8	No.				
	50 ml capacity	8	No.				
	100 ml capacity	1	No.				
43	Automatic Burette * with automatic zero facility * mounted on a glass reservoir bottle, glass stop cock * rubber bellows * enamel graduations						
	50 ml capacity	1	No.				
44	Desiccators * Normal Desiccators * size 160 mm * for use with Disposable or Reusable Desiccant * complies with IS 6128 : specification for desiccators	4	No.				
45	Reagent Bottles * plain narrow mouth * no-drip pour lip * solid glass stopper to fit securely * autoclavable & sterilizable * with clear graduations						
	100 ml capacity	20	No.				
	250 ml capacity	35	No.				
	500 ml capacity	24	No.				
	1000ml capacity	10	No.				
	2000ml capacity	6	No.				
46	Sample Bottles * Of food grade plastic * large labeling field * complete with screw cap and pouring ring						
	250 ml capacity	35	No.				
	500 ml capacity	35	No.				
	1000ml capacity	15	No.				



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	2000ml capacity	8	No.				
47	Test Tubes * without rim * flat bottom Packet of 100	1	No.				
48	Durham tubes * Neutral glass * round bottom * autoclavable * very clear & transparent * straight rim	300	No.				
49	Round bottom flasks * Round bottom support 250 ml capacity	8	No.				
50	Measuring cylinders * graduated * with pour spouts to facilitate pouring without any drips * prominent graduations * broad base for stability						
	10 ml	6	No.				
	50 ml	6	No.				
	100 ml	6	No.				
	250 ml	6	No.				
	500 ml	6	No.				
	1000ml	6	No.				
	2000ml	3	No.				
51	Measuring flasks * with inter changeable solid glass stoppers * each flask engraved with individual serial number						
	5 ml	5	No.				
	10 ml	10	No.				
	25 ml	10	No.				
	50 ml	10	No.				
	100 ml	10	No.				
	250 ml	10	No.				
	500 ml	10	No.				
	1000 ml	5	No.				
52	Funnels 75 mm diameter	5	No.				



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	100 mm diameter	5	No.				
	125 mm diameter	2	No.				
53	Porcelain dish						
	Medium size	10	No.				
	Large size	6	No.				
54	Crucibles	8	No.				
55	Wash bottles	6	No.				
56	Standard joints						
	Grouted	24	No.				
	Bends	12	No.				
57	Glass rods						
	(Packet of 50)	1	No.				
58	Petri Dishes						
	* Diameter - 75 mm	100	No.				
59	Nessler Cylinders						
	* Graduated * maximum clarity						
	50 ml capacity	20	No.				
	100 ml capacity	20	No.				
60	Thermometers						
	* Digital type * display both in Fahrenheit & Centigrade scale * accuracy up to ± 0.2 to ± 0.5 °C * resolution - 0.1 °C * usage of Min/ Max/ Hold button *						
	100°C	2	No.				
	200°C	2	No.				
	500°C	1	No.				
61	Separating Flask						
	* Capacity - ml * Stopper at top to fit tightly * Stop cock at bottom to be well sealed	10	No.				
62	Stopper Bottles for dissolved Oxygen						
	* Each bottle and its stopper marked with a unique matching identification number	2	No.				
	PART B: Project District - Morigaon			Morigaon, Assam.	30 days from the	60 days from the	



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1	<p>Digital pH meter</p> <ul style="list-style-type: none"> * Conforms to National Accreditation Board for Testing and Calibration Laboratories (NABL) & National Institute of Standards & Technology (NIST) guidelines * automatic electrode recognition * built in GLP function * graphic LCD display of pH, ORP readings, temperature, electrode status, calibration points, battery life, date and time * hard & waterproof casing * Help Menu * pH Range: 0-14 pH * resolution: 0.01pH * accuracy: ± 0.01 pH * calibration point: Up to 5 * Buffer sets * auto temperature compensation * windows compatible software * USB cable for PC connection * rechargeable batteries & battery charger <p>Portable pH meter</p> <ul style="list-style-type: none"> * Multi-Point Calibration (up to 5 points) with Auto-Buffer Recognition - choice of USA * NIST or pure water buffer standards with ± 0.01 pH accuracy * Automatic Temperature Compensation (ATC) for the highest accuracy under * fluctuating temperatures * Hold Function momentarily freezes reading for easy viewing and recording * Auto-Power Off saves battery power after non-use * Self-Diagnostic with message codes for easy troubleshooting * Large Custom LCD provides optimum viewing even at a distance * Protective Rubber Boot shields meter from accidental knocks and features a sturdy built-in stand for easy bench-top operation * Rugged Carrying Case (Optional) provides handy on-site meter calibration and measurement. <p>Technical specification:</p> <ul style="list-style-type: none"> * pH Range - 0.00 to 14.00 pH * Resolution & Accuracy - 0.01 pH & ± 0.01 pH * Temperature Range - 0 to 100.0 °C Resolution & Accuracy- 	1	No.	India	date of issue of Notice to Proceed	date of issue of Notice to Proceed	



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2	<p>0.1 °C & ± 0.5 °C * mV Range -1000 to + 1000 mV</p> <ul style="list-style-type: none"> * Resolution & Accuracy - 1 mV & ± 1 mV * Temperature Compensation-Automatic / Manual (0 to 100 °C) * No. of Calibration Points - Up to 5 points <p>The unit should be supplied with (i) Microprocessor based pH Meter with Single Junction pH Electrode, (ii) ATC Probe & pH Carrying Kit Set (Includes at least 1 x pH 4.01, (iii) pH 7.00 Buffer Solutions, (iv) Storage Solution & 1 x Deionised (Rinse) Water (50 ml Each), (v) 480 ml each of colour coded standard buffer solution pH 4.01 (red coloured), (vi) pH 7.00 (Yellow coloured) & pH 10.01 (Blue coloured), (vii) operating manual, carrying case.</p> <p>Digital TDS meter</p> <ul style="list-style-type: none"> * Conforms to NABL & NIST guidelines * displays Conductivity, TDS and Temperature * automatic electrode recognition * built in GLP function * up to 1000 samples data set storage * range - 1 µS/cm to 200 mS/cm * windows compatible software * USB cable for PC connection 	1	No.				
(a)	<p>Lab based Digital TDS meter</p> <ul style="list-style-type: none"> * Large screen that displays Conductivity or TDS readings with Temperature in °C * Ready indicator to know when readings are stable * Selectable cell constant * Auto-ranging across Conductivity and TDS ranges * Up to 5-point push button calibration * Non-volatile memory holds up to 100 data points * Should have Integral electrode holder <p>Technical specification:</p> <ul style="list-style-type: none"> * Conductivity Range-µS to 200.0 mS * Resolution-0.01 / 0.1 / 1 µS; 0.01 / 0.1 mS * Accuracy- ±1 % full scale * Cal. Points-Up to 5 Cell Constant-0.1, 1.0, 10.0 (selectable) * TDS Range-to 100.0 ppt Resolution-0.01 / 0.1 / 1 ppm; 0.01 / 0.1 ppt * Accuracy-± 1 % full scale 						



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	<ul style="list-style-type: none"> * Cal. Points-Manual (5 points) * Temperature Range (Meter)-0.0 to 100.0 °C * Resolution-0.1 °C * Accuracy-± 0.5 °C * Compensation Type & Range-Automatic with supplied cell or manual 0.0 to 100 °C <p>The Instrument should be supplied with (i) Meter with Conductivity/ATC Probe, (ii) Integral Electrode Holder, (iii) Power Adapter, (iv) Electrode Holder, (v) Operating Manual 480 ml pack of Calibration standard of 1413 µS/cm.</p>						
(b)	<p>Portable Digital TDS meter</p> <ul style="list-style-type: none"> * Multi-Point Push-button Calibration (up to 5 points) with ±1% full scale accuracy * Automatic or Manual Calibration - for quick, easy calibration; use automatic mode * with pre-set calibration points at most popular values or manually set values in themanual mode for more flexibility * Auto-Ranging for Conductivity/TDS measurements for fast response and bestresolution over wide measurement range * Adjustable TDS Factor for more accurate measurement (for TDS 6 model only) * Automatic Temperature Compensation (ATC) for the optimum accuracy under fluctuating temperatures * Hold Function momentarily freezes reading for easy viewing * Auto-Power Off saves battery power after non-use * Self-Diagnostic with message codes for easy troubleshooting * Large Custom LCD provides optimum viewing even at a distance * Electrode with Built-in ATC designed for minimal air bubble entrapment during measurement * Protective Rubber Boot shields meter from drops and features a sturdy built-in stand for easy bench-top operation. <p>Technical specifications:</p> <ul style="list-style-type: none"> * TDS Range-0.00 - 9.99 ppm / 10.0 - 99.9 ppm/ 100 - 999 ppm / 1.00 - 9.99 ppt / 10.0 - 99.9 ppt * Resolution-0.05 % full scale Accuracy-±1 % of full scale ±1 LSD 	1	No.				



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	<ul style="list-style-type: none"> * TDS Factor-0.30 to 1.00 * Temperature Range-0.0 to 80.0 °C * Resolution-0.1 °C * Accuracy-±0.5 °C * Compensation Automatic/Manual (0 to 80 °C) * Normalization 20.0 or 25.0 °C Operating Temperature-5 to 45 °C * Calibration Points-4 (1 per range) auto, 5(1 per range) manual Temperature Coefficient-0.0 - 10.0 % * CellConstant-0.1, 1.0, 10.0 Auto-Off-20 min after last key pressed * Input-BNC, 2.5 mm phono socket Power-4 x 1.5 V 'AAA' alkaline batteries to be included <p>The meter should be supplied with (i) Basic meter with conductivity electrode with cell constant 1.0, (ii) TDS calibration solutions (50 ppm, 300 ppm, 3000 ppm), (iii) DI rinse water (60 mL each), (iv) Grip-Clip, (v) batteries in hard carrying case, (vi) operating manual & 480 ml of 300 ppm TDS calibration solution.</p>						
3	Refrigerator						
	* Capacity- 300 L * frost free * 5 star rating * double door * freezer type - top freezer * in built inverter	1	No.				
4	Water still						
	* Distillation Unit made of Stainless steel * capacity 5 litre/ hour * wall mounting model – equipped with brackets for wall mounting * to work on 220- 230 volts AC supply	1	No.				
5	Voltage stabilizer						
	* Capacity- 3 KVA * servo stabilizer * 5 star rating	1	No.				
6	UPS/ Inverter						
	* capacity- 3 KVA * 5 star rating * 6 hrs backup * with battery	1	No.				
7	Hot plate						
	* Body to be fabricated out of thick mild steel sheet, duly finished in epoxy powder coated * The Hot Plate top to be made of Stainless steel thick sheet & smoothed duly finished	2	No.				



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	<p>should be firmly mounted on the body * Heavy duty heating elements should be securely laid under the plate to operate on 220/230V AC supply * Temperature in controlled by energy regulators fitted with an indicator lamp for the mains * To be supplied with main cord and plug.</p> <p>Technical Specifications</p> <p>* Top plate size: 30 x 45cm</p> <p>* Load: 2 KW</p>						
8	<p>Laboratory Heating mantle</p> <p>* Body has to be made of one-piece aluminium and is lagged with special mineral wool * The panel should be provided with on-off switch, energy control knob and pilot lamp * It should be provided with joint-less hand knitted heating nets of glass yarn capable of withstanding high temperature up to 400°C.</p> <p>Technical Specifications:</p> <p>* To be supplied complete with cord & plug to work on 220/230V AC supply</p> <p>a) Capacity: 500 ml</p> <p>b) Capacity: 1000 ml</p>	1	No.				
9	<p>Water Bath - Thermostatic</p> <p>* The unit should be of double walled construction, argon welded, and inner & outer wall made of MS sheet * SS lids having 75mm dia. holes with removable concentric rings * The gap between outer and inner walls should be filled with special grade glass wool insulation * Temperature control from +5°C above ambient to 99°C * The unit would be fitted with Capillary type Thermostat with arbitrary scale dial for temperature control from +5° C above ambient to 99°C ± 1°C (at 50°C).</p>	1	No.				
10	<p>Hot air oven - Standard make</p> <p>* The unit should be of double walled with outer body made of Mild Steel Sheet treated for degreasing & rust proofing duly powder coated and inner chamber is to be made of Stainless Steel Sheet (304 Grade) with adjustable Stainless-Steel Wire</p>	2	No.				



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11	<p>Mesh shelves * Space between inner chamber and outer wall should be filled with high grade mineral wool as insulation * The Double Walled Door should have synthetic rubber / fibre gasket. Unit should have ventilation slides on two sides to control inner air/ vapour circulation * To be fitted with beaded heating elements placed in ribs, at bottom and sides for uniform heat distribution. To work on 220/230 volts AC supply.</p> <p>Technical Specifications</p> <ul style="list-style-type: none"> * Temperature control-By capillary type thermostat with arbitrary scale dial for temperature control from +5° C ambient to 250°C ± 2°C at 100°C and with in-built L-type capillary thermometer & energy regulator to reduce temperature fluctuation in higher temperature. * Working chamber size: 450x450x600 mm (2 trays)-approximately 120 lit <p>Bacteriological Incubator</p> <ul style="list-style-type: none"> * The unit should be double walled with outer body to be made of MS sheet treated for degreasing & rust proofing duly powder coated and inner chamber to be made of Stainless Steel (304 Grade) sheet * To be provided with adjustable Stainless Steel Wire Mesh / perforated shelves * Space between inner chamber and outer wall should be filled with high grade mineral wool for minimal heat loss * The Double Walled Door to be fitted with glass window to facilitate viewing inside chamber without disturbing the inner temperature and should be of synthetic rubber/fibre gasket. Unit should have ventilation slides on two sides to control inner air/ vapour circulation * To be fitted with beaded heating elements placed in ribs, at bottom and sides for uniform heat distribution. Unit has to be fitted with two lamps and ON / OFF switch * To work on 220/230 volts AC supply. <p>Technical Specifications:</p> <ul style="list-style-type: none"> * Temperature control-By Digital Temperature Indicator-cum-Controller (with display for Set Value and Present Value) from 	1	No.				



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12	<p>+5° C ambient to 70°C, ± 0.5°C at 50°C. To be fitted with Air Circulating Fan to maintain uniform temperature throughout the working chamber.</p> <p>* Working chamber size: 459x450x600 mm (2 trays)- approximately 120 lit size: 459x450x600 mm (2 trays)- approximately 120 lit</p> <p>Autoclave</p> <p>* The outer chamber should be made of heavy gauge Stainless Steel Sheet duly polished * The inner chamber should be made of thick 304 Grade Stainless Steel Sheet. Lid should be made of thick machined high grade Stainless Steel plate * The unit should have Radial Locking arrangement made of high grade Stainless Steel duly polished with paddle lifting mechanism * The unit has to be fitted with Spring Loaded Safety Valve, Pressure Gauge, Pressure Release Valve, water Level Indicator, Drain Valve, Automatic Pressure Control Switch, Automatic Low Water Cut-off Device & automatic interval timer * The unit should be hydraulically tested to withstand up to 40 psi pressure * All internal joints of the unit should be Argon arc welded ground and polished to give crevice free internals * Moulded joint-less Silicon Rubber Gasket has to be provided for leak proofing * The unit would be electrically heated by flange type/immersion type heaters. To be supplied with Control Box, fitted with Mains & Heating Indicators, ON / OFF Switch, Cord & Plug to work on 220/230V, 50Hz, AC supply * Working chamber size: 300 mm X 500 mm (approximately 35 lit).</p>	2	No.				
13	<p>Magnetic stirrer</p> <p>* The body should be made of mild steel duly finished in epoxy powder coating and to be mounted with a stainless-steel top stirring has to be done by fractional horsepower motor, rotating magnetic field applied below the liquid container * The stirring would be accomplished by a PTFE encapsulated magnetic needle to be placed in the liquid to be</p>	2	No.				



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14	<p>stirred * The unit should be supplied with pilot lamp, plug cord and continuously variable speed regulator * Maximum speed 1400 RPM. The unit shall be workable on 220/230V AC single phase. To be supplied with TWO PTFE coated magnetic needle (dia X length):8x15mm & 8x25mm one each Stirring Capacity: Approximately. 2 lit</p> <p>Microscope</p> <p>* Binocular * with LCD display * connectivity with and without CPU</p>	1	No.				
15	<p>Vacuum pump</p> <p>* Maximum power 80 watts * maximum vacuum- 670 mm of Hg * maximum flow rate- 34 lit/ min * rotation- 1450 RPM * HP. 1/6 HP * noise level- 52 dB</p>	1	No.				
16	<p>Flame Photometer</p> <p>* Microprocessor Flame Photometer (Graphical Display & Inbuilt Printer) having provision for Four Element measurement in a single aspiration (Na, K, Li, Ca and Ba) * Provision for Calibration curve fit routines first order and second order * Data displayed should be in concentration units i.e. ppm & meq/litre * The unit should have provision for automatic filter selection; auto calibration, auto Gas Cut off (in case of power failure feature) * Printer attachment, PC connecting compatibility, Sample data storage (at least 300 results) * The unit would have alphanumeric key board for easy data entry, Graphical LCD display for easy to read, Curve calibration using at least up to 5 standards multiple calibration curve saving facility * The unit should be supplied with Stainless steel burner with Sodium & Potassium Filter, air Compressor, LPG cylinder with valve, wire-knitted gas rubber tube, NIST traceable Sodium & Potassium standard (1000 mg/L strength) each of 125 ml pack, 12 nos. certified volumetric Flask- class A of 100ml capacity, 3 nos. 1ml & 3 nos. 10 ml certified graduated Mohr's pipette of Class A made of borosilicate glass.</p>	1	No.				



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17	UV Laminar Air Flow chamber * Working area 91.44cm x 60.96cm x 60.96 cm * blower fitted with HP motors * pre-filters made of high grade nylon Net fixed in stainless steel frame for first Stage air purification, through blower system * closed inner chamber fitted with HEPA having very accurate performance rate of air filtration, rating 99.99% resulting in ceasing all air borne molecule of particles up to 0.3 micron in working Area of Laminar Bench	1	No.				
18	Millipore Filtration assembly * With a Vacuum pump * complete with a glass fitter holder 47 mm * with funnel, fitted base, cap & clamp	1	No.				
19	Plate count and colony counter * Hand held * micro controller based * 6 digit [999999] LCD counter * built in buzzer, marker pen, and counters * memorizes last count * as per GMP specifications * hold and count correction facility	1	No.				
20	(a) Arsenic testing instrument - portable type * Digital meter based on colorimetry/densitometry * complete with tri fitter arsenic trap * 100 reaction vessel * destruction fitter holder * detection fitter holder * hydrogen sulphide fitter * reagents for 420 tests * visual comparison chart * forceps * gloves * dilution tubes * cuvette * brush * 9V battery * screwdrivers * instrument manual	1	No.				
21	(b) Arsenic testing accessories - for spectrophotometer * Reagent for Arsenic Analysis: package of 250 tests - Hydrochloric Acid analytical grade 500 ml X4, Zinc filling (3-5 mm grain size) 500 gmX3, Potassium Iodide analytical grade 1X100 gm, Stannous Chloride analytical grade 1x100 gm, Morpholine 1X500ml, Lead acetate 1X500 gm, Chloroform HPLC/Spectroscopy grade 2X 1 lit, Silver diethyl dithiocarbamate ACS grade 5 mXl, glass wool 250 gmXl, Acetone analytical grade 500 mXl * Arsenic generator complete with 100 ml Erlenmeyer flask with standard joint.	1	No.				



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	glass wool adaptor with matching std joint; absorber tube with matching standard joint, 5 ml volumetric Flask- package of 12 sets- all made of Borosilicate glass * Volumetric Flask 100 ml - 3 numbers, Mohr's type graduated pipette 1ml, 5 ml, 10 ml, 25 ml- 6 nos. each * Glass dropper- 2 nos * Stainless steel forceps- 1 no.						
22	Dissolved Oxygen Meter * Waterproof Hand-held Meters for the determination of Dissolved oxygen on site. The meter should be of Rugged, water resistant (IP 67) & to be designed for field use. Should have PC interface (USB / serial or analogue) & backlit LCD display. Technical specifications: * Measurement: Oxygen partial pressure, Oxygen Concentration, Oxygen Saturation, Temperature measurement, Automatic absolute air pressure measurement Should have Auto Hold Function, Alarm Function, Data Logger facility & with required Software, Easy calibration against oxygen in air, Salinity correction & shall have Self-polarising galvanic oxygen probe which should allow instant measurement after system be switched on. * Should have the features for Low battery and battery change indicator, auto off function, Sensor evaluation after calibration in the display & should have Shock-absorbing rubber protective armouring. 02 concentration 0.0 ... 70.0 mg/l * Accuracy 02 concentration 0 ... 25 mg/l \pm 1.5 % \pm 0.2 mg/l / 25 ... 70 mg/l \pm 2.5 % \pm 0.3 mg/l	1	No.				
23	Cool box with icepacks * Material: PC thermoplastic / Non toxic gel well * dimension: 134mm x 92 mm	3	No.				
24	Specific ion meter - for Fluoride, Chloride and Nitrate etc * Microprocessor based pH/ISE meter with large, backlit graphic LCD display, Informative display .should show	1	No.				



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	H/mV/Rm/VISE results and temperature along with electrode status, time, date, sample ID, user ID and calibration points * Tech specs for Ion measurement: Range: 0 to 19999 * Resolution: Up to 3 significant digits * Relative Accuracy: ± 0.2 mV or ± 0.05 % of reading whichever is greater * Units: ppm, M, mg/L, %, ppb, none * Calibration Points: Up to 5 * Calibration Editing: possible * Calibration Features: Timed end point, linear point to point, non-linear selectable auto-blank, low concentration range stability The unit shall be supplied with pH electrode, ATC probe, stainless steel probe, Star stirrer probe, Electrode arm with holder & Universal power adapter. The unit shall be supplied with Fluoride & Nitrate ion selective electrode with electrode filling solution, TISAB-III for Fluoride, total ionic strength buffer solution for nitrate electrode, NIST traceable Standard solution for 1000 mg/L of Fluoride & Nitrate - 500 ml of each type, variable volume micropipette 1-5 ml with micro-tip (100 nos.) - 1 set & any other consumables required for Fluoride & Nitrate analysis.						
25	Fume cup board * Work table size 91.44cm x 60.96cm x 60.96 cm * exhaust ducting * table material: granite * outer mild steel body	1	No.				
26	Auto Burette (100 ml capacity, Automatic Zero, Accuracy as per Class A IS 1997: 2008 / ISO 385: 2005, With Reservoir, Rubber Bellow, PTFE Stopcock With Certificate)	1	No.				
27	Auto-Pipette * Single channel Variable Volume automatic pipette * air-displacement type * Conformity * Certified with Individual Work Certificate * Range: 500 - 5000 μ l * Division: 10 μ l * Accuracy $R \leq \pm$: 0.8	1	No.				
28	Quartz Distillation apparatus Dist. Water Output Cap.(Approx) - 5 Ltr/Hr, 230-250 Volts Single phase 4.4kw, Cooling Water consumption - 60 Ltr/Hr, Pyrogen free, PH 6-7, Conductivity -S/cm- ≤ 3 x 10-6, Distillate	1	No.				



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29	Temperature 65-750C, with Distillation Apparatus Power Supply (DAPS), Quartz boiler, Borosilicate Condenser and Quartz Condenser, Distillation Unit, Single Stage, All Quartz (Boiler & Condenser), with Built-in Quartz Heater, Vertical Panel Mounted to be complete with low water level cut-off device. Conductivity of distilled water should be around 2 us/cm or less.						
30	Kjeldal distillation apparatus * unit of 6 test mantle type Pressure Pump * Maximum pressure- 80 psi * rotation- 1400 rpm * Motor capacity- 1/6 HP * maximum power- 125 Watt * maximum current- 0.6 Ampere	1	No.				
31	Membrane filtration	1	No.				
32	Deep Freezer * -20°C * horizontal	1	No.				
33	Micropipette * variable volume of 0.5 µl to 10µl	1	No.				
34	Centrifuge machine with rotors * Microprocessor Based * Maximum Speed 5200 rpm * Square MS body dully powder coated * Double walled light weight ABS Lid. * Fitted with Micro Processor based 2 lines 16 characters LCD panel for 0-59 minute Count-down timer * The unit should be supplied with rotor head of 8X15 ml swing out head & 16 nos * Centrifuge tube	1	No.				
35	Portable Chemical Field Test Kit * Capable of testing 30 samples/ GPs	15	No.				
36	H2S Vials for Bacteriological testing * 100 vials/GP for each of the 15 GPs	1500	No.				
37	Conical Flasks * Flat bottom support * Conical body * Cylindrical neck * Graduated * complies with IS 915, ISO 1042 for volumetric flasks						



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	100 ml capacity	16	No.				
	150 ml capacity	16	No.				
	250 ml capacity	30	No.				
	500 ml capacity	16	No.				
	1000 ml capacity	6	No.				
38	Beakers						
	* Flat bottom * cylindrical shape * small spout for clean and precise pouring * graduated to indicate the exact content						
	100 ml capacity	16	No.				
	250 ml capacity	16	No.				
	500 ml capacity	16	No.				
	1000ml capacity	8	No.				
	2000ml capacity	4	No.				
39	Ordinary Pipette						
	* Large bulb with a long narrow portion above with a single graduation mark * Calibrated for a single volume * accurate measurement and decanting of liquid * each pipette coded with unique number						
	5 ml capacity	8	No.				
	10 ml capacity	12	No.				
	20 ml capacity	8	No.				
	25 ml capacity	8	No.				
	50 ml capacity	4	No.				
40	Graduated Pipette						
	* Long tube with a series of graduations to indicate different calibrated volumes for delivery from zero mark to the last graduation marks						
	1 ml capacity	4	No.				
	5 ml capacity	6	No.				
	10 ml capacity	8	No.				
	20 ml capacity	4	No.				
41	Ordinary Burette						
	* Straight tube with a graduation scale & a stop cock with one						



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	dispenser tube * No after drainage period * complies with ISO 385						
	25 ml capacity	8	No.				
	50 ml capacity	8	No.				
	100 ml capacity	1	No.				
42	Automatic Burette * with automatic zero facility * mounted on a glass reservoir bottle, glass stop cock * rubber bellows * enamel graduations						
	50 ml capacity	1	No.				
43	Desiccators * Normal Desiccators * size 160 mm * for use with Disposable or Reusable Desiccant * complies with IS 6128 : specification for desiccators	4	No.				
44	Reagent Bottles * plain narrow mouth * no-drip pour lip * solid glass stopper to fit securely * autoclavable & sterilizable * with clear graduations						
	100 ml capacity	20	No.				
	250 ml capacity	35	No.				
	500 ml capacity	24	No.				
	1000ml capacity	10	No.				
	2000ml capacity	6	No.				
45	Sample Bottles * Of food grade plastic * large labelling field * complete with screw cap and pouring ring						
	250 ml capacity	35	No.				
	500 ml capacity	35	No.				
	1000ml capacity	15	No.				
	2000ml capacity	8	No.				
46	Test Tubes * without rim * flat bottom	1	No.				
	Packet of 100						
47	Durham tubes						



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	* Neutral glass * round bottom * autoclavable * very clear & transparent * straight rim	300	No.				
48	Round bottom flasks * Round bottom support 250 ml capacity	8	No.				
49	Measuring cylinders * graduated * with pour spouts to facilitate pouring without any drips * prominent graduations * broad base for stability						
	10 ml	6	No.				
	50 ml	6	No.				
	100 ml	6	No.				
	250 ml	6	No.				
	500 ml	6	No.				
	1000ml	6	No.				
	2000ml	3	No.				
50	Measuring flasks * with inter changeable solid glass stoppers * each flask engraved with individual serial number						
	5 ml	5	No.				
	10 ml	10	No.				
	25 ml	10	No.				
	50 ml	10	No.				
	100 ml	10	No.				
	250 ml	10	No.				
	500 ml	10	No.				
	1000 ml	5	No.				
51	Funnels 75 mm diameter 100 mm diameter 125 mm diameter						
	75 mm diameter	5	No.				
	100 mm diameter	5	No.				
	125 mm diameter	2	No.				
52	Porcelain dish Medium size Large size						
	Medium size	10	No.				
	Large size	6	No.				



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53	Crucibles	8	No.				
54	Wash bottles	6	No.				
55	Standard joints	24	No.				
	Grooved Bends	12	No.				
56	Glass rods (Packet of 50)	1	No.				
57	Petri Dishes	100	No.				
58	* Diameter – 75 mm * Graduated * maximum clarity * Nessler Cylinders	20	No.				
	* 50 ml capacity	20	No.				
	* 100 ml capacity						
59	Thermometers						
	* Digital type * display both in Fahrenheit & Centigrade scale * accuracy up to ± 0.2 to ± 0.5 °C * resolution – 0.1 °C * usage of Min/ Max/ Hold button *						
	100 °C	2	No.				
	200 °C	2	No.				
	500 °C	1	No.				
60	Separating Flask						
	* Capacity - ml * Stopper at top to fit tightly * Stop cock at bottom to be well sealed	10	No.				
61	Stopper Bottles for dissolved Oxygen						
	* Each bottle and its stopper marked with a unique matching identification number	2	No.				
				Bongaigaon, Assam, India	30 days from the date of issue of Notice to Proceed	60 days from the date of issue of Notice to Proceed	
1	Digital pH meter						



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(a)	<p>* Conforms to National Accreditation Board for Testing and Calibration Laboratories (NABL) & National Institute of Standards & Technology (NIST) guidelines * automatic electrode recognition * built in GLP function * graphic LCD display of pH, ORP readings, temperature, electrode status, calibration points, battery life, date and time * hard & waterproof casing * Help Menu * pH Range: 0-14 pH * resolution: 0.01pH * accuracy: ± 0.01 pH * calibration point: Up to 5 * Buffer sets * auto temperature compensation * windows compatible software * USB cable for PC connection * rechargeable batteries & battery charger</p> <p>Microprocessor based (Research grade instrument) pH meter</p> <p>Up to 6-point calibration with auto-buffer recognition * quick & easy electrode diagnosis with multiple pH slopes and offset display * non-volatile memory holds up to 500 data points - time and date-stamped for GLP compliance * calibrate with up to 5 custom pH buffers - use any pH values that are > 1.0 pH unit apart * Cal-due alarm - no more out-dated calibrations * auto-logging function for convenient continuous monitoring * provision for password protection for setup and calibration should be available * output data to printer or PC * detachable electrode holder</p> <p>Technical Specifications: * pH Range-2.000 to 20.000 pH * Resolution-0.1 / 0.01 / 0.001 pH * Accuracy-± 0.002 pH + 1 LSD * Cal. Points-Up to 6 preset or 5 customs * Buffer Sets-USA, NIST, DIN, User 1 * ORP Range-± 2000.0 mV, Accuracy-± 0.2 mV * Rel. mV Range-± 2000.0 mV, Temp Range (Meter) 0.0 to 100.0 °C * Compensation Auto/Manual</p> <p>The unit should be supplied with (i) pH Meter With refillable</p>	1	No.				



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(b)	<p>pH Electrode, (ii) Temperature Probe & pH Electrode, (iii) Refill Solution, (iv) electrode stand with swivel arm, (v) RS232 cable, (vi) software for data transfer to PC, (vii) operating manual, (viii) NIST Traceable pH buffer pH 2.00, (ix) 4.01, 7.00 & 10.01- 500 ml each pack.</p> <p>Portable pH meter</p> <ul style="list-style-type: none"> * Multi-Point Calibration (up to 5 points) with Auto-Buffer Recognition - choice of USA * NIST or pure water buffer standards with ± 0.01 pH accuracy * Automatic Temperature Compensation (ATC) for the highest accuracy under * fluctuating temperatures * Hold Function momentarily freezes reading for easy viewing and recording * Auto-Power Off saves battery power after non-use * Self-Diagnostic with message codes for easy troubleshooting * Large Custom LCD provides optimum viewing even at a distance * Protective Rubber Boot shields meter from accidental knocks and features a sturdy built-in stand for easy bench-top operation * Rugged Carrying Case (Optional) provides handy on-site meter calibration and measurement. <p>Technical specification:</p> <ul style="list-style-type: none"> * pH Range - 0.00 to 14.00 pH * Resolution & Accuracy- 0.01 pH & ± 0.01 pH * Temperature Range - 0 to 100.0 °C Resolution & Accuracy- 0.1 °C & ± 0.5 °C * mV Range -1000 to + 1000 mV * Resolution & Accuracy - 1 mV & ± 1 mV * Temperature Compensation-Automatic / Manual (0 to 100 °C) * No. of Calibration Points - Up to 5 points <p>The unit should be supplied with (i) Microprocessor based pH Meter with Single Junction pH Electrode, (ii) ATC Probe & pH Carrying Kit Set (Includes at least 1 x pH 4.01, (iii) pH 7.00 Buffer Solutions, (iv) Storage Solution & 1 x Deionised (Rinse) Water (60 ml Each), (v) 480 ml each of colour coded standard buffer solution pH 4.01 (red coloured), (vi) pH 7.00 (Yellow</p>	1	No.				



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2	<p>coloured) & pH 10.01 (Blue coloured), (vii) operating manual, carrying case.</p> <p>Digital TDS meter</p> <ul style="list-style-type: none"> * Conforms to NABL & NIST guidelines * displays Conductivity, TDS and Temperature * automatic electrode recognition * built in GLP function * up to 1000 samples data set storage * range - 1 μS/cm to 200 mS/cm * windows compatible software * USB cable for PC connection <p>Lab based Digital TDS meter</p> <ul style="list-style-type: none"> * Large screen that displays Conductivity or TDS readings with Temperature in $^{\circ}$C * Ready indicator to know when readings are stable * Selectable cell constant * Auto-ranging across Conductivity and TDS ranges * Up to 5-point push button calibration * Non-volatile memory holds up to 100 data points * Should have Integral electrode holder <p>Technical specification:</p> <ul style="list-style-type: none"> * Conductivity Range-μS to 200.0 mS * Resolution-0.01 / 0.1 / 1 μS; 0.01 / 0.1 mS * Accuracy- \pm1 % full scale * Cal. Points-Up to 5 Cell Constant-0.1, 1.0, 10.0 (selectable) * TDS Range-to 100.0 ppt Resolution-0.01 / 0.1 / 1 ppm; 0.01 / 0.1 ppt * Accuracy-\pm 1 % full scale * Cal. Points-Manual (5 points) * Temperature Range (Meter)-0.0 to 100.0 $^{\circ}$C * Resolution-0.1 $^{\circ}$C * Accuracy-\pm 0.5 $^{\circ}$C * Compensation Type & Range-Automatic with supplied cell or manual 0.0 to 100 $^{\circ}$C <p>The Instrument should be supplied with (i) Meter with Conductivity/ATC Probe, (ii) Integral Electrode Holder, (iii) Power Adapter, (iv) Electrode Holder, (v) Operating Manual 480 ml pack of Calibration standard of 1413 μS/cm.</p>	1	No.				
3	Refrigerator						



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	* Capacity- 300 L * frost free * 5 star rating * double door * freezer type - top freezer * in built inverter	1	No.				
4	Water still * Distillation Unit made of Stainless steel * capacity 5 litre/ hour * wall mounting model – equipped with brackets for wall mounting * to work on 220- 230 volts AC supply	1	No.				
5	Voltage stabilizer * Capacity- 3 KVA * servo stabilizer * 5 star rating	1	No.				
6	UPS/ inverter * capacity- 3 KVA * 5 star rating * 6 hrs backup * with battery	1	No.				
7	Hot plate * Body to be fabricated out of thick mild steel sheet, duly finished in epoxy powder coated * The Hot Plate top to be made of Stainless steel thick sheet & smoothed duly finished should be firmly mounted on the body * Heavy duty heating elements should be securely laid under the plate to operate on 220/230V AC supply * Temperature in controlled by energy regulators fitted with an indicator lamp for the mains * To be supplied with main cord and plug. Technical Specifications * Top plate size: 30 x 45cm * Load: 2 KW	2	No.				
8	Water Bath - Thermostatic * The unit should be of double walled construction, argon Welded, and inner & outer wall made of MS sheet * SS lids having 75mm dia. holes with removable concentric rings * The gap between outer and inner walls should be filled with special grade glass wool insulation * Temperature control from +5°C above ambient to 99°C * The unit would be fitted with Capillary type Thermostat with arbitrary scale dial for temperature control from +5° C above ambient to 99°C ± 1°C (at 50°C).	1	No.				
9	Hot air oven - Standard make * The unit should be of double walled with outer body made of	1	No.				



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10	<p>Mild Steel Sheet treated for degreasing & rust proofing duly powder coated and inner chamber is to be made of Stainless Steel Sheet (304 Grade) with adjustable Stainless-Steel Wire Mesh shelves * Space between inner chamber and outer wall should be filled with high grade mineral wool as insulation * The Double Walled Door should have synthetic rubber / fibre gasket. Unit should have ventilation slides on two sides to control inner air/ vapour circulation * To be fitted with beaded heating elements placed in ribs, at bottom and sides for uniform heat distribution. To work on 220/230 volts AC supply.</p> <p>Technical Specifications</p> <ul style="list-style-type: none"> * Temperature control-By capillary type thermostat with arbitrary scale dial for temperature control from +5° C ambient to 250°C ± 2°C at 100°C and with in-built L-type capillary thermometer & energy regulator to reduce temperature fluctuation in higher temperature. * Working chamber size: 450x450x600 mm (2 trays)-approximately 120 lit size: 450x450x600 mm (2 trays)-approximately 120 lit <p>Bacteriological Incubator</p> <ul style="list-style-type: none"> * The unit should be double walled with outer body to be made of MS sheet treated for degreasing & rust proofing duly powder coated and inner chamber to be made of Stainless Steel (304 Grade) sheet * To be provided with adjustable Stainless Steel Wire Mesh / perforated shelves * Space between inner chamber and outer wall should be filled with high grade mineral wool for minimal heat loss * The Double Walled Door to be fitted with glass window to facilitate viewing inside chamber without disturbing the inner temperature and should be of synthetic rubber/fibre gasket. Unit should have ventilation slides on two sides to control inner air/ vapour circulation * To be fitted with beaded heating elements placed in ribs, at bottom and sides for uniform heat distribution. Unit has to be fitted with two lamps and ON / OFF switch * To work 	1	No.				



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11	<p>on 220/230 volts AC supply.</p> <p>Technical Specifications:</p> <ul style="list-style-type: none"> * Temperature control-By Digital Temperature Indicator-cum-Controller (with display for Set Value and Present Value) from +5° C ambient to 70°C, ± 0.5°C at 50°C. To be fitted with Air Circulating Fan to maintain uniform temperature throughout the working chamber. * Working chamber size: 459x450x600 mm (2 trays)-approximately 120 lit <p>Autoclave</p> <ul style="list-style-type: none"> * The outer chamber should be made of heavy gauge Stainless Steel Sheet duly polished * The inner chamber should be made of thick 304 Grade Stainless Steel Sheet. Lid should be made of thick machined high grade Stainless Steel plate * The unit should have Radial Locking arrangement made of high grade Stainless Steel duly polished with paddle lifting mechanism * The unit has to be fitted with Spring Loaded Safety Valve, Pressure Gauge, Pressure Release Valve, water Level Indicator, Drain Valve, Automatic Pressure Control Switch, Automatic Low Water Cut-off Device & automatic interval timer * The unit should be hydraulically tested to withstand up to 40 psi pressure * All internal joints of the unit should be Argon arc welded ground and polished to give crevice free internals * Moulded joint-less Silicon Rubber Gasket has to be provided for leak proofing * The unit would be electrically heated by flange type/immersion type heaters. To be supplied with Control Box, fitted with Mains & Heating Indicators, ON / OFF Switch, Cord & Plug to work on 220/230V, 50Hz, AC supply * Working chamber size: 300 mm X 500 mm (approximately 35 lit). 	1	No.				
12	<p>Magnetic stirrer</p> <ul style="list-style-type: none"> * The body should be made of mild steel duly finished in epoxy powder coating and to be mounted with a stainless-steel top stirring has to be done by fractional horsepower 	1	No.				



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13	motor, rotating magnetic field applied below the liquid container * The stirring would be accomplished by a PTFE encapsulated magnetic needle to be placed in the liquid to be stirred * The unit should be supplied with pilot lamp, plug cord and continuously variable speed regulator * Maximum speed 1400 RPM. The unit shall be workable on 220/230V AC single phase. To be supplied with TWO PTFE coated magnetic needle (dia X length): 8x15mm & 8x25mm one each Stirring Capacity: Approximately. 2 lit						
	Microscope						
	* Binocular * with LCD display * connectivity with and without CPU	1	No.				
14	Vacuum pump						
	* Maximum power 80 watts * maximum vacuum- 670 mm of Hg * maximum flow rate- 34 l/l/ min * rotation- 1450 RPM * HP- 1/6 HP * noise level- 52 dB	1	No.				
15	Flame Photometer						
	* Microprocessor Flame Photometer (Graphical Display & Inbuilt Printer) having provision for Four Element measurement in a single aspiration (Na, K, Li, Ca and Ba) * Provision for Calibration curve fit routines first order and second order * Data displayed should be in concentration units i.e. ppm & meq/litre * The unit should have provision for automatic filter selection; auto calibration, auto Gas Cut off (in case of power failure feature) * Printer attachment, PC connecting compatibility, Sample data storage (at least 300 results) * The unit would have alphanumerical key board for easy data entry, Graphical LCD display for easy to read, Curve calibration using at least up to 5 standards multiple calibration curve saving facility * The unit should be supplied with Stainless steel burner with Sodium & Potassium Filter, air Compressor, LPG cylinder with valve, wire-knitted gas rubber tube, NIST traceable Sodium & Potassium standard (1000 mg/L strength) each of 125 ml pack, 12 nos. certified	1	No.				



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	volumetric Flask- class A of 100ml capacity, 3 nos. 1ml & 3 nos. 10 ml certified graduated Mohr's pipette of Class A made of borosilicate glass.						
16	UV Laminar Air Flow chamber * Working area 91.44cm x 60.96cm x 60.96 cm * blower fitted with HP motors * pre-filters made of high grade nylon Net fixed in stainless steel frame for first Stage air purification, through blower system * closed inner chamber fitted with HEPA having very accurate performance rate of air filtration, rating 99.99% resulting in ceasing all air borne molecule of particles up to 0.3 micron in working Area of Laminar Bench	1	No.				
17	Millipore Filtration assembly * With a Vacuum pump * complete with a glass fitter holder 47 mm * with funnel, fitted base, cap & clamp	1	No.				
18	Plate count and colony counter * Hand held * micro controller based * 6 digit [999999] LCD counter * built in buzzer, marker pen, and counters * memorizes last count * as per GMP specifications * hold and count correction facility	1	No.				
19	(a) Arsenic testing instrument - portable type * Digital meter based on colorimetry /densitometry * complete with tri fitter arsenic trap * 100 reaction vessel * destruction fitter holder * detection fitter holder * hydrogen sulphide fitter * reagents for 420 tests * visual comparison chart * forceps * gloves * dilution tubes * cuvette * brush * 9V battery * screwdrivers * instrument manual	1	No.				
20	(b) Arsenic testing accessories - for spectrophotometer * Reagent for Arsenic Analysis: package of 250 tests - Hydrochloric Acid analytical grade 500 ml X4, Zinc filling (3-5 mm grain size) 500 gmX3, Potassium iodide analytical grade 1X100 gm, Stannous Chloride analytical grade 1x100 gm, Morpholine 1X500ml, Lead acetate 1X500 gm, Chloroform HPLC/Spectroscopy grade 2X 1 lit, Silver diethyl	1	No.				



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21	<p>dithiocarbamate ACS grade 5 mXI, glass wool 250 gmXI, Acetone analytical grade 500 mlXI * Arsine generator complete with 100 ml Erlenmeyer flask with standard joint, glass wool adaptor with matching std joint, absorber tube with matching standard joint, 5 ml volumetric Flask- package of 12 sets- all made of Borosilicate glass * Volumetric Flask 100 ml - 3 numbers, Mohr's type graduated pipette 1ml, 5 ml, 10 ml, 25ml- 6 nos. each * Glass dropper- 2 nos * Stainless steel forceps- 1 no.</p> <p>Dissolved Oxygen Meter</p> <ul style="list-style-type: none"> * Waterproof Hand-held Meters for the determination of Dissolved oxygen on site. The meter should be of Rugged, water resistant (IP 67) & to be designed for field use. Should have PC interface (USB / serial or analogue) & backlit LCD display. <p>Technical specifications:</p> <ul style="list-style-type: none"> * Measurement: Oxygen partial pressure, Oxygen Concentration, Oxygen Saturation, Temperature measurement, Automatic absolute air pressure measurement Should have Auto Hold Function, Alarm Function, Data Logger facility & with required Software, Easy calibration against oxygen in air, Salinity correction & shall have Self-polarising galvanic oxygen probe which should allow instant measurement after system be switched on. * Should have the features for Low battery and battery change indicator, auto off function, Sensor evaluation after calibration in the display & should have Shock-absorbing rubber protective armouring. O2 concentration 0.0 ... 70.0 mg/l * Accuracy O2 concentration 0 ... 25 mg/l $\pm 1.5\% \pm 0.2$ mg/l/25 ... 70 mg/l $\pm 2.5\% \pm 0.3$ mg/l 	1	No.				
22	<p>Cool box with icepacks</p> <ul style="list-style-type: none"> * Material: PC thermoplastic / Non toxic gel well * dimension: 134mm x 92 mm 	2	No.				



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23	<p>Specific ion meter - for Fluoride, Chloride and Nitrate etc</p> <ul style="list-style-type: none"> * Microprocessor based pH/ISE meter with large, backlit graphic LCD display, informative display should show H/mV/RmV/ISE results and temperature along with electrode status, time, date, sample ID, user ID and calibration points * Tech specs for ion measurement: Range: 0 to 19999 points * Resolution: Up to 3 significant digits * Relative Accuracy: ± 0.2 mV or ± 0.05 % of reading whichever is greater * Units: ppm, M, mg/L, %, ppb, none * Calibration Points: Up to 5 * Calibration Editing: possible * Calibration Features: Timed end point, linear point to point, non-linear selectable auto-blank, low concentration range stability <p>The unit shall be supplied with pH electrode, ATC probe, stainless steel probe, Star stirrer probe, Electrode arm with holder & Universal power adapter. The unit shall be supplied with Fluoride & Nitrate ion selective electrode with electrode filling solution, TISAB-III for Fluoride, total ionic strength buffer solution for nitrate electrode, NIST traceable Standard solution for 1000 mg/L of Fluoride & Nitrate - 500 ml of each type, variable volume micropipette 1-5 ml with micro-tip (100 nos.) - 1 set & any other consumables required for Fluoride & Nitrate analysis.</p>	1	No.				
24	<p>Fume cup board</p> <ul style="list-style-type: none"> * Work table size 91.44cm x 60.96cm x 60.96 cm * exhaust ducting * table material: granite * outer mild steel body 	1	No.				
25	<p>Auto Burette (100 ml capacity, Automatic Zero, Accuracy as per Class A IS 1997: 2008 / ISO 385: 2005, With Reservoir, Rubber Bellow, PTFE Stopcock With Certificate)</p>	1	No.				
26	<p>Auto-Pipette</p> <ul style="list-style-type: none"> * Single channel Variable Volume automatic pipette * air-displacement type * Conformity * Certified with individual Work Certificate * Range: 500 - 5000 μl * Division: 10 μl * Accuracy R\pm%.: 0.8 	1	No.				
27	<p>Thermometer</p>						



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	* Range -20°C to 250°C * displays both in Fahrenheit & Centigrade scale/ inter switchable * accuracy – ±0.2°C * resolution- 0.1° * water resistant	1	No.				
28	Single Stage distillation apparatus * Output - 5 litres * auto cut * metallic stand * complete with other accessories * 230 volts	1	No.				
29	Quartz Distillation apparatus Dist. Water Output Cap.(Approx) – 5 Ltr/Hr, 230-250 Volts Single phase 4.4kw, Coiling Water consumption – 60 Ltr/Hr, Pyrogen free, PH 6-7, Conductivity –S/cm-<3 x 10-6, Distillate Temperature 65-750C, with Distillation Apparatus Power Supply (DAPS), Quartz boiler, Borosilicate Condenser and Quartz Condenser, Distillation Unit, Single Stage, All Quartz (Boiler & Condenser), with Built-in Quartz Heater, Vertical Panel Mounted to be complete with low water level cut-off device, Conductivity of distilled water should be around 2 us/cm or less.	1	No.				
30	Kjeldal distillation apparatus * unit of 6 test mantle type	1	No.				
31	Pressure Pump * Maximum pressure- 80 psi * rotation- 1400 rpm * Motor capacity- 1/6 HP * maximum power- 125 Watt * maximum current- 0.6 Ampere	1	No.				
32	Membrane filtration	1	No.				
33	Deep Freezer * -20°C * horizontal	1	No.				
34	Micropipette * variable volume of 0.5 µl to 10µl	1	No.				
35	Centrifuge machine with rotors * Microprocessor Based * Maximum Speed 5200 rpm * Square MS body duly powder coated * Double walled light weight ABS Lid. * Fitted with Micro Processor based 2 lines 16 characters LCD panel for 0-59 minute Count-down timer * The unit should be supplied with rotor head of 8X15 ml swing	1	No.				



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	out head & 16 nos * Centrifuge tube						
36	Portable Chemical Field Test Kit	15	No.				
	* Capable of testing 30 samples/ GPs						
37	H2S Vials for Bacteriological testing	1500	No.				
	* 100 vials/GP for each of the 15 GPs						
38	Conical Flasks						
	* Flat bottom support * Conical body * Cylindrical neck * Graduated * complies with IS 915, ISO 1042 for volumetric flasks						
	100 ml capacity	16	No.				
	150 ml capacity	16	No.				
	250 ml capacity	30	No.				
	500 ml capacity	16	No.				
	1000 ml capacity	6	No.				
39	Beakers						
	* Flat bottom * cylindrical shape * small spout for clean and precise pouring * graduated to indicate the exact content						
	100 ml capacity	16	No.				
	250 ml capacity	16	No.				
	500 ml capacity	16	No.				
	1000ml capacity	8	No.				
	2000ml capacity	4	No.				
40	Ordinary Pipette						
	* Large bulb with a long narrow portion above with a single graduation mark * Calibrated for a single volume * accurate measurement and decanting of liquid * each pipette coded with unique number						
	5 ml capacity	8	No.				
	10 ml capacity	12	No.				
	20 ml capacity	8	No.				
	25 ml capacity	8	No.				
	50 ml capacity	4	No.				
41	Graduated Pipette						



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	* Long tube with a series of graduations to indicate different calibrated volumes for delivery from zero mark to the last graduation marks						
	1 ml capacity	4	No.				
	5 ml capacity	6	No.				
	10 ml capacity	8	No.				
	20 ml capacity	4	No.				
42	Ordinary Burette * Straight tube with a graduation scale & a stop cock with one dispenser tube * No after drainage period * complies with ISO 385						
	25 ml capacity	8	No.				
	50 ml capacity	8	No.				
	100 ml capacity	1	No.				
43	Automatic Burette * with automatic zero facility * mounted on a glass reservoir bottle, glass stop cock * rubber bellows * enamel graduations						
	50 ml capacity	1	No.				
44	Desiccators * Normal Desiccators * size 160 mm * for use with Disposable or Reusable Desiccant * complies with IS 6128 ; specification for desiccators	4	No.				
45	Reagent Bottles * plain narrow mouth * no-drip pour lip * solid glass stopper to fit securely * autoclavable & sterilizable * with clear graduations						
	100 ml capacity	20	No.				
	250 ml capacity	35	No.				
	500 ml capacity	24	No.				
	1000ml capacity	10	No.				
	2000ml capacity	6	No.				
46	Sample Bottles * Of food grade plastic * large labelling field * complete with						



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	screw cap and pouring ring						
	250 ml capacity	35	No.				
	500 ml capacity	35	No.				
	1000ml capacity	15	No.				
	2000ml capacity	8	No.				
47	Test Tubes						
	* without rim * flat bottom	1	No.				
	Packet of 100						
48	Durham tubes						
	* Neutral glass * round bottom * autoclavable * very clear & transparent * straight rim	300	No.				
49	Round bottom flasks						
	* Round bottom support						
	250 ml capacity	8	No.				
50	Measuring cylinders						
	* graduated * with pour spouts to facilitate pouring without any drips * prominent graduations * broad base for stability						
	10 ml	6	No.				
	50 ml	6	No.				
	100 ml	6	No.				
	250 ml	6	No.				
	500 ml	6	No.				
	1000ml	6	No.				
	2000ml	3	No.				
51	Measuring flasks						
	* with inter changeable solid glass stoppers * each flask engraved with individual serial number						
	5 ml	5	No.				
	10 ml	10	No.				
	25 ml	10	No.				
	50 ml	10	No.				
	100 ml	10	No.				
	250 ml	10	No.				



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	500 ml	10	No.				
	1000 ml	5	No.				
52	Funnels						
	75 mm diameter	5	No.				
	100 mm diameter	5	No.				
	125 mm diameter	2	No.				
53	Porcelain dish						
	Medium size	10	No.				
	Large size	6	No.				
54	Crucibles	8	No.				
55	Wash bottles	6	No.				
56	Standard joints						
	Grouted	24	No.				
	Bends	12	No.				
57	Glass rods						
	(Packet of 50)	1	No.				
58	Petri Dishes						
	* Diameter – 75 mm	100	No.				
59	Nessler Cylinders						
	* Graduated * maximum clarity						
	50 ml capacity	20	No.				
	100 ml capacity	20	No.				
60	Thermometers						
	* Digital type * display both in Fahrenheit & Centigrade scale * accuracy up to ± 0.2 to ± 0.5 °C * resolution – 0.1 °C * usage of Min/ Max/ Hold button *						
	100 °C	2	No.				
	200 °C	2	No.				
	500 °C	1	No.				
61	Separating Flask						
	* Capacity - ml * Stopper at top to fit tightly * Stop cock at bottom to be well sealed	10	No.				
62	Stopper Bottles for dissolved Oxygen						



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	* Each bottle and its stopper marked with a unique matching identification number	2	No.		30 days from the date of issue of Notice to Proceed	60 days from the date of issue of Notice to Proceed	
	PART D: Project District - Hailakandi			Hailakandi, Assam, India			
1	Digital pH meter * Conforms to National Accreditation Board for Testing and Calibration Laboratories (NABL) & National Institute of Standards & Technology (NIST) guidelines * automatic electrode recognition * built in GLP function * graphic LCD display of pH, ORP readings, temperature, electrode status, calibration points, battery life, date and time * hard & waterproof casing * Help Menu * pH Range: 0-14 pH * resolution: 0.01pH * accuracy: ± 0.01 pH * calibration point: Up to 5 * Buffer sets * auto temperature compensation * windows compatible software * USB cable for PC connection * rechargeable batteries & battery charger						
	Microprocessor based (Research grade instrument) pH meter Up to 6-point calibration with auto-buffer recognition * quick & easy electrode diagnosis with multiple pH slopes and offset display * non-volatile memory holds up to 500 data points - time and date-stamped for GLP compliance * calibrate with up to 5 custom pH buffers - use any pH values that are > 1.0 pH unit apart * Cal-due alarm - no more out-dated calibrations * auto-logging function for convenient continuous monitoring * provision for password protection for setup and calibration should be available * output data to printer or PC * detachable electrode holder Technical Specifications: * pH Range-2.000 to 20.000 pH	1	No.				



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2	<ul style="list-style-type: none"> * Resolution-0.1 / 0.01 / 0.001 pH * Accuracy-±0.002 pH + 1 LSD * Cal. Points-Up to 6 preset or 5 customs * Buffer Sets-USA, NIST, DIN, User 1 * ORP Range-±2000.0 mV, Accuracy-±0.2 mV * Rel. mV Range-±2000.0 mV, Temp Range (Meter) 0.0 to 100.0 °C * Compensation Auto/Manual <p>The unit should be supplied with (i) pH Meter With refillable pH Electrode, (ii) Temperature Probe & pH Electrode, (iii) Refill Solution, (iv) electrode stand with swivel arm, (v) RS232 cable, (vi) software for data transfer to PC, (vii) operating manual, (viii) NIST Traceable pH buffer pH 2.00, (ix) 4.01, 7.00 & 10.01- 500 ml each pack.</p>						
(a)	<p>Digital TDS meter</p> <ul style="list-style-type: none"> * Conforms to NABL & NIST guidelines * displays Conductivity, TDS and Temperature * automatic electrode recognition * built in GLP function * up to 1000 samples data set storage * range - 1 µS/cm to 200 mS/cm * windows compatible software * USB cable for PC connection <p>Lab based Digital TDS meter</p> <ul style="list-style-type: none"> * Large screen that displays Conductivity or TDS readings with Temperature in °C * Ready indicator to know when readings are stable * Selectable cell constant * Auto-ranging across Conductivity and TDS ranges * Up to 5-point push button calibration * Non-volatile memory holds up to 100 data points * Should have Integral electrode holder <p>Technical specification:</p> <ul style="list-style-type: none"> * Conductivity Range-µS to 200.0 mS * Resolution-0.01 / 0.1 / 1 µS; 0.01 / 0.1 mS * Accuracy- ±1 % full scale * Cal. Points-Up to 5 Cell Constant-0.1, 1.0, 10.0 (selectable) * TDS Range-to 100.0 ppt Resolution-0.01 / 0.1 / 1 ppm; 0.01 / 0.1 ppt 	1	No.				



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					Earliest Delivery Date	Latest Delivery Date	Bidder's offered Delivery date (to be provided by the bidder)
	<ul style="list-style-type: none"> * Accuracy-± 1 % full scale * Cal. Points-Manual (5 points) * Temperature Range (Meter)-0.0 to 100.0 °C * Resolution-0.1 °C * Accuracy-± 0.5 °C * Compensation Type & Range-Automatic with supplied cell or manual 0.0 to 100 °C <p>The Instrument should be supplied with (i) Meter with Conductivity/ATC Probe, (ii) Integral Electrode Holder, (iii) Power Adapter, (iv) Electrode Holder, (v) Operating Manual 480</p>						
(b)	<p>Portable Digital TDS meter</p> <ul style="list-style-type: none"> * Multi-Point Push-button Calibration (up to 5 points) with ±1% full scale accuracy * Automatic or Manual Calibration - for quick, easy calibration; use automatic mode * with pre-set calibration points at most popular values or manually set values in the manual mode for more flexibility * Auto-Ranging for Conductivity/TDS measurements for fast response and best resolution over wide measurement range * Adjustable TDS Factor for more accurate measurement (for TDS 6 model only) * Automatic Temperature Compensation (ATC) for the optimum accuracy under fluctuating temperatures * Hold Function momentarily freezes reading for easy viewing * Auto-Power Off saves battery power after non-use * Self-Diagnostic with message codes for easy troubleshooting * Large Custom LCD provides optimum viewing even at a distance * Electrode with Built-in ATC designed for minimal air bubble entrapment during measurement * Protective Rubber Boot shields meter from drops and features a sturdy built-in stand for easy bench-top operation. <p>Technical specifications:</p> <ul style="list-style-type: none"> * TDS Range-0.00 - 9.99 ppm / 10.0 - 99.9 ppm/ 100 - 999 ppm / 1.00 - 9.99 ppt / 10.0 - 99.9 ppt * Resolution-0.05 % full scale Accuracy-±1 % of full scale ±1 	1	No.				



Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		Bidder's offered Delivery date [to be provided by the bidder]
					Earliest Delivery Date	Latest Delivery Date	
	<p>LSD</p> <ul style="list-style-type: none"> * TDS Factor-0.30 to 1.00 * Temperature Range-0.0 to 80.0 °C * Resolution-0.1 °C * Accuracy-±0.5 °C * Compensation Automatic/Manual (0 to 80 °C) * Normalization 20.0 or 25.0 °C Operating Temperature-5 to 45 °C * Calibration Points-4 (1 per range) auto, 5(1 per range) manual Temperature Coefficient-0.0 - 10.0 % * CellConstant-0.1, 1.0, 10.0 Auto-Off-20 min after last key pressed * Input-BNC, 2.5 mm phono socket Power-4 x 1.5 V 'AAA' alkaline batteries to be included <p>The meter should be supplied with (i) Basic meter with conductivity electrode with cell constant 1.0, (ii) TDS calibration solutions (50 ppm, 300 ppm, 3000 ppm), (iii) DI rinse water (60 mL each), (iv) Grip-Clip, (v) batteries in hard carrying case, (vi) operating manual & 480 ml of 300 ppm TDS calibration solution.</p>						
3	Refrigerator						
	* Capacity-180 L * frost free * 5 star rating * single door * freezer type - top freezer * in built inverter	1	No.				
4	Refrigerator						
	* Capacity- 300 L * frost free * 5 star rating * double door * freezer type - top freezer * in built inverter	1	No.				
5	Water still						
	* Distillation Unit made of Stainless steel * capacity 5 litre/ hour * wall mounting model – equipped with brackets for wall mounting * to work on 220- 230 volts AC supply	1	No.				
6	Voltage stabilizer						
	* Capacity- 3 KVA * servo stabilizer * 5 star rating	1	No.				
7	UPS/ Inverter						
	* capacity- 3 KVA * 5 star rating * 6 hrs backup * with battery	1	No.				



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8	<p>Hot plate</p> <p>* Body to be fabricated out of thick mild steel sheet, duly finished in epoxy powder coated * The Hot Plate top to be made of Stainless steel thick sheet & smoothed duly finished should be firmly mounted on the body * Heavy duty heating elements should be securely laid under the plate to operate on 220/230V AC supply * Temperature in controlled by energy regulators fitted with an indicator lamp for the mains * To be supplied with main cord and plug.</p> <p>Technical Specifications</p> <p>* Top plate size: 30 x 45cm</p> <p>* Load: 2 KW</p>	2	No.				
9	<p>Laboratory Heating mantel</p> <p>* Body has to be made of one-piece aluminium and is lagged with special mineral wool * The panel should be provided with on-off switch, energy control knob and pilot lamp * It should be provided with joint-less hand knitted heating nets of glass yarn capable of withstanding high temperature up to 400°C.</p> <p>Technical Specifications:</p> <p>* To be supplied complete with cord & plug to work on 220/230V AC supply</p> <p>a) Capacity: 500 ml</p> <p>b) Capacity: 1000 ml</p>	1	No.				
10	<p>Hot air oven - Standard make</p> <p>* The unit should be of double walled with outer body made of Mild Steel Sheet treated for degreasing & rust proofing duly powder coated and inner chamber is to be made of Stainless Steel Sheet (304 Grade) with adjustable Stainless-Steel Wire Mesh shelves * Space between inner chamber and outer wall should be filled with high grade mineral wool as insulation * The Double Walled Door should have synthetic rubber / fibre gasket. Unit should have ventilation slides on two sides to control inner air/ vapour circulation * To be fitted with beaded heating elements placed in ribs, at bottom and sides for</p>	2	No.				



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11	<p>uniform heat distribution. To work on 220/230 volts AC supply.</p> <p>Technical Specifications</p> <ul style="list-style-type: none"> * Temperature control-By capillary type thermostat with arbitrary scale dial for temperature control from +5° C ambient to 250°C ± 2°C at 100°C and with in-built L-type capillary thermometer & energy regulator to reduce temperature fluctuation in higher temperature. * Working chamber size: 450x450x600 mm (2 trays)-approximately 120 lit <p>Bacteriological incubator</p> <ul style="list-style-type: none"> * The unit should be double walled with outer body to be made of MS sheet treated for degreasing & rust proofing duly powder coated and inner chamber to be made of Stainless Steel (304 Grade) sheet * To be provided with adjustable Stainless Steel Wire Mesh / perforated shelves * Space between inner chamber and outer wall should be filled with high grade mineral wool for minimal heat loss * The Double Walled Door to be fitted with glass window to facilitate viewing inside chamber without disturbing the inner temperature and should be of synthetic rubber/fibre gasket. Unit should have ventilation slides on two sides to control inner air/ vapour circulation * To be fitted with beaded heating elements placed in ribs, at bottom and sides for uniform heat distribution. Unit has to be fitted with two lamps and ON / OFF switch * To work on 220/230 volts AC supply. <p>Technical Specifications:</p> <ul style="list-style-type: none"> * Temperature control-By Digital Temperature Indicator-cum-Controller (with display for Set Value and Present Value) from +5° C ambient to 70°C, ± 0.5°C at 50°C. To be fitted with Air Circulating Fan to maintain uniform temperature throughout the working chamber. * Working chamber size: 459x450x600 mm (2 trays)-approximately 120 lit 	1	No.				
12	Autoclave						



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	<p>* The outer chamber should be made of heavy gauge Stainless Steel Sheet duly polished * The inner chamber should be made of thick 304 Grade Stainless Steel Sheet. Lid should be made of thick machined high grade Stainless Steel plate * The unit should have Radial Locking arrangement made of high grade Stainless Steel duly polished with paddle lifting mechanism * The unit has to be fitted with Spring Loaded Safety Valve, Pressure Gauge, Pressure Release Valve, water Level Indicator, Drain Valve, Automatic Pressure Control Switch, Automatic Low Water Cut-off Device & automatic interval timer * The unit should be hydraulically tested to withstand up to 40 psi pressure * All internal joints of the unit should be Argon arc welded ground and polished to give crevice free internals * Moulded joint-less Silicon Rubber Gasket has to be provided for leak proofing * The unit would be electrically heated by flange type/immersion type heaters. To be supplied with Control Box, fitted with Mains & Heating Indicators, ON / OFF Switch, Cord & Plug to work on 220/230V, 50Hz, AC supply * Working chamber size: 300 mm X 500 mm (approximately 35 lit).</p>	2	No.				
13	<p>Magnetic stirrer</p> <p>* The body should be made of mild steel duly finished in epoxy powder coating and to be mounted with a stainless-steel top stirring has to be done by fractional horsepower motor, rotating magnetic field applied below the liquid container * The stirring would be accomplished by a PTFE encapsulated magnetic needle to be placed in the liquid to be stirred * The unit should be supplied with pilot lamp, plug cord and continuously variable speed regulator * Maximum speed 1400 RPM. The unit shall be workable on 220/230V AC single phase. To be supplied with TWO PTFE coated magnetic needle (dia X length): 8x15mm & 8x25mm one each Stirring Capacity: Approximately. 2 lit</p>	1	No.				
14	<p>Microscope</p>						



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					Earliest Delivery Date	Latest Delivery Date	Bidder's offered Delivery date (to be provided by the bidder)
	* Binocular * with LCD display * connectivity with and without CPU	1	No.				
15	Vacuum pump * Maximum power 80 watts * maximum vacuum- 670 mm of Hg * maximum flow rate- 34 lit/ min * rotation- 1450 RPM * HP- 1/8 HP * noise level- 52 dB	1	No.				
16	Flame Photometer * Microprocessor Flame Photometer (Graphical Display & Inbuilt Printer) having provision for Four Element measurement in a single aspiration (Na, K, Li, Ca and Ba) * Provision for Calibration curve fit routines first order and second order * Data displayed should be in concentration units i.e. ppm & meq/litre * The unit should have provision for automatic filter selection; auto calibration, auto Gas Cut off (in case of power failure feature) * Printer attachment, PC connecting compatibility, Sample data storage (at least 300 results) * The unit would have alphanumeric key board for easy data entry, Graphical LCD display for easy to read, Curve calibration using at least up to 5 standards multiple calibration curve saving facility * The unit should be supplied with Stainless steel burner with Sodium & Potassium Filter, air Compressor, LPG cylinder with valve, wire-knitted gas rubber tube, NIST traceable Sodium & Potassium standard (1000 mg/L strength) each of 125 ml pack, 12 nos. certified volumetric Flask- class A of 100ml capacity, 3 nos. 1ml & 3 nos. 10 ml certified graduated Mohr's pipette of Class A made of borosilicate glass.	1	No.				
17	UV Laminar Air Flow chamber * Working area 91.44cm x 60.96cm x 60.96 cm * blower fitted with HP motors * pre-filters made of high grade nylon Net fixed in stainless steel frame for first Stage air purification, through blower system * closed inner chamber fitted with HEPA having very accurate performance rate of air filtration, rating 99.99% resulting in ceasing all air borne	1	No.				



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	molecule of particles up to 0.3 micron in working Area of Laminar Bench						
18	Millipore Filtration assembly * With a Vacuum pump * complete with a glass filter holder 47 mm * with funnel, fitted base, cap & clamp	1	No.				
19	Plate count and colony counter * Hand held * micro controller based * 6 digit [999999] LCD counter * built in buzzer, marker pen, and counters * memorizes last count * as per GMP specifications * hold and count correction facility	1	No.				
20	(a) Arsenic testing instrument - portable type * Digital meter based on colorimetry /densitometry * complete with tri filter arsenic trap * 100 reaction vessel * destruction filter holder * detection filter holder * hydrogen sulphide filter * reagents for 420 tests * visual comparison chart * forceps * gloves * dilution tubes * cuvette * brush * 9V battery * screwdrivers * instrument manual	1	No.				
21	(b) Arsenic testing accessories - for spectrophotometer * Reagent for Arsenic Analysis: package of 250 tests - Hydrochloric Acid analytical grade 500 ml X4, Zinc filling (3-5 mm grain size) 500 gmX3, Potassium Iodide analytical grade 1X100 gm, Stannous Chloride analytical grade 1X100 gm, Morpholine 1X500ml, Lead acetate 1X500 gm, Chloroform HPLC/Spectroscopy grade 2X 1 lit, Silver diethyl dithiocarbamate ACS grade 5 mXI, glass wool 250 gmXI, Acetone analytical grade 500 mXI * Arsine generator complete with 100 ml Erlenmeyer flask with standard joint, glass wool adaptor with matching std joint, absorber tube with matching standard joint, 5 ml volumetric Flask- package of 12 sets- all made of Borosilicate glass * Volumetric Flask 100 ml - 3 numbers, Mohr's type graduated pipette 1ml, 5 ml, 10 ml, 25 ml- 6 nos. each * Glass dropper- 2 nos * Stainless steel forceps- 1 no.	1	No.				



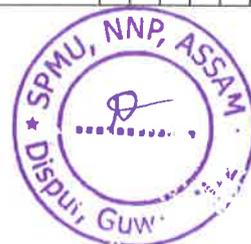
Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		Bidder's offered Delivery date (to be provided by the bidder)
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22	Cool box with icepacks * Material: PC thermoplastic / Non toxic gel well * dimension: 134mm x 92 mm	3	No.				
23	Specific Ion meter - for Fluoride, Chloride and Nitrate etc * Microprocessor based pH/ISE meter with large, backlit graphic LCD display, informative display should show H/mV/Rm/ISE results and temperature along with electrode status, time, date, sample ID, user ID and calibration points * Tech specs for Ion measurement: Range: 0 to 19999 * Resolution: Up to 3 significant digits * Relative Accuracy: ± 0.2 mV or ± 0.05 % of reading whichever is greater * Units: ppm, M, mg/L, %, ppb, none * Calibration Points: Up to 5 * Calibration Editing: possible * Calibration Features: Timed end point, linear point to point, non-linear selectable auto-blank, low concentration range stability The unit shall be supplied with pH electrode, ATC probe, stainless steel probe, Star stirrer probe, Electrode arm with holder & Universal power adapter. The unit shall be supplied with Fluoride & Nitrate ion selective electrode with electrode filling solution, TISAB-III for Fluoride, total ionic strength buffer solution for nitrate electrode, NIST traceable Standard solution for 1000 mg/L of Fluoride & Nitrate - 500 ml of each type, variable volume micropipette 1-5 ml with micro-tip (100 nos.) - 1 set & any other consumables required for Fluoride & Nitrate analysis.	1	No.				
24	Fume cup board * Work table size 91.44cm x 60.96cm x 60.96 cm * exhaust ducting * table material: granite * outer mild steel body	1	No.				
25	Auto Burette (100 ml capacity, Automatic Zero, Accuracy as per Class A IS 1997: 2008 / ISO 385: 2005, With Reservoir, Rubber Bellow, PTFE Stopcock With Certificate)	1	No.				
26	Auto-Pipette * Single channel Variable Volume automatic pipette * air-displacement type * Conformity * Certified with Individual	1	No.				



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	Work Certificate * Range: 500 - 5000 μ l * Division: 10 μ l * Accuracy R \pm %: 0.8						
27	Single Stage distillation apparatus * Output - 5 litres * auto cut * metallic stand * complete with other accessories * 230 volts	1	No.				
28	Quartz Distillation apparatus Dist. Water Output Cap.(Approx) - 5 Ltr/Hr, 230-250 Volts Single phase 4.4kw, Cooling Water consumption - 60 Ltr/Hr. Pyrogen free, PH 6-7, Conductivity -S/cm-<3 x 10-6, Distillate Temperature 65-750C, with Distillation Apparatus Power Supply (DAPS), Quartz boiler, Borosilicate Condenser and Quartz Condenser, Distillation Unit, Single Stage, All Quartz (Boiler & Condenser), with Built-in Quartz Heater, Vertical Panel Mounted to be complete with low water level cut-off device, Conductivity of distilled water should be around 2 us/cm or less.	1	No.				
29	Kjeldal distillation apparatus * unit of 6 test mantle type	1	No.				
30	Pressure Pump * Maximum pressure- 80 psi * rotation- 1400 rpm * Motor capacity- 1/6 HP * maximum power- 125 Watt * maximum current- 0.6 Ampere	1	No.				
31	Membrane filtration	1	No.				
32	Deep Freezer * -20°C * horizontal	1	No.				
33	Micropipette * variable volume of 0.5 μ l to 10 μ l	1	No.				
34	Centrifuge machine with rotors * Microprocessor Based * Maximum Speed 5200 rpm * Square MS body duly powder coated * Double walled light weight ABS Lid. * Fitted with Micro Processor based 2 lines 16 characters LCD panel for 0-59 minute Count-down timer * The unit should be supplied with rotor head of 8X15 ml swing out head & 16 nos * Centrifuge tube	1	No.				



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35	Portable Chemical Field Test Kit * Capable of testing 30 samples/ GPs	5	No.				
36	H2S Vials for Bacteriological testing * 100 vials/GP for each of the 15 GPs	1500	No.				
37	Conical Flasks * Flat bottom support * Conical body * Cylindrical neck * Graduated * complies with IS 915, ISO 1042 for volumetric flasks 100 ml capacity 150 ml capacity 250 ml capacity 500 ml capacity 1000 ml capacity		No. No. No. No. No.				
38	Beakers * Flat bottom * cylindrical shape * small spout for clean and precise pouring * graduated to indicate the exact content 100 ml capacity 250 ml capacity 500 ml capacity 1000ml capacity 2000ml capacity		No. No. No. No. No.				
39	Ordinary Pipette * Large bulb with a long narrow portion above with a single graduation mark * Calibrated for a single volume * accurate measurement and decanting of liquid * each pipette coded with unique number 5 ml capacity 10 ml capacity 20 ml capacity 25 ml capacity 50 ml capacity		No. No. No. No. No.				
40	Graduated Pipette * Long tube with a series of graduations to indicate different		No.				



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	calibrated volumes for delivery from zero mark to the last graduation marks						
	1 ml capacity	4	No.				
	5 ml capacity	6	No.				
	10 ml capacity	8	No.				
	20 ml capacity	4	No.				
41	Ordinary Burette * Straight tube with a graduation scale & a stop cock with one dispenser tube * No after drainage period * complies with ISO 385						
	25 ml capacity	8	No.				
	50 ml capacity	8	No.				
	100 ml capacity	1	No.				
42	Automatic Burette * with automatic zero facility * mounted on a glass reservoir bottle, glass stop cock * rubber bellows * enamel graduations						
	50 ml capacity	1	No.				
43	Desiccators * Normal Desiccators * size 160 mm * for use with Disposable or Reusable Desiccant * complies with IS 6128 : specification for desiccators	4	No.				
44	Reagent Bottles * plain narrow mouth * no-drip pour lip * solid glass stopper to fit securely * autoclavable & sterilizable * with clear graduations						
	100 ml capacity	20	No.				
	250 ml capacity	35	No.				
	500 ml capacity	24	No.				
	1000ml capacity	10	No.				
	2000ml capacity	6	No.				
45	Sample Bottles * Of food grade plastic * large labelling field * complete with screw cap and pouring ring						



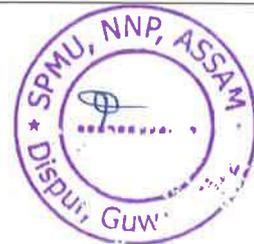
Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per incoterms) Date		Bidder's offered Delivery date (to be provided by the bidder)
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	250 ml capacity	35	No.				
	500 ml capacity	35	No.				
	1000ml capacity	15	No.				
	2000ml capacity	8	No.				
46	Test Tubes						
	* without rim * flat bottom	1	No.				
	Packet of 100						
47	Durham tubes						
	* Neutral glass * round bottom * autoclavable * very clear & transparent * straight rim	300	No.				
48	Round bottom flasks						
	* Round bottom support						
	250 ml capacity	8	No.				
49	Measuring cylinders						
	* graduated * with pour spouts to facilitate pouring without any drips * prominent graduations * broad base for stability						
	10 ml	6	No.				
	50 ml	6	No.				
	100 ml	6	No.				
	250 ml	6	No.				
	500 ml	6	No.				
	1000ml	6	No.				
	2000ml	3	No.				
50	Measuring flasks						
	* with inter changeable solid glass stoppers * each flask engraved with individual serial number						
	5 ml	5	No.				
	10 ml	10	No.				
	25 ml	10	No.				
	50 ml	10	No.				
	100 ml	10	No.				
	250 ml	10	No.				
	500 ml	10	No.				



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51	1000 ml Funnels	5	No.				
	75 mm diameter	5	No.				
	100 mm diameter	5	No.				
	125 mm diameter	2	No.				
52	Porcelain dish						
	Medium size	10	No.				
	Large size	6	No.				
53	Crucibles	8	No.				
54	Wash bottles	6	No.				
55	Standard joints						
	Grouted	24	No.				
	Bends	12	No.				
56	Glass rods						
	(Packet of 50)	1	No.				
57	Petri Dishes						
	* Diameter - 75 mm	100	No.				
58	Nessler Cylinders						
	* Graduated * maximum clarity						
	50 ml capacity	20	No.				
	100 ml capacity	20	No.				
59	Thermometers						
	* Digital type * display both in Fahrenheit & Centigrade scale * accuracy up to ± 0.2 to ± 0.5 °C * resolution - 0.1 °C * usage of Min/ Max/ Hold button *						
	100 °C	2	No.				
	200 °C	2	No.				
	500 °C	1	No.				
60	Separating Flask						
	* Capacity - ml * Stopper at top to fit tightly * Stop cock at bottom to be well sealed	10	No.				
61	Stopper Bottles for dissolved Oxygen						
	* Each bottle and its stopper marked with a unique matching	2	No.				



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	identification number						
	PART E: Project District - Sivasagar			Sivasagar, Assam, India	30 days from the date of issue of Notice to Proceed	60 days from the date of issue of Notice to Proceed	
1	<p>Digital pH meter</p> <p>* Conforms to National Accreditation Board for Testing and Calibration Laboratories (NABL) & National Institute of Standards & Technology (NIST) guidelines * automatic electrode recognition * built in GLP function * graphic LCD display of pH, ORP readings, temperature, electrode status, calibration points, battery life, date and time * hard & waterproof casing * Help Menu * pH Range: 0-14 pH * resolution: 0.01pH * accuracy: ± 0.01 pH * calibration point: Up to 5 * Buffer sets * auto temperature compensation * windows compatible software * USB cable for PC connection * rechargeable batteries & battery charger</p> <p>Microprocessor based (Research grade instrument) pH meter</p> <p>Up to 6-point calibration with auto-buffer recognition * quick & easy electrode diagnosis with multiple pH slopes and offset display * non-volatile memory holds up to 500 data points - time and date-stamped for GLP compliance * calibrate with up to 5 custom pH buffers - use any pH values that are > 1.0 pH unit apart * Cal-due alarm - no more out-dated calibrations * auto-logging function for convenient continuous monitoring * provision for password protection for setup and calibration should be available * output data to printer or PC * detachable electrode holder</p> <p>Technical Specifications: * pH Range-2.000 to 20.000 pH * Resolution-0.1 / 0.01 / 0.001 pH</p>	1	No.				



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	<ul style="list-style-type: none"> * Accuracy-±0.002 pH + 1 LSD * Cal. Points-Up to 6 preset or 5 customs * Buffer Sets-USA, NIST, DIN, User 1 * ORP Range-±2000.0 mV, Accuracy-±0.2 mV * Rel. mV Range-±2000.0 mV, Temp Range (Meter) 0.0 to 100.0 °C * Compensation Auto/Manual <p>The unit should be supplied with (i) pH Meter With refillable pH Electrode, (ii) Temperature Probe & pH Electrode, (iii) Refill Solution, (iv) electrode stand with swivel arm, (v) RS232 cable, (vi) software for data transfer to PC, (vii) operating manual, (viii) NIST Traceable pH buffer pH 2.00, (ix) 4.01, 7.00 & 10.01- 500 ml each pack.</p>						
2	<p>Digital TDS meter</p> <ul style="list-style-type: none"> * Conforms to NABL & NIST guidelines * displays Conductivity, TDS and Temperature * automatic electrode recognition * built in GLP function * up to 1000 samples data set storage * range - 1 µS/cm to 200 mS/cm * windows compatible software * USB cable for PC connection <p>Lab based Digital TDS meter</p> <ul style="list-style-type: none"> * Large screen that displays Conductivity or TDS readings with Temperature in °C * Ready indicator to know when readings are stable * Selectable cell constant * Auto-ranging across Conductivity and TDS ranges * Up to 5-point push button calibration * Non-volatile memory holds up to 100 data points * Should have integral electrode holder <p>Technical specification:</p> <ul style="list-style-type: none"> * Conductivity Range-µS to 200.0 mS * Resolution-0.01 / 0.1 / 1 µS; 0.01 / 0.1 mS * Accuracy- ±1 % full scale * Cal. Points-Up to 5 Cell Constant-0.1, 1.0, 10.0 (selectable) * TDS Range-to 100.0 ppt Resolution-0.01 / 0.1 / 1 ppm; 0.01 / 0.1 ppt * Accuracy-± 1 % full scale 	1	No.				



Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per incoterms) Date		
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3	<ul style="list-style-type: none"> * Cal. Points-Manual (5 points) * Temperature Range (Meter)-0.0 to 100.0 °C * Resolution-0.1 °C * Accuracy-± 0.5 °C * Compensation Type & Range-Automatic with supplied cell or manual 0.0 to 100 °C <p>The Instrument should be supplied with (i) Meter with Conductivity/ATC Probe, (ii) Integral Electrode Holder, (iii) Power Adapter, (iv) Electrode Holder, (v) Operating Manual 480 ml pack of Calibration standard of 1413 µS/cm.</p> <p>Nephelometer (Turbidimeter) –</p> <ul style="list-style-type: none"> * Microprocessor based Digital Turbidity meter to allow fast, precise on site or laboratory measurements * measure scattered light at 90 ° angle as stipulated in ISO 7027. Technical specification: * Display-backlit LCD Optics temperature-compensated LED (k = 860 nm) and photo-sensor amplifier in water proof sample chamber, infrared light * Keypad-Polycarbonate membrane, splash proof * Power supply-by battery, Real time clock and date * Automatic switch-off during idle time, Data Storage-Internal memory for at least 15 data sets * Range (Auto-range): 0.01-1100 NTU * Resolution-0-99.99 NTU = 0.01/ 100.0-999.9 NTU = 0.1/ 1000-1100 NTU = 1.0 * Accuracy-± 2.5 % of reading or ± 0.01 NTU (0 - 500 NTU) ± 5 % (500 - 1100 NTU) * Ambient conditions-Temperature: 5 - 40 °C rel. humidity: 30 - 90% 	1	No.				
4	<p>Refrigerator</p> <ul style="list-style-type: none"> * Capacity- 300 L * frost free * 5 star rating * double door * freezer type - top freezer * in built inverter <p>Water still</p> <ul style="list-style-type: none"> * Distillation Unit made of Stainless steel * capacity 5 litre/ 	1	No.				
5		1	No.				



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	hour * wall mounting model – equipped with brackets for wall mounting * to work on 220- 230 volts AC supply						
6	Voltage stabilizer						
	* Capacity- 3 KVA * servo stabilizer * 5 star rating	1	No.				
7	UPS/ Inverter						
	* capacity- 3 KVA * 5 star rating * 6 hrs backup * with battery	1	No.				
8	Hot plate						
	* Body to be fabricated out of thick mild steel sheet, duly finished in epoxy powder coated * The Hot Plate top to be made of Stainless steel thick sheet & smoothed duly finished should be firmly mounted on the body * Heavy duty heating elements should be securely laid under the plate to operate on 220/230V AC supply * Temperature in controlled by energy regulators fitted with an indicator lamp for the mains * To be supplied with main cord and plug. Technical Specifications * Top plate size: 30 x 45cm * Load: 2 KW	2	No.				
9	Water Bath - Thermostatic						
	* The unit should be of double walled construction, argon Welded, and inner & outer wall made of MS sheet * SS lids having 75mm dia. holes with removable concentric rings * The gap between outer and inner walls should be filled with special grade glass wool insulation * Temperature control from +5°C above ambient to 99°C * The unit would be fitted with Capillary type Thermostat with arbitrary scale dial for temperature control from +5° C above ambient to 99°C ± 1°C (at 50°C).	1	No.				
10	Hot air oven - Standard make						
	* The unit should be of double walled with outer body made of Mild Steel Sheet treated for degreasing & rust proofing duly powder coated and inner chamber is to be made of Stainless Steel Sheet (304 Grade) with adjustable Stainless-Steel Wire Mesh shelves * Space between inner chamber and outer wall	1	No.				



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11	<p>should be filled with high grade mineral wool as insulation * The Double Walled Door should have synthetic rubber / fibre gasket. Unit should have ventilation slides on two sides to control inner air/ vapour circulation * To be fitted with beaded heating elements placed in ribs, at bottom and sides for uniform heat distribution. To work on 220/230 volts AC supply.</p> <p>Technical Specifications</p> <ul style="list-style-type: none"> * Temperature control-By capillary type thermostat with arbitrary scale dial for temperature control from +5° C ambient to 250°C ± 2°C at 100°C and with in-built L-type capillary thermometer & energy regulator to reduce temperature fluctuation in higher temperature. * Working chamber size: 450x450x600 mm (2 trays)-approximately 120 lit <p>Bacteriological Incubator</p> <ul style="list-style-type: none"> * The unit should be double walled with outer body to be made of MS sheet treated for degreasing & rust proofing duly powder coated and inner chamber to be made of Stainless Steel (304 Grade) sheet * To be provided with adjustable Stainless Steel Wire Mesh / perforated shelves * Space between inner chamber and outer wall should be filled with high grade mineral wool for minimal heat loss * The Double Walled Door to be fitted with glass window to facilitate viewing inside chamber without disturbing the inner temperature and should be of synthetic rubber/fibre gasket. Unit should have ventilation slides on two sides to control inner air/ vapour circulation * To be fitted with beaded heating elements placed in ribs, at bottom and sides for uniform heat distribution. Unit has to be fitted with two lamps and ON / OFF switch * To work on 220/230 volts AC supply. <p>Technical Specifications:</p> <ul style="list-style-type: none"> * Temperature control-By Digital Temperature Indicator-cum-Controller (with display for Set Value and Present Value) from +5° C ambient to 70°C. ± 0.5°C at 50°C. To be fitted with Air 	1	No.				



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12	<p>Circulating Fan to maintain uniform temperature throughout the working chamber. * Working chamber size: 459x450x600 mm (2 trays)- approximately 120 lit</p> <p>Autoclave * The outer chamber should be made of heavy gauge Stainless Steel Sheet duly polished * The inner chamber should be made of thick 304 Grade Stainless Steel Sheet. Lid should be made of thick machined high grade Stainless Steel plate * The unit should have Radial Locking arrangement made of high grade Stainless Steel duly polished with paddle lifting mechanism * The unit has to be fitted with Spring Loaded Safety Valve, Pressure Gauge, Pressure Release Valve, water Level Indicator, Drain Valve, Automatic Pressure Control Switch, Automatic Low Water Cut-off Device & automatic interval timer * The unit should be hydraulically tested to withstand up to 40 psi pressure * All internal joints of the unit should be Argon arc welded ground and polished to give crevice free internals * Moulded joint-less Silicon Rubber Gasket has to be provided for leak proofing * The unit would be electrically heated by flange type immersion type heaters. To be supplied with Control Box, fitted with Mains & Heating Indicators, ON / OFF Switch, Cord & Plug to work on 220/230V, 50Hz, AC supply * Working chamber size: 300 mm X 500 mm (approximately 35 lit).</p>	1	No.				
13	<p>Magnetic stirrer * The body should be made of mild steel duly finished in epoxy powder coating and to be mounted with a stainless-steel top stirring has to be done by fractional horsepower motor, rotating magnetic field applied below the liquid container * The stirring would be accomplished by a PTFE encapsulated magnetic needle to be placed in the liquid to be stirred * The unit should be supplied with pilot lamp, plug cord and continuously variable speed regulator * Maximum speed</p>	1	No.				



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					Earliest Delivery Date	Latest Delivery Date	
	1400 RPM. The unit shall be workable on 220/230V AC single phase. To be supplied with TWO PTFE coated magnetic needle (dia X length):8x15mm & 8x25mm one each Stirring Capacity: Approximately. 2 lit						
14	Microscope * Binocular * with LCD display * connectivity with and without CPU	1	No.				
15	Vacuum pump * Maximum power 80 watts * maximum vacuum- 670 mm of Hg * maximum flow rate- 34 lit/ min * rotation- 1450 RPM * HP- 1/6 HP * noise level- 52 dB	1	No.				
16	Flame Photometer * Microprocessor Flame Photometer (Graphical Display & Inbuilt Printer) having provision for Four Element measurement in a single aspiration (Na, K, Li, Ca and Ba) * Provision for Calibration curve fit routines first order and second order * Data displayed should be in concentration units i.e. ppm & mcg/litre * The unit should have provision for automatic filter selection; auto calibration, auto Gas Cut off (in case of power failure feature) * Printer attachment, PC connecting compatibility, Sample data storage (at least 300 results) * The unit would have alphanumeric key board for easy data entry, Graphical LCD display for easy to read, Curve calibration using at least up to 5 standards multiple calibration curve saving facility * The unit should be supplied with Stainless steel burner with Sodium & Potassium Filter, air Compressor, LPG cylinder with valve, wire-knitted gas rubber tube, NIST traceable Sodium & Potassium standard (1000 mg/L strength) each of 125 ml capacity, 3 nos. 1ml & 3 nos. 10 ml certified graduated Mohr's pipette of Class A made of borosilicate glass.	1	No.				
17	UV Laminar Air Flow chamber * Working area 91.44cm x 60.96cm x 60.96 cm * blower	1	No.				



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18	<p>fitted with HP motors * pre-filters made of high grade nylon Net fixed in stainless steel frame for first Stage air purification, through blower system * closed inner chamber fitted with HEPA having very accurate performance rate of air filtration, rating 99.99% resulting in ceasing all air borne molecule of particles up to 0.3 micron in working Area of Laminar Bench</p> <p>Millipore Filtration assembly</p> <p>* With a Vacuum pump * complete with a glass fitter holder 47 mm * with funnel, fitted base, cap & clamp</p>	1	No.				
19	<p>Plate count and colony counter</p> <p>* Hand held * micro controller based * 6 digit [999999] LCD counter * built in buzzer, marker pen, and counters * memorizes last count * as per GMP specifications * hold and count correction facility</p>	1	No.				
20	<p>(a) Arsenic testing instrument - portable type</p> <p>* Digital meter based on colorimetry /densitometry * complete with tri fitter arsenic trap * 100 reaction vessel * destruction fitter holder * detection fitter holder * hydrogen sulphide fitter * reagents for 420 tests * visual comparison chart * forceps * gloves * dilution tubes * cuvette * brush * 9V battery * screwdrivers * instrument manual</p>	1	No.				
21	<p>(b) Arsenic testing accessories - for spectrophotometer</p> <p>* Reagent for Arsenic Analysis: package of 250 tests - Hydrochloric Acid analytical grade 500 ml X4, Zinc filling (3-5 mm grain size) 500 gmX3, Potassium Iodide analytical grade 1X100 gm, Stannous Chloride analytical grade 1x100 gm, Morpholine 1X500ml, Lead acetate 1X500 gm, Chloroform HPLC/Spectroscopy grade 2X 1 lit, Silver diethyl dithiocarbamate ACS grade 5 mXI, glass wool 250 gmXI, Acetone analytical grade 500 mXI * Arsine generator complete with 100 ml Erlenmeyer flask with standard joint, glass wool adaptor with matching std joint, absorber tube with matching standard joint, 5 ml volumetric Flask- package of 12</p>	1	No.				



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22	<p>sets- all made of Borosilicate glass * Volumetric Flask 100 ml - 3 numbers, Mohr's type graduated pipette 1ml, 5 ml, 10 ml, 25 ml- 6 nos. each * Glass dropper- 2 nos * Stainless steel forceps- 1 no.</p> <p>Dissolved Oxygen Meter</p> <p>* Waterproof Hand-held Meters for the determination of Dissolved oxygen on site. The meter should be of Rugged, water resistant (IP 67) & to be designed for field use. Should have PC interface (USB / serial or analogue) & backlit LCD display.</p> <p>Technical specifications:</p> <p>* Measurement: Oxygen partial pressure, Oxygen Concentration, Oxygen Saturation, Temperature measurement, Automatic absolute air pressure measurement</p> <p>Should have Auto Hold Function, Alarm Function, Data Logger facility & with required Software, Easy calibration against oxygen in air, Salinity correction & shall have Self-polarising galvanic oxygen probe which should allow instant measurement after system be switched on.</p> <p>* Should have the features for Low battery and battery change indicator, auto off function, Sensor evaluation after calibration in the display & should have Shock-absorbing rubber protective armouring. O2 concentration 0.0 ... 70.0 mg/l</p> <p>* Accuracy O2 concentration 0 ... 25 mg/l $\pm 1.5\% \pm 0.2$ mg/l / 25 ... 70 mg/l $\pm 2.5\% \pm 0.3$ mg/l</p>	1	No.				
23	<p>Cool box with icepacks</p> <p>* Material: PC thermoplastic / Non toxic gel well * dimension: 134mm x 92 mm</p>	2	No.				
24	<p>Specific ion meter - for Fluoride, Chloride and Nitrate etc</p> <p>* Microprocessor based pH/ISE meter with large, backlit graphic LCD display, Informative display should show H/mV/RmV/ISE results and temperature along with electrode status, time, date, sample ID, user ID and calibration</p>	1	No.				



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25	<p>points * Tech specs for Ion measurement: Range: 0 to 19999</p> <p>* Resolution: Up to 3 significant digits * Relative Accuracy: ± 0.2 mV or ± 0.05 % of reading whichever is greater * Units: ppm, M, mg/L, %, ppb, none * Calibration Points: Up to 5 * Calibration Editing: possible * Calibration Features: Timed end point, linear point to point, non-linear selectable auto-blank, low concentration range stability</p> <p>The unit shall be supplied with pH electrode, ATC probe, stainless steel probe, Star stirrer probe, Electrode arm with holder & Universal power adapter. The unit shall be supplied with Fluoride & Nitrate Ion selective electrode with electrode filling solution, TISAB-III for Fluoride, total ionic strength buffer solution for nitrate electrode, NIST traceable Standard solution for 1000 mg/L of Fluoride & Nitrate - 500 ml of each type, variable volume micropipette 1-5 ml with micro-tip (100 nos.) - 1 set & any other consumables required for Fluoride & Nitrate analysis.</p>						
26	<p>Fume cup board</p> <p>* Work table size 91.44cm x 60.96cm x 60.96 cm * exhaust ducting * table material: granite * outer mild steel body</p> <p>Auto Burette (100 ml capacity, Automatic Zero, Accuracy as per Class A IS 1997: 2008 / ISO 385: 2005, With Reservoir, Rubber Bellow, PTFE Stopcock With Certificate)</p>	1	No.				
27	<p>Auto-Pipette</p> <p>* Single channel Variable Volume automatic pipette * air-displacement type * Conformity * Certified with Individual Work Certificate * Range: 500 - 5000 μl * Division: 10 μl * Accuracy R\pm1%: 0.8</p>	1	No.				
28	<p>Thermometer</p> <p>* Range -20°C to 250°C * displays both in Fahrenheit & Centigrade scale/ inter switchable * accuracy - ± 0.2°C * resolution- 0.1 * water resistant</p>	1	No.				
29	<p>Single Stage distillation apparatus</p> <p>* Output - 5 litres * auto cut * metallic stand * complete with</p>	1	No.				



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30	other accessories * 230 volts Quartz Distillation apparatus Dist. Water Output Cap.(Approx) – 5 Ltr/Hr, 230-250 Volts Single phase 4.4kw, Cooling Water consumption – 60 Ltr/Hr, Pyrogen free, PH 6-7, Conductivity –S/cm-<3 x 10-6, Distillate Temperature 65-750C, with Distillation Apparatus Power Supply (DAPS), Quartz boiler, Borosilicate Condenser and Quartz Condenser, Distillation Unit, Single Stage, All Quartz (Boiler & Condenser), with Built-in Quartz Heater, Vertical Panel Mounted to be complete with low water level cut-off device, Conductivity of distilled water should be around 2 us/cm or less.	1	No.				
31	Kjeldal distillation apparatus * unit of 6 test mantle type	1	No.				
32	Pressure Pump * Maximum pressure- 80 psi * rotation- 1400 rpm * Motor capacity- 1/6 HP * maximum power- 125 Watt * maximum current- 0.6 Ampere	1	No.				
33	Membrane filtration	1	No.				
34	Deep Freezer * -20°C * horizontal	1	No.				
35	Micropipette * variable volume of 0.5 µl to 10µl	1	No.				
36	Centrifuge machine with rotors * Microprocessor Based * Maximum Speed 5200 rpm * Square MS body duly powder coated * Double walled light weight ABS Lid. * Fitted with Micro Processor based 2 lines 16 characters LCD panel for 0-59 minute Count-down timer * The unit should be supplied with rotor head of 8X15 ml swing out head & 16 nos * Centrifuge tube	1	No.				
37	Portable Chemical Field Test Kit * Capable of testing 30 samples/ GPs	15	No.				
38	H2S Vials for Bacteriological testing						



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39	* 100 vials/GP for each of the 15 GPs Conical Flasks * Flat bottom support * Conical body * Cylindrical neck * Graduated * complies with IS 915, ISO 1042 for volumetric flasks 100 ml capacity 150 ml capacity 250 ml capacity 500 ml capacity 1000 ml capacity	1500	No.				
40	Beakers * Flat bottom * cylindrical shape * small spout for clean and precise pouring * graduated to indicate the exact content 100 ml capacity 250 ml capacity 500 ml capacity 1000ml capacity 2000ml capacity	16 16 30 16 6	No. No. No. No. No.				
41	Ordinary Pipette * Large bulb with a long narrow portion above with a single graduation mark * Calibrated for a single volume * accurate measurement and decanting of liquid * each pipette coded with unique number 5 ml capacity 10 ml capacity 20 ml capacity 25 ml capacity 50 ml capacity	8 12 8 8 4	No. No. No. No. No.				
42	Graduated Pipette * Long tube with a series of graduations to indicate different calibrated volumes for delivery from zero mark to the last graduation marks 1 ml capacity	4	No.				



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	5 ml capacity	6	No.				
	10 ml capacity	8	No.				
	20 ml capacity	4	No.				
43	Ordinary Burette * Straight tube with a graduation scale & a stop cock with one dispenser tube * No after drainage period * complies with ISO 385						
	25 ml capacity	8	No.				
	50 ml capacity	8	No.				
	100 ml capacity	1	No.				
44	Automatic Burette * with automatic zero facility * mounted on a glass reservoir bottle, glass stop cock * rubber bellows * enamel graduations						
	50 ml capacity	1	No.				
45	Desiccators * Normal Desiccators * size 160 mm * for use with Disposable or Reusable Desiccant * complies with IS 6128 : specification for desiccators	4	No.				
46	Reagent Bottles * plain narrow mouth * no-drip pour lip * solid glass stopper to fit securely * autoclavable & sterilizable * with clear graduations						
	100 ml capacity	20	No.				
	250 ml capacity	35	No.				
	500 ml capacity	24	No.				
	1000ml capacity	10	No.				
	2000ml capacity	6	No.				
47	Sample Bottles * Of food grade plastic * large labelling field * complete with screw cap and pouring ring						
	250 ml capacity	35	No.				
	500 ml capacity	35	No.				
	1000ml capacity	15	No.				



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	2000ml capacity	8	No.				
48	Test Tubes * without rim * flat bottom Packet of 100	1	No.				
49	Durham tubes * Neutral glass * round bottom * autoclavable * very clear & transparent * straight rim	300	No.				
50	Round bottom flasks * Round bottom support 250 ml capacity	8	No.				
51	Measuring cylinders * graduated * with pour spouts to facilitate pouring without any drips * prominent graduations * broad base for stability	6	No.				
	10 ml	6	No.				
	50 ml	6	No.				
	100 ml	6	No.				
	250 ml	6	No.				
	500 ml	6	No.				
	1000ml	6	No.				
	2000ml	3	No.				
52	Measuring flasks * with inter changeable solid glass stoppers * each flask engraved with individual serial number	5	No.				
	5 ml	10	No.				
	10 ml	10	No.				
	25 ml	10	No.				
	50 ml	10	No.				
	100 ml	10	No.				
	250 ml	10	No.				
	500 ml	10	No.				
	1000 ml	5	No.				
53	Funnels 75 mm diameter	5	No.				



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	100 mm diameter	5	No.				
	125 mm diameter	2	No.				
54	Porcelain dish						
	Medium size	10	No.				
	Large size	6	No.				
55	Crucibles	8	No.				
56	Wash bottles	6	No.				
57	Standard joints						
	Grouted	24	No.				
	Bends	12	No.				
58	Glass rods						
	(Packet of 50)	1	No.				
59	Petri Di hes						
	* Diameter – 75 mm	100	No.				
60	Nessler Cylinders						
	* Graduated * maximum clarity						
	50 ml capacity	20	No.				
	100 ml capacity	20	No.				
61	Thermometers						
	* Digital type * display both in Fahrenheit & Centigrade scale * accuracy up to ± 0.2 to ± 0.5 °C * resolution – 0.1 °C * usage of Min/ Max/ Hold button *						
	100 °C	2	No.				
	200 °C	2	No.				
	500 °C	1	No.				
62	Separating Flask						
	* Capacity - ml * Stopper at top to fit tightly * Stop cock at bottom to be well sealed	10	No.				
63	Stopper Bottles for dissolved Oxygen						
	* Each bottle and its stopper marked with a unique matching identification number	2	No.				
	PART F: Project District - Kamrup						
				Guwahati, Assam,	30 days from the	60 days from the	



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1	<p>Digital pH meter</p> <ul style="list-style-type: none"> * Conforms to National Accreditation Board for Testing and Calibration Laboratories (NABL) & National Institute of Standards & Technology (NIST) guidelines * automatic electrode recognition * built in GLP function * graphic LCD display of pH, ORP readings, temperature, electrode status, calibration points, battery life, date and time * hard & waterproof casing * Help Menu * pH Range: 0-14 pH * resolution: 0.01pH * accuracy: ± 0.01 pH * calibration point: Up to 5 * Buffer sets * auto temperature compensation * windows compatible software * USB cable for PC connection * rechargeable batteries & battery charger <p>Portable pH meter</p> <ul style="list-style-type: none"> * Multi-Point Calibration (up to 5 points) with Auto-Buffer Recognition - choice of USA * NIST or pure water buffer standards with ± 0.01 pH accuracy * Automatic Temperature Compensation (ATC) for the highest accuracy under * fluctuating temperatures * Hold Function momentarily freezes reading for easy viewing and recording * Auto-Power Off saves battery power after non-use * Self-Diagnostic with message codes for easy troubleshooting * Large Custom LCD provides optimum viewing even at a distance * Protective Rubber Boot shields meter from accidental knocks and features a sturdy built-in stand for easy bench-top operation * Rugged Carrying Case (Optional) provides handy on-site meter calibration and measurement. <p>Technical specification:</p> <ul style="list-style-type: none"> * pH Range - 0.00 to 14.00 pH * Resolution & Accuracy- 0.01 pH & ± 0.01 pH * Temperature Range - 0 to 100.0 °C Resolution & Accuracy- 	1	No.	India	date of issue of Notice to Proceed	date of issue of Notice to Proceed	



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	<p>0.1 °C & ± 0.5 °C * mV Range -1000 to + 1000 mV</p> <ul style="list-style-type: none"> * Resolution & Accuracy - 1 mV & ± 1 mV * Temperature Compensation-Automatic / Manual (0 to 100 °C) * No. of Calibration Points - Up to 5 points <p>The unit should be supplied with (i) Microprocessor based pH Meter with Single Junction pH Electrode, (ii) ATC Probe & pH Carrying Kit Set (Includes at least 1 x pH 4.01, (iii) pH 7.00 Buffer Solutions, (iv) Storage Solution & 1 x Deionised (Rinse) Water (60 ml Each), (v) 480 ml each of colour coded standard buffer solution pH 4.01 (red coloured), (vi) pH 7.00 (Yellow coloured) & pH 10.01 (Blue coloured), (vii) operating manual, carrying case.</p>						
2	<p>Digital TDS meter</p> <ul style="list-style-type: none"> * Conforms to NABL & NIST guidelines * displays Conductivity, TDS and Temperature * automatic electrode recognition * built in GLP function * up to 1000 samples data set storage * range - 1 µS/cm to 200 mS/cm * windows compatible software * USB cable for PC connection <p>Portable Digital TDS meter</p> <ul style="list-style-type: none"> * Multi-Point Push-button Calibration (up to 5 points) with ±1% full scale accuracy * Automatic or Manual Calibration - for quick, easy calibration; use automatic mode * with pre-set calibration points at most popular values or manually set values in themanual mode for more flexibility * Auto-Ranging for Conductivity/TDS measurements for fast response and bestresolution over wide measurement range * Adjustable TDS Factor for more accurate measurement (for TDS 6 model only) * Automatic Temperature Compensation (ATC) for the optimum accuracy under fluctuating temperatures * Hold Function momentarily freezes reading for easy viewing * Auto-Power Off saves battery power after non-use * Self-Diagnostic with message codes for easy troubleshooting * Large Custom LCD provides optimum viewing even at a distance * Electrode 	1	No.				



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	<p>with Built-in ATC designed for minimal air bubble entrapment during measurement * Protective Rubber Boot shields meter from drops and features a sturdy built-in stand for easy bench-top operation.</p> <p>Technical specifications:</p> <ul style="list-style-type: none"> * TDS Range-0.00 - 9.99 ppm / 10.0 - 99.9 ppm/ 100 - 999 ppm / 1.00 - 9.99 ppt / 10.0 - 99.9 ppt * Resolution-0.05 % full scale Accuracy-±1 % of full scale ±1 LSD * TDS Factor-0.30 to 1.00 * Temperature Range-0.0 to 80.0 °C * Resolution-0.1 °C * Accuracy-±0.5 °C * Compensation Automatic/Manual (0 to 80 °C) * Normalization 20.0 or 25.0 °C Operating Temperature-5 to 45 °C * Calibration Points-4 (1 per range) auto, 5(1 per range) manual Temperature Coefficient-0.0 - 10.0 % * CellConstant-0.1, 1.0, 10.0 Auto-Off-20 min after last key pressed * Input-BNC, 2.5 mm phono socket Power-4 x 1.5 V 'AAA' alkaline batteries to be included <p>The meter should be supplied with (i) Basic meter with conductivity electrode with cell constant 1.0, (ii) TDS calibration solutions (50 ppm, 300 ppm, 3000 ppm), (iii) DI rinse water (60 mL each), (iv) Grip-Clip, (v) batteries in hard carrying case, (vi) operating manual & 480 ml of 300 ppm TDS calibration solution.</p>						
3	Refrigerator						
	* Capacity- 300 L * frost free * 5 star rating * double door * freezer type - top freezer * in built inverter	1	No.				
4	Water still						
	* Distillation Unit made of Stainless steel * capacity 5 litre/ hour * wall mounting model – equipped with brackets for wall	1	No.				



Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		Bidder's offered Delivery date [to be provided by the bidder]
					Earliest Delivery Date	Latest Delivery Date	
5	mounting * to work on 220- 230 volts AC supply UPS/ Inverter * capacity- 3 KVA * 5 star rating * 6 hrs backup * with battery	1	No.				
6	Hot plate * Body to be fabricated out of thick mild steel sheet, duly finished in epoxy powder coated * The Hot Plate top to be made of Stainless steel thick sheet & smoothed duly finished should be firmly mounted on the body * Heavy duty heating elements should be securely laid under the plate to operate on 220/230V AC supply * Temperature in controlled by energy regulators fitted with an indicator lamp for the mains * To be supplied with main cord and plug. Technical Specifications * Top plate size: 30 x 45cm * Load: 2 KW	2	No.				
7	Laboratory Heating mantel * Body has to be made of one-piece aluminium and is lagged with special mineral wool * The panel should be provided with on-off switch, energy control knob and pilot lamp * It should be provided with joint-less hand knitted heating nets of glass yarn capable of withstanding high temperature up to 400°C. Technical Specifications: * To be supplied complete with cord & plug to work on 220/230V AC supply a) Capacity: 500 ml b) Capacity: 1000 ml	1	No.				
8	Autoclave * The outer chamber should be made of heavy gauge Stainless Steel Sheet duly polished * The inner chamber should be made of thick 304 Grade Stainless Steel Sheet. Lid should be made of thick machined high grade Stainless Steel plate * The unit should have Radial Locking arrangement made of high grade Stainless Steel duly polished with paddle lifting mechanism * The unit has to be fitted with Spring	1	No.				



Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		Bidder's offered Delivery date (to be provided by the bidder)
					Earliest Delivery Date	Latest Delivery Date	
9	<p>Loaded Safety Valve, Pressure Gauge, Pressure Release Valve, water Level Indicator, Drain Valve, Automatic Pressure Control Switch, Automatic Low Water Cut-off Device & automatic interval timer * The unit should be hydraulically tested to withstand up to 40 psi pressure * All internal joints of the unit should be Argon arc welded ground and polished to give crevice free internals * Moulded joint-less Silicon Rubber Gasket has to be provided for leak proofing * The unit would be electrically heated by flange type/immersion type heaters. To be supplied with Control Box, fitted with Mains & Heating Indicators, ON / OFF Switch, Cord & Plug to work on 220/230V, 50Hz, AC supply * Working chamber size: 300 mm X 500 mm (approximately 35 lit).</p> <p>Magnetic stirrer</p> <p>* The body should be made of mild steel duly finished in epoxy powder coating and to be mounted with a stainless-steel top stirring has to be done by fractional horsepower motor, rotating magnetic field applied below the liquid container * The stirring would be accomplished by a PTFE encapsulated magnetic needle to be placed in the liquid to be stirred * The unit should be supplied with pilot lamp, plug cord and continuously variable speed regulator * Maximum speed 1400 RPM. The unit shall be workable on 220/230V AC single phase. To be supplied with TWO PTFE coated magnetic needle (dia X length):8x15mm & 8x25mm one each Stirring Capacity: Approximately. 2 lit</p>	1	No.				
10	<p>Microscope</p> <p>* Binocular * with LCD display * connectivity with and without CPU</p>	1	No.				
11	<p>Vacuum pump</p> <p>* Maximum power 80 watts * maximum vacuum- 670 mm of Hg * maximum flow rate- 34 lit/ min * rotation- 1450 RPM * HP- 1/6 HP * noise level- 52 dB</p>	1	No.				
12	<p>Flame Photometer</p>						



Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		Bidder's offered Delivery date [to be provided by the bidder]
					Earliest Delivery Date	Latest Delivery Date	
13	<p>* Microprocessor Flame Photometer (Graphical Display & Inbuilt Printer) having provision for Four Element measurement in a single aspiration (Na, K, Li, Ca and Ba) * Provision for Calibration curve fit routines first order and second order * Data displayed should be in concentration units i.e. ppm & meq/litre * The unit should have provision for automatic filter selection; auto calibration, auto Gas Cut off (in case of power failure feature) * Printer attachment, PC connecting compatibility, Sample data storage (at least 300 results) * The unit would have alphanumeric key board for easy data entry, Graphical LCD display for easy to read, Curve calibration using at least up to 5 standards multiple calibration curve saving facility * The unit should be supplied with Stainless steel burner with Sodium & Potassium Filter, air Compressor, LPG cylinder with valve, wire-knitted gas rubber tube, NIST traceable Sodium & Potassium standard (1000 mg/L strength) each of 125 ml pack, 12 nos. certified volumetric Flask- class A of 100ml capacity, 3 nos. 1ml & 3 nos. 10 ml certified graduated Mohr's pipette of Class A made of borosilicate glass.</p> <p>UV Laminar Air Flow chamber</p> <p>* Working area 91.44cm x 60.96cm x 60.96 cm * blower fitted with HP motors * pre-filters made of high grade nylon Net fixed in stainless steel frame for first Stage air purification, through blower system * closed inner chamber fitted with HEPA having very accurate performance rate of air filtration, rating 99.99% resulting in ceasing all air borne molecule of particles up to 0.3 micron in working Area of Laminar Bench</p>	1	No.				
14	<p>Millipore Filtration assembly</p> <p>* With a Vacuum pump * complete with a glass filter holder 47 mm * with funnel, fitted base, cap & clamp</p> <p>Plate count and colony counter</p> <p>* Hand held * micro controller based * 6 digit [999999] LCD</p>	1	No.				
15		1	No.				



Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		Bidder's offered Delivery date (to be provided by the bidder)
					Earliest Delivery Date	Latest Delivery Date	
16	<p>counter * built in buzzer, marker pen, and counters * memorizes last count * as per GMP specifications * hold and count correction facility</p> <p>(a) Arsenic testing instrument - portable type</p> <ul style="list-style-type: none"> * Digital meter based on colorimetry /densitometry * complete with tri filter arsenic trap * 100 reaction vessel * destruction fitter holder * detection fitter holder * hydrogen sulphide fitter * reagents for 420 tests * visual comparison chart * forceps * gloves * dilution tubes * cuvette * brush * 9V battery * screwdrivers * instrument manual <p>(b) Arsenic testing accessories - for spectrophotometer</p> <ul style="list-style-type: none"> * Reagent for Arsenic Analysis: package of 250 tests - Hydrochloric Acid analytical grade 500 ml X4, Zinc filling (3-5 mm grain size) 500 gmX3, Potassium Iodide analytical grade 1X100 gm, Stannous Chloride analytical grade 1x100 gm, Morpholine 1X500ml, Lead acetate 1X500 gm, Chloroform HPLC/Spectroscopy grade 2X 1 lit, Silver diethyl dithiocarbamate ACS grade 5 mXl, glass wool 250 gmXl, Acetone analytical grade 500 mlXl * Arsine generator complete with 100 ml Erlenmeyer flask with standard joint, glass wool adaptor with matching std joint, absorber tube with matching standard joint, 5 ml volumetric Flask- package of 12 sets- all made of Borosilicate glass * Volumetric Flask 100 ml - 3 numbers, Mohr's type graduated pipette 1ml, 5 ml, 10 ml, 25 ml- 6 nos. each * Glass dropper- 2 nos * Stainless steel forceps- 1 no. 	1	No.				
17	<p>Dissolved Oxygen Meter</p> <ul style="list-style-type: none"> * Waterproof Hand-held Meters for the determination of Dissolved oxygen on site. The meter should be of Rugged, water resistant (IP 67) & to be designed for field use. Should have PC interface (USB / serial or analogue) & backlit LCD display. Technical specifications: <ul style="list-style-type: none"> * Measurement: Oxygen partial pressure, Oxygen 	1	No.				



Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		Bidder's offered Delivery date [to be provided by the bidder]
					Earliest Delivery Date	Latest Delivery Date	
19	<p>Concentration, Oxygen Saturation, Temperature measurement, Automatic absolute air pressure measurement Should have Auto Hold Function, Alarm Function, Data Logger facility & with required Software, Easy calibration against oxygen in air, Salinity correction & shall have Self-polarising galvanic oxygen probe which should allow instant measurement after system be switched on.</p> <p>* Should have the features for Low battery and battery change indicator, auto off function, Sensor evaluation after calibration in the display & should have Shock-absorbing rubber protective armouring. O2 concentration 0.0 ... 70.0 mg/l</p> <p>* Accuracy O2 concentration 0 ... 25 mg/l \pm 1.5 % \pm 0.2 mg/l / 25 ... 70 mg/l \pm 2.5 % \pm 0.3 mg/l</p> <p>Specific Ion meter - for Fluoride, Chloride and Nitrate etc</p> <p>* Microprocessor based pH/ISE meter with large, backlit graphic LCD display, Informative display should show H/mV/RmV/ISE results and temperature along with electrode status, time, date, sample ID, user ID and calibration points * Tech specs for Ion measurement: Range: 0 to 19999 * Resolution: Up to 3 significant digits * Relative Accuracy: \pm0.2 mV or \pm0.05 % of reading whichever is greater * Units: ppm, M, mg/L, %, ppb, none * Calibration Points: Up to 5 * Calibration Editing: possible * Calibration Features: Timed end point, linear point to point, non-linear selectable auto-blank, low concentration range stability</p> <p>The unit shall be supplied with pH electrode, ATC probe, stainless steel probe, Star stirrer probe, Electrode arm with holder & Universal power adapter. The unit shall be supplied with Fluoride & Nitrate ion selective electrode with electrode filling solution, TISAB-III for Fluoride, total ionic strength buffer solution for nitrate electrode, NIST traceable Standard solution for 1000 mg/L of Fluoride & Nitrate - 500 ml of each type, variable volume micropipette 1-5 ml with micro-tip (100 nos.) -</p>	1	No.				



Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		Bidder's offered Delivery date [to be provided by the bidder]
					Earliest Delivery Date	Latest Delivery Date	
	1 set & any other consumables required for Fluoride & Nitrate analysis.						
20	Auto Burette (100 ml capacity, Automatic Zero, Accuracy as per Class A IS 1997: 2008 / ISO 385: 2005, With Reservoir, Rubber Bellow, PTFE Stopcock With Certificate)	1	No.				
21	Auto-Pipette * Single channel Variable Volume automatic pipette * air-displacement type * Conformity * Certified with Individual Work Certificate * Range: 500 - 5000 μ l * Division: 10 μ l * Accuracy R \leq ±%: 0.8	1	No.				
22	Thermometer * Range -20°C to 250°C * displays both in Fahrenheit & Centigrade scale/ inter switchable * accuracy - \pm 0.2°C * resolution- 0.1 * water resistant	1	No.				
23	Single Stage distillation apparatus * Output - 5 litres * auto cut * metallic stand * complete with other accessories * 230 volts	1	No.				
24	Quartz Distillation apparatus Dist. Water Output Cap.(Approx) - 5 Ltr/Hr, 230-250 Volts Single phase 4.4kw, Cooling Water consumption - 60 Ltr/Hr, Pyrogen free, PH 6-7, Conductivity -S/cm-<3 x 10-6, Distillate Temperature 65-750C, with Distillation Apparatus Power Supply (DAPS), Quartz boiler, Borosilicate Condenser and Quartz Condenser, Distillation Unit, Single Stage, All Quartz (Boiler & Condenser), with Built-in Quartz Heater, Vertical Panel Mounted to be complete with low water level cut-off device, Conductivity of distilled water should be around 2 us/cm or less.	1	No.				
25	Kjeldal distillation apparatus * unit of 6 test mantle type	1	No.				
26	Pressure Pump * Maximum pressure- 80 psi * rotation- 1400 rpm * Motor capacity- 1/6 HP * maximum power- 125 Watt * maximum current- 0.6 Ampere	1	No.				



Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		Bidder's offered Delivery date (to be provided by the bidder)
					Earliest Delivery Date	Latest Delivery Date	
27	Membrane filtration	1	No.				
28	Deep Freezer	1	No.				
29	* -20°C * horizontal Micropipette	1	No.				
30	* variable volume of 0.5 µl to 10µl Centrifuge machine with rotors	1	No.				
31	* Microprocessor Based * Maximum Speed 5200 rpm * Square MS body duly powder coated * Double walled light weight ABS Lid. * Fitted with Micro Processor based 2 lines 16 characters LCD panel for 0-59 minute Count-down timer * The unit should be supplied with rotor head of 8X15 ml swing out head & 16 nos * Centrifuge tube	1	No.				
32	H2S Vials for Bacteriological testing	1300	No.				
33	* 100 vials/GP for each of the 15 GPs Conical Flasks * Flat bottom support * Conical body * Cylindrical neck * Graduated * complies with IS 915, ISO 1042 for volumetric flasks 100 ml capacity 150 ml capacity 250 ml capacity 500 ml capacity 1000 ml capacity Beakers * Flat bottom * cylindrical shape * small spout for clean and precise pouring * graduated to indicate the exact content 100 ml capacity 250 ml capacity 500 ml capacity 1000ml capacity 2000ml capacity Ordinary Pipette * Large bulb with a long narrow portion above with a single	16 16 30 16 6 16 16 16 8 4	No. No. No. No. No. No. No. No. No. No.				



Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per incoterms) Date		Bidder's offered Delivery date (to be provided by the bidder)
					Earliest Delivery Date	Latest Delivery Date	
	graduation mark * Calibrated for a single volume * accurate measurement and decanting of liquid * each pipette coded with unique number						
	5 ml capacity	8	No.				
	10 ml capacity	12	No.				
	20 ml capacity	8	No.				
	25 ml capacity	8	No.				
	50 ml capacity	4	No.				
35	Graduated Pipette * Long tube with a series of graduations to indicate different calibrated volumes for delivery from zero mark to the last graduation marks						
	1 ml capacity	4	No.				
	5 ml capacity	6	No.				
	10 ml capacity	8	No.				
	20 ml capacity	4	No.				
36	Ordinary Burette * Straight tube with a graduation scale & a stop cock with one dispenser tube * No after drainage period * complies with ISO 365						
	25 ml capacity	8	No.				
	50 ml capacity	8	No.				
	100 ml capacity	1	No.				
37	Automatic Burette * with automatic zero facility * mounted on a glass reservoir bottle, glass stop cock * rubber bellows * enamel graduations						
	50 ml capacity	1	No.				
38	Desiccators * Normal Desiccators * size 160 mm * for use with Disposable or Reusable Desiccant * complies with IS 6128 : specification for desiccators	4	No.				
39	Reagent Bottles * plain narrow mouth * no-drip pour lip * solid glass stopper						



Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		Bidder's offered Delivery date (to be provided by the bidder)
					Earliest Delivery Date	Latest Delivery Date	
	to fit securely * autoclavable & sterilizable with clear graduations						
	100 ml capacity	20	No.				
	250 ml capacity	35	No.				
	500 ml capacity	24	No.				
	1000ml capacity	10	No.				
	2000ml capacity	6	No.				
40	Sample Bottles						
	* Of food grade plastic * large labelling field * complete with screw cap and pouring ring						
	250 ml capacity	35	No.				
	500 ml capacity	35	No.				
	1000ml capacity	15	No.				
	2000ml capacity	8	No.				
41	Test Tubes						
	* without rim * flat bottom	1	No.				
	Packet of 100						
42	Durham tubes						
	* Neutral glass * round bottom * autoclavable * very clear & transparent * straight rim	300	No.				
43	Round bottom flasks						
	* Round bottom support						
	250 ml capacity	8	No.				
44	Measuring cylinders						
	* graduated * with pour spouts to facilitate pouring without any drips * prominent graduations * broad base for stability						
	10 ml	6	No.				
	50 ml	6	No.				
	100 ml	6	No.				
	250 ml	6	No.				
	500 ml	6	No.				
	1000ml	6	No.				
	2000ml	3	No.				



Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		Bidder's offered Delivery date (to be provided by the bidder)
					Earliest Delivery Date	Latest Delivery Date	
45	Measuring flasks * with inter changeable solid glass stoppers * each flask engraved with individual serial number						
	5 ml	5	No.				
	10 ml	10	No.				
	25 ml	10	No.				
	50 ml	10	No.				
	100 ml	10	No.				
	250 ml	10	No.				
	500 ml	10	No.				
	1000 ml	5	No.				
46	Funnels						
	75 mm diameter	5	No.				
	100 mm diameter	5	No.				
	125 mm diameter	2	No.				
47	Porcelain dish						
	Medium size	10	No.				
	Large size	6	No.				
48	Crucibles	8	No.				
49	Wash bottles	6	No.				
50	Standard joints						
	Grouted	24	No.				
	Bends	12	No.				
51	Glass rods						
	(Packet of 50)	1	No.				
52	Petri Dishes						
	* Diameter – 75 mm	100	No.				
53	Nessler Cylinders						
	* Graduated * maximum clarity						
	50 ml capacity	20	No.				
	100 ml capacity	20	No.				
54	Thermometers						
	* Digital type * display both in Fahrenheit & Centigrade						



Line Item No.	Description of Goods	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date		
					Earliest Delivery Date	Latest Delivery Date	Bidder's offered Delivery date [to be provided by the bidder]
	scale * accuracy up to ± 0.2 to ± 0.5 °C * resolution – 0.1°C * usage of Min/ Max/ Hold button *						
	100°C	2	No.				
	200°C	2	No.				
	500°C	1	No.				
55	Separating Flask * Capacity - ml * Stopper at top to fit tightly * Stop cock at bottom to be well sealed	10	No.				
56	Stopper Bottles for dissolved Oxygen * Each bottle and its stopper marked with a unique matching identification number	2	No.				



2. List of Related Services and Completion Schedule

Description of Service	Quantity	Physical Unit	Place where Services shall be performed	Final Completion Date(s) of Services
Transportation	1	Job	Jorhat	60 days from the date of issue of Notice to Proceed
Insurance	1	Job	-do-	-do-
Installation, Demonstration and Training	1	Job	-do-	-do-
Transportation	1	Job	Morigaon	-do-
Insurance	1	Job	-do-	-do-
Installation, Demonstration and Training	1	Job	-do-	-do-
Transportation	1	Job	Bongaigaon	-do-
Insurance	1	Job	-do-	-do-
Installation, Demonstration and Training	1	Job	-do-	-do-
Transportation	1	Job	Hailakandi	-do-
Insurance	1	Job	-do-	-do-
Installation, Demonstration and Training	1	Job	-do-	-do-
Transportation	1	Job	Sivasagar	-do-
Insurance	1	Job	-do-	-do-
Installation, Demonstration and Training	1	Job	-do-	-do-
Transportation	1	Job	Kamrup	-do-
Insurance	1	Job	-do-	-do-
Installation, Demonstration and Training	1	Job	-do-	-do-



3. Technical Specifications

The Goods and Related Services shall comply with following Technical Specifications and Standards:

Item No	Name of Goods or Related Service	Technical Specifications and Standards
1	Digital pH meter	<ul style="list-style-type: none"> * Conforms to National Accreditation Board for Testing and Calibration Laboratories (NABL) & National Institute of Standards & Technology (NIST) guidelines * automatic electrode recognition * built in GLP function * graphic LCD display of pH, ORP readings, temperature, electrode status, calibration points, battery life, date and time * hard & waterproof casing * Help Menu * pH Range: 0-14 pH * resolution: 0.01pH * accuracy: ± 0.01 pH * calibration point: Up to 5 * Buffer sets * auto temperature compensation * windows compatible software * USB cable for PC connection * rechargeable batteries & battery charger
(a)	Microprocessor based (Research grade instrument) pH meter	<p>Up to 6-point calibration with auto-buffer recognition</p> <ul style="list-style-type: none"> * quick & easy electrode diagnosis with multiple pH slopes and offset display * non-volatile memory holds up to 500 data points - time and date-stamped for GLP compliance * calibrate with up to 5 custom pH buffers - use any pH values that are > 1.0 pH unit apart * Cal-due alarm - no more out-dated calibrations * auto-logging function for convenient continuous monitoring * provision for password protection for setup and calibration should be available * output data to printer or PC * detachable electrode holder <p>Technical Specifications:</p> <ul style="list-style-type: none"> * pH Range-2.000 to 20.000 pH * Resolution-0.1 / 0.01 / 0.001 pH * Accuracy-± 0.002 pH + 1 LSD * Cal. Points-Up to 6 preset or 5 customs * Buffer Sets-USA, NIST, DIN, User 1 * ORP Range-± 2000.0 mV, Accuracy-± 0.2 mV * Rel. mV Range-± 2000.0 mV, Temp Range (Meter) 0.0 to 100.0 °C * Compensation Auto/Manual <p>The unit should be supplied with (i) pH Meter With refillable pH Electrode, (ii) Temperature Probe & pH Electrode, (iii) Refill Solution, (iv) electrode stand with swivel arm, (v) RS232 cable, (vi) software for data transfer to PC, (vii) operating manual, (viii) NIST Traceable pH buffer pH 2.00, (ix) 4.01, 7.00 & 10.01- 500 ml each pack.</p>
(b)	Portable pH meter	<ul style="list-style-type: none"> * Multi-Point Calibration (up to 5 points) with Auto-Buffer Recognition - choice of USA * NIST or pure water buffer standards with ± 0.01 pH accuracy * Automatic Temperature Compensation (ATC) for the highest accuracy under * fluctuating temperatures * Hold Function momentarily freezes reading for easy viewing



Section VII. Schedule of Requirements

Item No	Name of Goods or Related Service	Technical Specifications and Standards
		<p>and recording * Auto-Power Off saves battery power after non-use * Self-Diagnostic with message codes for easy troubleshooting * Large Custom LCD provides optimum viewing even at a distance * Protective Rubber Boot shields meter from accidental knocks and features a sturdy built-in stand for easy bench-top operation * Rugged Carrying Case (Optional) provides handy on-site meter calibration and measurement.</p> <p>Technical specification:</p> <ul style="list-style-type: none"> * pH Range - 0.00 to 14.00 pH * Resolution & Accuracy- 0.01 pH & ± 0.01 pH * Temperature Range - 0 to 100.0 °C Resolution & Accuracy- 0.1 °C & ± 0.5 °C * mV Range -1000 to + 1000 mV * Resolution & Accuracy - 1 mV & ± 1 mV * Temperature Compensation-Automatic / Manual (0 to 100 °C) * No. of Calibration Points - Up to 5 points <p>The unit should be supplied with (i) Microprocessor based pH Meter with Single Junction pH Electrode, (ii) ATC Probe & pH Carrying Kit Set (Includes at least 1 x pH 4.01, (iii) pH 7.00 Buffer Solutions, (iv) Storage Solution & 1 x Deionised (Rinse) Water (60 ml Each), (v) 480 ml each of colour coded standard buffer solution pH 4.01 (red coloured), (vi) pH 7.00 (Yellow coloured) & pH 10.01 (Blue coloured), (vii) operating manual, carrying case.</p>
2	Digital TDS meter	<ul style="list-style-type: none"> * Conforms to NABL & NIST guidelines * displays Conductivity, TDS and Temperature * automatic electrode recognition * built in GLP function * up to 1000 samples data set storage * range - 1 μS/cm to 200 mS/cm * windows compatible software * USB cable for PC connection
(a)	Lab based Digital TDS meter	<ul style="list-style-type: none"> * Large screen that displays Conductivity or TDS readings with Temperature in °C * Ready indicator to know when readings are stable * Selectable cell constant * Auto-ranging across Conductivity and TDS ranges * Up to 5-point push button calibration * Non-volatile memory holds up to 100 data points * Should have Integral electrode holder <p>Technical specification:</p> <ul style="list-style-type: none"> * Conductivity Range-μS to 200.0 mS * Resolution-0.01 / 0.1 / 1 μS; 0.01 / 0.1 mS * Accuracy- ± 1 % full scale * Cal. Points-Up to 5 Cell Constant-0.1, 1.0, 10.0 (selectable) * TDS Range-to 100.0 ppt Resolution-0.01 / 0.1 / 1 ppm; 0.01 / 0.1 ppt * Accuracy-± 1 % full scale * Cal. Points-Manual (5 points) * Temperature Range (Meter)-0.0 to 100.0 °C * Resolution-0.1 °C * Accuracy-± 0.5 °C * Compensation Type & Range-Automatic with supplied



Item No	Name of Goods or Related Service	Technical Specifications and Standards
		cell or manual 0.0 to 100 °C The Instrument should be supplied with (i) Meter with Conductivity/ATC Probe, (ii) Integral Electrode Holder, (iii) Power Adapter, (iv) Electrode Holder, (v) Operating Manual 480 ml pack of Calibration standard of 1413 $\mu\text{S/cm}$.
(b)	Portable Digital TDS meter	<ul style="list-style-type: none"> * Multi-Point Push-button Calibration (up to 5 points) with $\pm 1\%$ full scale accuracy * Automatic or Manual Calibration - for quick, easy calibration; use automatic mode * with pre-set calibration points at most popular values or manually set values in the manual mode for more flexibility * Auto-Ranging for Conductivity/TDS measurements for fast response and best resolution over wide measurement range * Adjustable TDS Factor for more accurate measurement (for TDS 6 model only) * Automatic Temperature Compensation (ATC) for the optimum accuracy under fluctuating temperatures * Hold Function momentarily freezes reading for easy viewing * Auto-Power Off saves battery power after non-use * Self-Diagnostic with message codes for easy troubleshooting * Large Custom LCD provides optimum viewing even at a distance * Electrode with Built-in ATC designed for minimal air bubble entrapment during measurement * Protective Rubber Boot shields meter from drops and features a sturdy built-in stand for easy bench-top operation. Technical specifications: <ul style="list-style-type: none"> * TDS Range-0.00 - 9.99 ppm / 10.0 - 99.9 ppm/ 100 - 999 ppm / 1.00 - 9.99 ppt / 10.0 - 99.9 ppt * Resolution-0.05 % full scale Accuracy-$\pm 1\%$ of full scale ± 1 LSD * TDS Factor-0.30 to 1.00 * Temperature Range-0.0 to 80.0 °C * Resolution-0.1 °C * Accuracy-± 0.5 °C * Compensation Automatic/Manual (0 to 80 °C) * Normalization 20.0 or 25.0 °C Operating Temperature-5 to 45 °C * Calibration Points-4 (1 per range) auto, 5(1 per range) manual Temperature Coefficient-0.0 - 10.0 % * Cell Constant-0.1, 1.0, 10.0 Auto-Off-20 min after last key pressed * Input-BNC, 2.5 mm phono socket Power-4 x 1.5 V 'AAA' alkaline batteries to be included The meter should be supplied with (i) Basic meter with conductivity electrode with cell constant 1.0, (ii) TDS calibration solutions (50 ppm, 300 ppm, 3000 ppm), (iii) DI rinse water (60 mL each), (iv) Grip-Clip, (v) batteries in hard carrying case, (vi) operating manual & 480 ml of 300 ppm TDS calibration solution.
3	Nephelometer (Turbidimeter) –	<ul style="list-style-type: none"> * Microprocessor based Digital Turbidity meter to allow fast, precise on site or laboratory measurements * measure scattered light at 90 ° angle as stipulated in ISO



Section VII. Schedule of Requirements

Item No	Name of Goods or Related Service	Technical Specifications and Standards
		7027. Technical specification: * Display-backlit LCD Optics temperature-compensated LED (k = 860 nm) and photo-sensor amplifier in water proof sample chamber, infrared light * Keypad-Polycarbonate membrane, splash proof * Power supply-by battery, Real time clock and date * Automatic switch-off during idle time, Data Storage-Internal memory for at least 15 data sets * Range (Auto-range): 0.01-1100 NTU * Resolution-0-99.99 NTU = 0.01/ 100.0-999.9 NTU = 0.1/ 1000-1100 NTU = 1.0 * Accuracy-± 2,5 % of reading or ± 0.01 NTU (0 - 500 NTU) ± 5 % (500 - 1100 NTU) * Ambient conditions-Temperature: 5 - 40 °C rel. humidity: 30 - 90%
4	Refrigerator	* Capacity-180 L * frost free * 5 star rating * single door * freezer type - top freezer * in built inverter
5	Refrigerator	* Capacity- 300 L * frost free * 5 star rating * double door * freezer type - top freezer * in built inverter
6	Water still	* Distillation Unit made of Stainless steel * capacity 5 litre/ hour * wall mounting model – equipped with brackets for wall mounting * to work on 220- 230 volts AC supply
7	Voltage stabilizer	* Capacity- 3 KVA * servo stabilizer * 5 star rating
8	UPS/ Inverter	* capacity- 3 KVA * 5 star rating * 6 hrs backup * with battery
9	Hot plate	* Body to be fabricated out of thick mild steel sheet, duly finished in epoxy powder coated * The Hot Plate top to be made of Stainless steel thick sheet & smoothed duly finished should be firmly mounted on the body * Heavy duty heating elements should be securely laid under the plate to operate on 220/230V AC supply * Temperature in controlled by energy regulators fitted with an indicator lamp for the mains * To be supplied with main cord and plug. Technical Specifications * Top plate size: 30 x 45cm * Load: 2 KW
10	Laboratory Heating mantel	* Body has to be made of one-piece aluminium and is lagged with special mineral wool * The panel should be provided with on-off switch, energy control knob and pilot lamp * It should be provided with joint-less hand knitted heating nets of glass yarn capable of withstanding high temperature up to 400°C. Technical Specifications: * To be supplied complete with cord & plug to work on 220/230V AC supply a) Capacity: 500 ml b) Capacity: 1000 ml
11	Water Bath - Thermostatic	* The unit should be of double walled construction, argon Welded, and inner & outer wall made of MS sheet * SS lids having 75mm dia. holes with removable concentric rings * The gap between outer and inner walls should be



Item No	Name of Goods or Related Service	Technical Specifications and Standards
		filled with special grade glass wool insulation * Temperature control from +5°C above ambient to 99°C * The unit would be fitted with Capillary type Thermostat with arbitrary scale dial for temperature control from +5° C above ambient to 99°C ± 1°C (at 50°C).
12	Hot air oven - Standard make	<p>* The unit should be of double walled with outer body made of Mild Steel Sheet treated for degreasing & rust proofing duly powder coated and inner chamber is to be made of Stainless Steel Sheet (304 Grade) with adjustable Stainless-Steel Wire Mesh shelves * Space between inner chamber and outer wall should be filled with high grade mineral wool as insulation * The Double Walled Door should have synthetic rubber / fibre gasket. Unit should have ventilation slides on two sides to control inner air/ vapour circulation * To be fitted with beaded heating elements placed in ribs, at bottom and sides for uniform heat distribution. To work on 220/230 volts AC supply.</p> <p>Technical Specifications</p> <p>* Temperature control-By capillary type thermostat with arbitrary scale dial for temperature control from +5° C ambient to 250°C ± 2°C at 100°C and with in-built L-type capillary thermometer & energy regulator to reduce temperature fluctuation in higher temperature.</p> <p>* Working chamber size: 450x450x600 mm (2 trays)-approximately 120 lit</p>
13	Bacteriological Incubator	<p>* The unit should be double walled with outer body to be made of MS sheet treated for degreasing & rust proofing duly powder coated and inner chamber to be made of Stainless Steel (304 Grade) sheet * To be provided with adjustable Stainless Steel Wire Mesh / perforated shelves * Space between inner chamber and outer wall should be filled with high grade mineral wool for minimal heat loss * The Double Walled Door to be fitted with glass window to facilitate viewing inside chamber without disturbing the inner temperature and should be of synthetic rubber/fibre gasket. Unit should have ventilation slides on two sides to control inner air/ vapour circulation * To be fitted with beaded heating elements placed in ribs, at bottom and sides for uniform heat distribution. Unit has to be fitted with two lamps and ON / OFF switch * To work on 220/230 volts AC supply.</p> <p>Technical Specifications:</p> <p>* Temperature control-By Digital Temperature Indicator-cum-Controller (with display for Set Value and Present Value) from +5° C ambient to 70°C, ± 0.5°C at 50°C. To be fitted with Air Circulating Fan to maintain uniform temperature throughout the working chamber.</p> <p>* Working chamber size: 459x450x600 mm (2 trays)-approximately 120 lit</p>
14	Autoclave	* The outer chamber should be made of heavy gauge Stainless Steel Sheet duly polished * The inner chamber should be made of thick 304 Grade Stainless Steel Sheet. Lid should be made of thick machined high grade



Section VII. Schedule of Requirements

Item No	Name of Goods or Related Service	Technical Specifications and Standards
		<p>Stainless Steel plate * The unit should have Radial Locking arrangement made of high grade Stainless Steel duly polished with paddle lifting mechanism * The unit has to be fitted with Spring Loaded Safety Valve, Pressure Gauge, Pressure Release Valve, water Level Indicator, Drain Valve, Automatic Pressure Control Switch, Automatic Low Water Cut-off Device & automatic interval timer * The unit should be hydraulically tested to withstand up to 40 psi pressure * All internal joints of the unit should be Argon arc welded ground and polished to give crevice free internals * Moulded joint-less Silicon Rubber Gasket has to be provided for leak proofing * The unit would be electrically heated by flange type/immersion type heaters. To be supplied with Control Box, fitted with Mains & Heating Indicators, ON / OFF Switch, Cord & Plug to work on 220/230V, 50Hz, AC supply * Working chamber size: 300 mm X 500 mm (approximately 35 lit).</p>
15	Magnetic stirrer	<p>* The body should be made of mild steel duly finished in epoxy powder coating and to be mounted with a stainless-steel top stirring has to be done by fractional horsepower motor, rotating magnetic field applied below the liquid container * The stirring would be accomplished by a PTFE encapsulated magnetic needle to be placed in the liquid to be stirred * The unit should be supplied with pilot lamp, plug cord and continuously variable speed regulator * Maximum speed 1400 RPM. The unit shall be workable on 220/230V AC single phase. To be supplied with TWO PTFE coated magnetic needle (dia X length): 8x15mm & 8x25mm one each Stirring Capacity: Approximately. 2 lit</p>
16	Microscope	<p>* Binocular * with LCD display * connectivity with and without CPU</p>
17	Vacuum pump	<p>* Maximum power 80 watts * maximum vacuum- 670 mm of Hg * maximum flow rate- 34 lit/ min * rotation- 1450 RPM * HP- 1/8 HP * noise level- 52 dB</p>
18	Flame Photometer	<p>* Microprocessor Flame Photometer (Graphical Display & Inbuilt Printer) having provision for Four Element measurement in a single aspiration (Na, K, Li, Ca and Ba) * Provision for Calibration curve fit routines first order and second order * Data displayed should be in concentration units i.e. ppm & meq/litre * The unit should have provision for automatic filter selection; auto calibration, auto Gas Cut off (in case of power failure feature) * Printer attachment, PC connecting compatibility, Sample data storage (at least 300 results) * The unit would have alphanumeric key board for easy data entry, Graphical LCD display for easy to read, Curve calibration using at least up to 5 standards multiple calibration curve saving facility * The unit should be supplied with Stainless steel burner with Sodium & Potassium Filter, air Compressor, LPG cylinder with valve, wire-knitted gas rubber tube, NIST traceable Sodium & Potassium standard (1000 mg/L strength) each of 125 ml pack, 12 nos. certified volumetric Flask- class A of 100ml capacity, 3 nos. 1ml & 3 nos. 10 ml certified graduated</p>



Item No	Name of Goods or Related Service	Technical Specifications and Standards
19	UV Laminar Air Flow chamber	<p>Mohr's pipette of Class A made of borosilicate glass.</p> <p>* Working area 91.44cm x 60.96cm x 60.96 cm * blower fitted with HP motors * pre-filters made of high grade nylon Net fixed in stainless steel frame for first Stage air purification, through blower system * closed inner chamber fitted with HEPA having very accurate performance rate of air filtration, rating 99.99% resulting in ceasing all air borne molecule of particles up to 0.3 micron in working Area of Laminar Bench</p>
20	Millipore Filtration assembly	<p>* With a Vacuum pump * complete with a glass filter holder 47 mm * with funnel, fitted base, cap & clamp</p>
21	Plate count and colony counter	<p>* Hand held * micro controller based * 6 digit [999999] LCD counter * built in buzzer, marker pen, and counters * memorizes last count * as per GMP specifications * hold and count correction facility</p>
22	(a) Arsenic testing instrument - portable type	<p>* Digital meter based on colorimetry /densitometry * complete with tri filter arsenic trap * 100 reaction vessel * destruction filter holder * detection filter holder * hydrogen sulphide filter * reagents for 420 tests * visual comparison chart * forceps * gloves * dilution tubes * cuvette * brush * 9V battery * screwdrivers * instrument manual</p>
23	(b) Arsenic testing accessories - for spectrophotometer	<p>* Reagent for Arsenic Analysis: package of 250 tests - Hydrochloric Acid analytical grade 500 ml X4, Zinc filling (3-5 mm grain size) 500 gmX3, Potassium Iodide analytical grade 1X100 gm, Stannous Chloride analytical grade 1x100 gm, Morpholine IX500ml, Lead acetate 1X500 gm, Chloroform HPLC/Spectroscopy grade 2X 1 lit, Silver diethyl dithiocarbamate ACS grade 5 mXI, glass wool 250 gmXI, Acetone analytical grade 500 mlXI * Arsine generator complete with 100 ml Erlenmeyer flask with standard joint, glass wool adaptor with matching std joint, absorber tube with matching standard joint, 5 ml volumetric Flask- package of 12 sets- all made of Borosilicate glass * Volumetric Flask 100 ml - 3 numbers, Mohr's type graduated pipette 1ml, 5 ml, 10 ml, 25 ml- 6 nos. each * Glass dropper- 2 nos * Stainless steel forceps- 1 no.</p>
24	Dissolved Oxygen Meter	<p>* Waterproof Hand-held Meters for the determination of Dissolved oxygen on site. The meter should be of Rugged, water resistant (IP 67) & to be designed for field use. Should have PC interface (USB / serial or analogue) & backlit LCD display.</p> <p>Technical specifications:</p> <p>* Measurement: Oxygen partial pressure, Oxygen Concentration, Oxygen Saturation, Temperature measurement, Automatic absolute air pressure measurement Should have Auto Hold Function, Alarm Function, Data Logger facility & with required Software, Easy calibration against oxygen in air, Salinity correction & shall have Self-polarising galvanic oxygen probe which should allow instant measurement after system be switched on.</p> <p>* Should have the features for Low battery and battery</p>



Section VII. Schedule of Requirements

Item No	Name of Goods or Related Service	Technical Specifications and Standards
		change indicator, auto off function, Sensor evaluation after calibration in the display & should have Shock-absorbing rubber protective armouring. O2 concentration 0.0 ... 70.0 mg/1 * Accuracy O2 concentration 0 ... 25 mg/1 $\pm 1.5\% \pm 0.2$ mg/1/ 25 ... 70 mg/1 $\pm 2.5\% \pm 0.3$ mg/1
25	Cool box with icepacks	* Material: PC thermoplastic / Non toxic gel well * dimension: 134mm x 92 mm
26	Specific Ion meter - for Fluoride, Chloride and Nitrate etc	* Microprocessor based pH/ISE meter with large, backlit graphic LCD display, Informative display should show H/mV/RmV/ISE results and temperature along with electrode status, time, date, sample ID, user ID and calibration points * Tech specs for Ion measurement: Range: 0 to 19999 * Resolution: Up to 3 significant digits * Relative Accuracy: ± 0.2 mV or $\pm 0.05\%$ of reading whichever is greater * Units: ppm, M, mg/L, %, ppb, none * Calibration Points: Up to 5 * Calibration Editing: possible * Calibration Features: Timed end point, linear point to point, non-linear selectable auto-blank, low concentration range stability The unit shall be supplied with pH electrode, ATC probe, stainless steel probe, Star stirrer probe, Electrode arm with holder & Universal power adapter. The unit shall be supplied with Fluoride & Nitrate Ion selective electrode with electrode filling solution, TISAB-III for Fluoride, total ionic strength buffer solution for nitrate electrode, NIST traceable Standard solution for 1000 mg/L of Fluoride & Nitrate - 500 ml of each type, variable volume micropipette 1-5 ml with micro-tip (100 nos.) - 1 set & any other consumables required for Fluoride & Nitrate analysis.
27	Fume cup board	* Work table size 91.44cm x 60.96cm x 60.96 cm * exhaust ducting * table material: granite * outer mild steel body
28	Auto Burette	100 ml capacity, Automatic Zero, Accuracy as per Class A IS 1997: 2008 / ISO 385: 2005, With Reservoir, Rubber Bellow, PTFE Stopcock With Certificate, Heat resistant low expansion borosilicate glass
29	Auto-Pipette	* Single channel Variable Volume automatic pipette * air-displacement type * Conformity * Certified with Individual Work Certificate * Range: 500 - 5000 μ l * Division: 10 μ l * Accuracy $R \pm \%$: 0.8
30	Thermometer	* Range -20°C to 250°C * displays both in Fahrenheit & Centigrade scale/ inter switchable * accuracy - $\pm 0.2^\circ\text{C}$ * resolution- 0.1° * water resistant
31	Single Stage distillation apparatus	* Output - 5 litres * auto cut * metallic stand * complete with other accessories * 230 volts
32	Quartz Distillation apparatus	Dist. Water Output Cap.(Approx) - 5 Ltr/Hr, 230-250 Volts Single phase 4.4kw, Coling Water consumption - 60 Ltr/Hr, Pyrogen free, PH 6-7, Conductivity -S/cm-<3 x 10-6, Distillate Temperature 65-750C, with Distillation Apparatus Power Supply (DAPS), Quartz boiler, Borosilicate Condenser and Quartz Condenser, Distillation Unit, Single Stage, All Quartz (Boiler & Condenser), with



Item No	Name of Goods or Related Service	Technical Specifications and Standards
		Built-in Quartz Heater, Vertical Panel Mounted to be complete with low water level cut-off device, Conductivity of distilled water should be around 2 us/cm or less.
33	Kjeldal distillation apparatus	* unit of 6 test mantle type
34	Pressure Pump	* Maximum pressure- 80 psi * rotation- 1400 rpm * Motor capacity- 1/6 HP * maximum power- 125 Watt * maximum current- 0.6 Ampere
35	Membrane filtration	Standard specifications
36	Deep Freezer	* -20°C * horizontal
37	Micropipette	* variable volume of 0.5 µl to 10µl
38	Centrifuge machine with rotors	* Microprocessor Based * Maximum Speed 5200 rpm * Square MS body duly powder coated * Double walled light weight ABS Lid. * Fitted with Micro Processor based 2 lines 16 characters LCD panel for 0-59 minute Count-down timer * The unit should be supplied with rotor head of 8X15 ml swing out head & 16 nos * Centrifuge tube
39	Portable Chemical Field Test Kit	* Capable of testing 30 samples/ GPs
40	H2S Vials for Bacteriological testing	* 100 vials/GP for each of the 15 GPs
41	Real Time PCR system	Standard specifications
42	Conical Flasks	* Flat bottom support * Conical body * Cylindrical neck * Graduated * complies with IS 915, ISO 1042 for volumetric flasks
43	Beakers	* Flat bottom * cylindrical shape * small spout for clean and precise pouring * graduated to indicate the exact content
44	Ordinary Pipette	* Large bulb with a long narrow portion above with a single graduation mark * Calibrated for a single volume * accurate measurement and decanting of liquid * each pipette coded with unique number
45	Graduated Pipette	* Long tube with a series of graduations to indicate different calibrated volumes for delivery from zero mark to the last graduation marks
46	Ordinary Burette	* Straight tube with a graduation scale & a stop cock with one dispenser tube * No after drainage period * complies with ISO 385
47	Automatic Burette	* with automatic zero facility * mounted on a glass reservoir bottle, glass stop cock * rubber bellows * enamel graduations
48	Desiccators	* Normal Desiccators * size 160 mm * for use with Disposable or Reusable Desiccant * complies with IS 6128 : specification for desiccators
49	Reagent Bottles	* plain narrow mouth * no-drip pour lip * solid glass stopper to fit securely * autoclavable & sterilizable * with clear graduations
50	Sample Bottles	* Of food grade plastic * large labelling field * complete with screw cap and pouring ring
51	Test Tubes	* without rim * flat bottom
52	Durham tubes	* Neutral glass * round bottom * autoclavable * very clear & transparent * straight rim
53	Round bottom flasks	* Round bottom support
54	Measuring cylinders	* graduated * with pour spouts to facilitate pouring without any drips * prominent graduations * broad base for



Section VII. Schedule of Requirements

Item No	Name of Goods or Related Service	Technical Specifications and Standards
		stability
55	Measuring flasks	* with inter changeable solid glass stoppers * each flask engraved with individual serial number
56	Funnels	Standard specifications
57	Porcelain dish	Standard specifications
58	Crucibles	Standard specifications
59	Wash bottles	Standard specifications
60	Standard joints	Standard specifications
61	Glass rods	Standard specifications
62	Petri Dishes	Standard specifications
63	Nessler Cylinders	* Graduated * maximum clarity
64	Thermometers	* Digital type * display both in Fahrenheit & Centigrade scale * accuracy up to ± 0.2 to ± 0.5 °C * resolution – 0.1°C * usage of Min/ Max/ Hold button *
65	Separating Flask	* Capacity - Standard ml * Stopper at top to fit tightly * Stop cock at bottom to be well sealed
66	Stopper Bottles for dissolved Oxygen	* Each bottle and its stopper marked with a unique matching identification number



4. Drawings

These Bidding Documents includes no drawings.

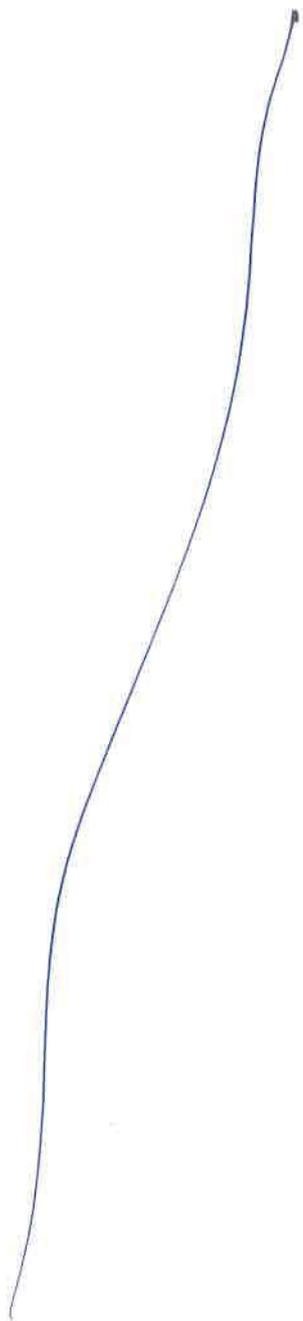


5. Inspections and Tests

The following inspections and tests shall be performed:

As per Indian/International standards for the goods to be supplied.





PART 3 - Contract



1

11



Section VIII. General Conditions of Contract

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Section VIII. General Conditions of Contract

1. Definitions

1.1 The following words and expressions shall have the meanings hereby assigned to them:

- (a) "Bank" means the World Bank and refers to the International Bank for Reconstruction and Development (IBRD) or the International Development Association (IDA).
- (b) "Contract" means the Contract Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein.
- (c) "Contract Documents" means the documents listed in the Contract Agreement, including any amendments thereto.
- (d) "Contract Price" means the price payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions therefrom, as may be made pursuant to the Contract.
- (e) "Day" means calendar day.
- (f) "Completion" means the fulfillment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract.
- (g) "GCC" means the General Conditions of Contract.
- (h) "Goods" means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Purchaser under the Contract.
- (i) "Purchaser's Country" is the country specified in the Special Conditions of Contract (SCC).
- (j) "Purchaser" means the entity purchasing the Goods and Related Services, as specified in the SCC.
- (k) "Related Services" means the services incidental to the supply of the goods, such as insurance, installation, training and initial maintenance and other such obligations of the Supplier under the Contract.
- (l) "SCC" means the Special Conditions of Contract.



- (m) "Subcontractor" means any person, private or government entity, or a combination of the above, to whom any part of the Goods to be supplied or execution of any part of the Related Services is subcontracted by the Supplier.
 - (n) "Supplier" means the person, private or government entity, or a combination of the above, whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Contract Agreement.
 - (o) "The Project Site," where applicable, means the place named in the SCC.
- 2. Contract Documents**
- 2.1 Subject to the order of precedence set forth in the Contract Agreement, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory. The Contract Agreement shall be read as a whole.
- 3. Corrupt and Fraudulent Practices**
- 3.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Appendix to the GCC.
- 3.2 The Purchaser requires the Supplier to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.
- 4. Interpretation**
- 4.1 If the context so requires it, singular means plural and vice versa.
- 4.2 Incoterms
- (a) Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of parties thereunder shall be as prescribed by Incoterms.
 - (b) The terms EXW, CIP, FCA, CFR and other similar terms, when used, shall be governed by the rules prescribed in the current edition of Incoterms specified in the SCC and published by the International Chamber of Commerce in Paris, France.
- 4.3 Entire Agreement



The Contract constitutes the entire agreement between the Purchaser and the Supplier and supersedes all communications, negotiations and agreements (whether written or oral) of the parties with respect thereto made prior to the date of Contract.

4.4 Amendment

No amendment or other variation of the Contract shall be valid unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party thereto.

4.5 Nonwaiver

- (a) Subject to GCC Sub-Clause 4.5(b) below, no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, neither shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.
- (b) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, dated, and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

4.6 Severability

If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

5. Language

- 5.1 The Contract as well as all correspondence and documents relating to the Contract exchanged by the Supplier and the Purchaser, shall be written in the language specified in the SCC. Supporting documents and printed literature that are part of the Contract may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified, in which case, for purposes of interpretation of the Contract, this translation shall govern.
- 5.2 The Supplier shall bear all costs of translation to the governing language and all risks of the accuracy of such translation, for documents provided by the Supplier.



- 6. Joint Venture, Consortium or Association** 6.1 If the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Purchaser for the fulfillment of the provisions of the Contract and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the Purchaser.
- 7. Eligibility** 7.1 The Supplier and its Subcontractors shall have the nationality of an eligible country. A Supplier or Subcontractor shall be deemed to have the nationality of a country if it is a citizen or constituted, incorporated, or registered, and operates in conformity with the provisions of the laws of that country.
- 7.2 All Goods and Related Services to be supplied under the Contract and financed by the Bank shall have their origin in Eligible Countries. For the purpose of this Clause, origin means the country where the goods have been grown, mined, cultivated, produced, manufactured, or processed; or through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.
- 8. Notices** 8.1 Any notice given by one party to the other pursuant to the Contract shall be in writing to the address specified in the SCC. The term "in writing" means communicated in written form with proof of receipt.
- 8.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.
- 9. Governing Law** 9.1 The Contract shall be governed by and interpreted in accordance with the laws of the Purchaser's Country, unless otherwise specified in the SCC.
- 9.2 Throughout the execution of the Contract, the Contractor shall comply with the import of goods and services prohibitions in the Purchaser's country when
- (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country; or
- (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's Country prohibits any import of goods from that country or any payments to any country, person, or entity in that country.
- 10 Settlement of** 10.1 The Purchaser and the Supplier shall make every effort to



Disputes

resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

10.2 If, after twenty-eight (28) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract. Arbitration proceedings shall be conducted in accordance with the rules of procedure specified in the SCC.

10.3 Notwithstanding any reference to arbitration herein,

- (a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
- (b) the Purchaser shall pay the Supplier any monies due the Supplier.

11. Inspections and Audit by the Bank

11.1 The Supplier shall keep, and shall make all reasonable efforts to cause its Subcontractors to keep, accurate and systematic accounts and records in respect of the Goods in such form and details as will clearly identify relevant time changes and costs.

11.2 The Supplier shall permit, and shall cause its Subcontractors to permit, the Bank and/or persons appointed by the Bank to inspect the Supplier's offices and all accounts and records relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the Bank if requested by the Bank. The Supplier's and its Subcontractors and consultants' attention is drawn to Clause 3 [Fraud and Corruption], which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under this Sub-Clause 11.1 constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures)



- 12. Scope of Supply** 12.1 The Goods and Related Services to be supplied shall be as specified in the Schedule of Requirements.
- 13. Delivery and Documents** 13.1 Subject to GCC Sub-Clause 33.1, the Delivery of the Goods and Completion of the Related Services shall be in accordance with the Delivery and Completion Schedule specified in the Schedule of Requirements. The details of shipping and other documents to be furnished by the Supplier are specified in the SCC.
- 14. Supplier's Responsibilities** 14.1 The Supplier shall supply all the Goods and Related Services included in the Scope of Supply in accordance with GCC Clause 12, and the Delivery and Completion Schedule, as per GCC Clause 13.
- 15 Contract Price** 15.1 Prices charged by the Supplier for the Goods supplied and the Related Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid, with the exception of any price adjustments authorized in the SCC.
- 16. Terms of Payment** 16.1 The Contract Price, including any Advance Payments, if applicable, shall be paid as specified in the SCC.
- 16.2 The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by invoices describing, as appropriate, the Goods delivered and Related Services performed, and by the documents submitted pursuant to GCC Clause 13 and upon fulfillment of all other obligations stipulated in the Contract.
- 16.3 Payments shall be made promptly by the Purchaser, but in no case later than sixty (60) days after submission of an invoice or request for payment by the Supplier, and after the Purchaser has accepted it.
- 16.4 The currencies in which payments shall be made to the Supplier under this Contract shall be those in which the bid price is expressed.
- 16.5 In the event that the Purchaser fails to pay the Supplier any payment by its due date or within the period set forth in the SCC, the Purchaser shall pay to the Supplier interest on the amount of such delayed payment at the rate shown in the SCC, for the period of delay until payment has been made in full, whether before or after judgment or arbitration award.
- 17. Taxes and Duties** 17.1 For goods manufactured outside the Purchaser's Country, the Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the



Purchaser's Country.

- 17.2 For goods Manufactured within the Purchaser's country, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser.
- 17.3 If any tax exemptions, reductions, allowances or privileges may be available to the Supplier in the Purchaser's Country, the Purchaser shall use its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.

18. Performance Security

- 18.1 If required as specified in the SCC, the Supplier shall, within twenty-eight (28) days of the notification of contract award, provide a performance security for the performance of the Contract in the amount specified in the SCC.
- 18.2 The proceeds of the Performance Security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- 18.3 As specified in the SCC, the Performance Security, if required, shall be denominated in the currency(ies) of the Contract, or in a freely convertible currency acceptable to the Purchaser; and shall be in one of the format stipulated by the Purchaser in the SCC, or in another format acceptable to the Purchaser.
- 18.4 The Performance Security shall be discharged by the Purchaser and returned to the Supplier not later than twenty-eight (28) days following the date of Completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless specified otherwise in the SCC.

19. Copyright

- 19.1 The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party

20. Confidential Information

- 20.1 The Purchaser and the Supplier shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such



information has been furnished prior to, during or following completion or termination of the Contract. Notwithstanding the above, the Supplier may furnish to its Subcontractor such documents, data, and other information it receives from the Purchaser to the extent required for the Subcontractor to perform its work under the Contract, in which event the Supplier shall obtain from such Subcontractor an undertaking of confidentiality similar to that imposed on the Supplier under GCC Clause 20.

20.2 The Purchaser shall not use such documents, data, and other information received from the Supplier for any purposes unrelated to the contract. Similarly, the Supplier shall not use such documents, data, and other information received from the Purchaser for any purpose other than the performance of the Contract.

20.3 The obligation of a party under GCC Sub-Clauses 20.1 and 20.2 above, however, shall not apply to information that:

- (a) the Purchaser or Supplier need to share with the Bank or other institutions participating in the financing of the Contract;
- (b) now or hereafter enters the public domain through no fault of that party;
- (c) can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party; or
- (d) otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.

20.4 The above provisions of GCC Clause 20 shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Supply or any part thereof.

20.5 The provisions of GCC Clause 20 shall survive completion or termination, for whatever reason, of the Contract.

21. Subcontracting

21.1 The Supplier shall notify the Purchaser in writing of all subcontracts awarded under the Contract if not already specified in the bid. Such notification, in the original bid or later shall not relieve the Supplier from any of its obligations, duties, responsibilities, or liability under the Contract.

21.2 Subcontracts shall comply with the provisions of GCC Clauses 3 and 7.



22. Specifications and Standards**22.1 Technical Specifications and Drawings**

- (a) The Goods and Related Services supplied under this Contract shall conform to the technical specifications and standards mentioned in Section VI, Schedule of Requirements and, when no applicable standard is mentioned, the standard shall be equivalent or superior to the official standards whose application is appropriate to the Goods' country of origin.
- (b) The Supplier shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designed by or on behalf of the Purchaser, by giving a notice of such disclaimer to the Purchaser.
- (c) Wherever references are made in the Contract to codes and standards in accordance with which it shall be executed, the edition or the revised version of such codes and standards shall be those specified in the Schedule of Requirements. During Contract execution, any changes in any such codes and standards shall be applied only after approval by the Purchaser and shall be treated in accordance with GCC Clause 33.

23. Packing and Documents

- 23.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. During transit, the packing shall be sufficient to withstand, without limitation, rough handling and exposure to extreme temperatures, salt and precipitation, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.
- 23.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified in the SCC, and in any other instructions ordered by the Purchaser.

24. Insurance

- 24.1 Unless otherwise specified in the SCC, the Goods supplied under the Contract shall be fully insured—in a freely convertible currency from an eligible country—against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery, in accordance with the applicable Incoterms or in the manner specified in the SCC.



25. Transportation and Incidental Services

- 25.1 Unless otherwise specified in the SCC, responsibility for arranging transportation of the Goods shall be in accordance with the specified Incoterms.
- 25.2 The Supplier may be required to provide any or all of the following services, including additional services, if any, **specified in SCC:**
- (a) performance or supervision of on-site assembly and/or start-up of the supplied Goods;
 - (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;
 - (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods;
 - (d) performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and
 - (e) training of the Purchaser's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.
- 25.3 Prices charged by the Supplier for incidental services, if not included in the Contract Price for the Goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services

26. Inspections and Tests

- 26.1 The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods and Related Services as are specified in the SCC.
- 26.2 The inspections and tests may be conducted on the premises of the Supplier or its Subcontractor, at point of delivery, and/or at the Goods' final destination, or in another place in the Purchaser's Country as specified in the SCC. Subject to GCC Sub-Clause 26.3, if conducted on the premises of the Supplier or its Subcontractor, all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Purchaser.
- 26.3 The Purchaser or its designated representative shall be entitled to attend the tests and/or inspections referred to in GCC Sub-Clause 26.2, provided that the Purchaser bear all of its own costs and expenses incurred in connection with such attendance including, but not limited to, all traveling and board



and lodging expenses.

- 26.4 Whenever the Supplier is ready to carry out any such test and inspection, it shall give a reasonable advance notice, including the place and time, to the Purchaser. The Supplier shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Purchaser or its designated representative to attend the test and/or inspection.
- 26.5 The Purchaser may require the Supplier to carry out any test and/or inspection not required by the Contract but deemed necessary to verify that the characteristics and performance of the Goods comply with the technical specifications codes and standards under the Contract, provided that the Supplier's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impedes the progress of manufacturing and/or the Supplier's performance of its other obligations under the Contract, due allowance will be made in respect of the Delivery Dates and Completion Dates and the other obligations so affected.
- 26.6 The Supplier shall provide the Purchaser with a report of the results of any such test and/or inspection.
- 26.7 The Purchaser may reject any Goods or any part thereof that fail to pass any test and/or inspection or do not conform to the specifications. The Supplier shall either rectify or replace such rejected Goods or parts thereof or make alterations necessary to meet the specifications at no cost to the Purchaser, and shall repeat the test and/or inspection, at no cost to the Purchaser, upon giving a notice pursuant to GCC Sub-Clause 26.4.
- 26.8 The Supplier agrees that neither the execution of a test and/or inspection of the Goods or any part thereof, nor the attendance by the Purchaser or its representative, nor the issue of any report pursuant to GCC Sub-Clause 26.6, shall release the Supplier from any warranties or other obligations under the Contract.

27. Liquidated Damages

- 27.1 Except as provided under GCC Clause 32, if the Supplier fails to deliver any or all of the Goods by the Date(s) of delivery or perform the Related Services within the period specified in the Contract, the Purchaser may without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in the SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum



deduction of the percentage specified in those SCC. Once the maximum is reached, the Purchaser may terminate the Contract pursuant to GCC Clause 35.

28. Warranty

- 28.1 The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.
- 28.2 Subject to GCC Sub-Clause 22.1(b), the Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in the country of final destination.
- 28.3 Unless otherwise specified in the SCC, the warranty shall remain valid for twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the SCC, or for eighteen (18) months after the date of shipment from the port or place of loading in the country of origin, whichever period concludes earlier.
- 28.4 The Purchaser shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.
- 28.5 Upon receipt of such notice, the Supplier shall, within the period specified in the SCC, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.
- 28.6 If having been notified, the Supplier fails to remedy the defect within the period specified in the SCC, the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

29. Patent Indemnity

- 29.1 The Supplier shall, subject to the Purchaser's compliance with GCC Sub-Clause 29.2, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design,



trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of:

- (a) the installation of the Goods by the Supplier or the use of the Goods in the country where the Site is located; and
- (b) the sale in any country of the products produced by the Goods.

Such indemnity shall not cover any use of the Goods or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, neither any infringement resulting from the use of the Goods or any part thereof, or any products produced thereby in association or combination with any other equipment, plant, or materials not supplied by the Supplier, pursuant to the Contract.

- 29.2 If any proceedings are brought or any claim is made against the Purchaser arising out of the matters referred to in GCC Sub-Clause 29.1, the Purchaser shall promptly give the Supplier a notice thereof, and the Supplier may at its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.
- 29.3 If the Supplier fails to notify the Purchaser within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Purchaser shall be free to conduct the same on its own behalf.
- 29.4 The Purchaser shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim, and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.
- 29.5 The Purchaser shall indemnify and hold harmless the Supplier and its employees, officers, and Subcontractors from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Supplier may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the Purchaser.



30 Limitation of Liability

- 30.1 Except in cases of criminal negligence or willful misconduct,
- (a) the Supplier shall not be liable to the Purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Purchaser and
 - (b) the aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the supplier to indemnify the purchaser with respect to patent infringement

31. Change in Laws and Regulations

- 31.1 Unless otherwise specified in the Contract, if after the date of 28 days prior to date of Bid submission, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed in the place of the Purchaser's country where the Site is located (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the Delivery Date and/or the Contract Price, then such Delivery Date and/or Contract Price shall be correspondingly increased or decreased, to the extent that the Supplier has thereby been affected in the performance of any of its obligations under the Contract. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance with GCC Clause 15.

32. Force Majeure

- 32.1 The Supplier shall not be liable for forfeiture of its Performance Security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- 32.2 For purposes of this Clause, "Force Majeure" means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.



32.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

33. Change Orders and Contract Amendments

33.1 The Purchaser may at any time order the Supplier through notice in accordance GCC Clause 8, to make changes within the general scope of the Contract in any one or more of the following:

- (a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
- (b) the method of shipment or packing;
- (c) the place of delivery; and
- (d) the Related Services to be provided by the Supplier.

33.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or in the Delivery/Completion Schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this Clause must be asserted within twenty-eight (28) days from the date of the Supplier's receipt of the Purchaser's change order.

33.3 Prices to be charged by the Supplier for any Related Services that might be needed but which were not included in the Contract shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.

33.4 Subject to the above, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

34. Extensions of Time

34.1 If at any time during performance of the Contract, the Supplier or its subcontractors should encounter conditions impeding timely delivery of the Goods or completion of Related Services pursuant to GCC Clause 13, the Supplier shall promptly notify the Purchaser in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Supplier's



notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, in which case the extension shall be ratified by the parties by amendment of the Contract.

34.2 Except in case of Force Majeure, as provided under GCC Clause 32, a delay by the Supplier in the performance of its Delivery and Completion obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 26, unless an extension of time is agreed upon, pursuant to GCC Sub-Clause 34.1.

35. Termination

35.1 Termination for Default

(a) The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate the Contract in whole or in part:

(i) if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 34;

(ii) if the Supplier fails to perform any other obligation under the Contract; or

(iii) if the Supplier, in the judgment of the Purchaser has engaged in fraud and corruption, as defined in GCC Clause 3, in competing for or in executing the Contract.

(b) In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 35.1(a), the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services similar to those undelivered or not performed, and the Supplier shall be liable to the Purchaser for any additional costs for such similar Goods or Related Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

35.2 Termination for Insolvency.

(a) The Purchaser may at any time terminate the Contract by giving notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In such event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect



any right of action or remedy that has accrued or will accrue thereafter to the Purchaser

35.3 Termination for Convenience.

- (a) The Purchaser, by notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
- (b) The Goods that are complete and ready for shipment within twenty-eight (28) days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:
 - (i) to have any portion completed and delivered at the Contract terms and prices; and/or
 - (ii) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Related Services and for materials and parts previously procured by the Supplier.

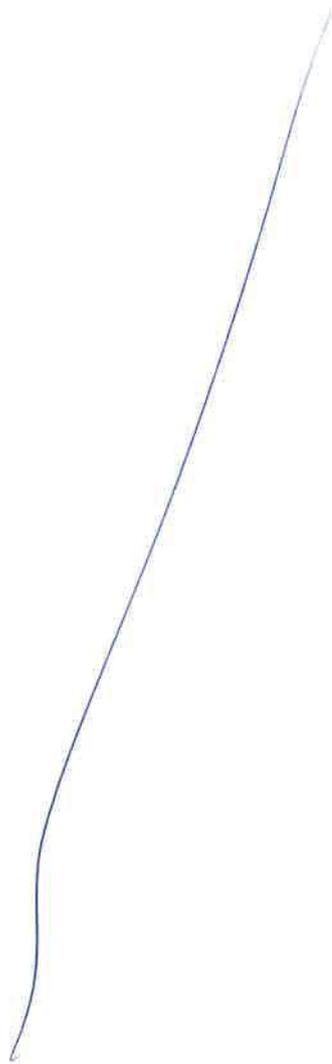
36. Assignment

36.1 Neither the Purchaser nor the Supplier shall assign, in whole or in part, their obligations under this Contract, except with prior written consent of the other party.

**37. Export
Restriction**

37.1 Notwithstanding any obligation under the Contract to complete all export formalities, any export restrictions attributable to the Purchaser, to the country of the Purchaser, or to the use of the products/goods, systems or services to be supplied, which arise from trade regulations from a country supplying those products/goods, systems or services, and which substantially impede the Supplier from meeting its obligations under the Contract, shall release the Supplier from the obligation to provide deliveries or services, always provided, however, that the Supplier can demonstrate to the satisfaction of the Purchaser and of the Bank that it has completed all formalities in a timely manner, including applying for permits, authorizations and licenses necessary for the export of the products/goods, systems or services under the terms of the Contract. Termination of the Contract on this basis shall be for the Purchaser's convenience pursuant to Sub-Clause 35.3.





APPENDIX TO GENERAL CONDITIONS

Bank's Policy- Corrupt and Fraudulent Practices

Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011:

"Fraud and Corruption:

1.16 It is the Bank's policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.⁹ In pursuance of this policy, the Bank:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
- (i) "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;¹⁰
 - (ii) "fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;¹¹
 - (iii) "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;¹²
 - (iv) "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;¹³

⁹ In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

¹⁰ For the purpose of this sub-paragraph, "another party" refers to a public official acting in relation to the procurement process or contract execution. In this context, "public official" includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

¹¹ For the purpose of this sub-paragraph, "party" refers to a public official; the terms "benefit" and "obligation" relate to the procurement process or contract execution; and the "act or omission" is intended to influence the procurement process or contract execution.

¹² For the purpose of this sub-paragraph, "parties" refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other's bid prices or other conditions.



- (v) "obstructive practice" is:
- (aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or
 - (bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 1.16(e) below.
- (b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- (c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- (d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank's sanctions procedures,¹⁴ including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated¹⁵;

¹³ For the purpose of this sub-paragraph, "party" refers to a participant in the procurement process or contract execution.

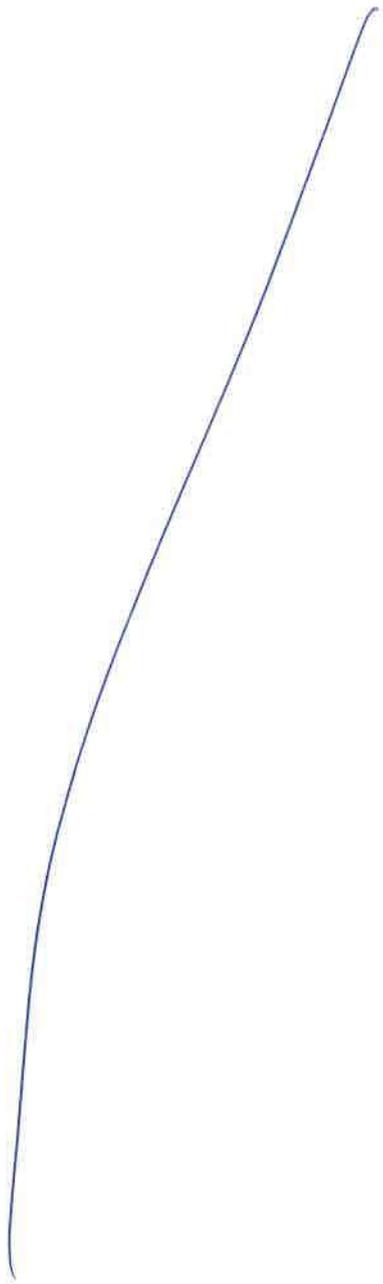
¹⁴ A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank's sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

¹⁵ A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.



- (e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank.”





Section IX. Special Conditions of Contract

The following Special Conditions of Contract (SCC) shall supplement and / or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

GCC 1.1(i)	The Purchaser's country is: India.
GCC 1.1(j)	The Purchaser is: State Project Management Unit (SPMU) Neer Nirmal Pariyojana- Assam (NNP-Assam) Represented by: Project Director, SPMU, NNP-Assam
GCC 1.1 (o)	The Project Site(s)/Final Destination(s) is/are: Water Quality Monitoring and Surveillance Laboratories of District Project Management Units (DPMU) of Bongaigaon, Hailakandi, Jorhat, Kamrup, and Sivasagar as detailed in Part 2 – Supply Requirements).
GCC 4.2 (a)	The meaning of the trade terms shall be as prescribed by Incoterms. If the meaning of any trade term and the rights and obligations of the parties thereunder shall not be as prescribed by Incoterms, they shall be as prescribed by: Not Applicable.
GCC 4.2 (b)	The version edition of Incoterms shall be INCOTERMS 2010 published by the International Chamber of Commerce.
GCC 5.1	The language shall be: English.
GCC 8.1	For notices , the Purchaser's address shall be: Attention: Project Director, SPMU, NNP-Assam Address: Redstone Building, G.S Road, Dispur Floor number: 5th Floor City: Guwahati ZIP Code: 781022 Country: : India Telephone: 091-0361-2334345 Facsimile number: Not Available Electronic mail address: assam_worldbank@rediffmail.com



GCC 9.1	The governing law shall be the law of: India
GCC 10.2	<p>(To be inserted during contract signing as applicable)</p> <p>The rules of procedure for arbitration proceedings pursuant to GCC Clause 10.2 shall be as follows:</p> <p><i>[The bidding documents should contain one clause to be retained in the event of a Contract with a foreign Supplier and one clause to be retained in the event of a Contract with a Supplier who is a national of the Purchaser's country. At the time of finalizing the Contract, the respective applicable clause should be retained in the Contract. The following explanatory note should therefore be inserted as a header to GCC 10.2 in the bidding document.</i></p> <p><i>"Clause 10.2 (a) shall be retained in the case of a Contract with a foreign Supplier and clause 10.2 (b) shall be retained in the case of a Contract with a national of the Purchaser's country."]</i></p> <p>(a) Contract with foreign Supplier:</p> <p><i>[For contracts entered into with foreign suppliers, International commercial arbitration may have practical advantages over other dispute settlement methods. The World Bank should not be named as arbitrator, nor should it be asked to name an arbitrator. Among the rules to govern the arbitration proceedings, the Purchaser may wish to consider the United Nations Commission on International Trade Law (UNCITRAL) Arbitration Rules of 1976, the Rules of Conciliation and Arbitration of the International Chamber of Commerce (ICC), the Rules of the London Court of International Arbitration or the Rules of Arbitration Institute of the Stockholm Chamber of Commerce.]</i></p> <p><i>If the Purchaser chooses the UNCITRAL Arbitration Rules, the following sample clause should be inserted:</i></p> <p>GCC 10.2 (a)—Any dispute, controversy or claim arising out of or relating to this Contract, or breach, termination or invalidity thereof, shall be settled by arbitration in accordance with the UNCITRAL Arbitration Rules as at present in force.</p> <p><i>If the Purchaser chooses the Rules of ICC, the following sample clause should be inserted:</i></p> <p>GCC 10.2 (a)—All disputes arising in connection with the present Contract shall be finally settled under the Rules of</p>



	<p>Conciliation and Arbitration of the International Chamber of Commerce by one or more arbitrators appointed in accordance with said Rules.</p> <p><i>If the Purchaser chooses the Rules of Arbitration Institute of Stockholm Chamber of Commerce, the following sample clause should be inserted:</i></p> <p>GCC 10.2 (a)—Any dispute, controversy or claim arising out of or in connection with this Contract, or the breach termination or invalidity thereof, shall be settled by arbitration in accordance with the Rules of the Arbitration Institute of the Stockholm Chamber of Commerce.</p> <p><i>If the Purchaser chooses the Rules of the London Court of International Arbitration, the following clause should be inserted:</i></p> <p>GCC 10.2 (a)—Any dispute arising out of or in connection with this Contract, including any question regarding its existence, validity or termination shall be referred to and finally resolved by arbitration under the Rules of the London Court of International Arbitration, which rules are deemed to be incorporated by reference to this clause.</p> <p>(b) Contracts with Supplier national of the Purchaser's country:</p> <p>In the case of a dispute between the Purchaser and a Supplier who is a national of the Purchaser's country, the dispute shall be referred to adjudication or arbitration in accordance with the laws of the Purchaser's country.</p>
GCC 13.1	<p>Details of Shipping and other Documents to be furnished by the Supplier are</p> <p>For Goods supplied from abroad as per Incoterms CIP:</p> <p>Upon each shipment, the supplier shall notify the Purchaser and the Insurance Company in writing by fax or email the full details of the shipment including Contract Number, description of Goods, quantity, the vessel, the bill of loading with number and date, port of loading, date of shipment, port of discharge etc. The Supplier shall mail the following documents to the purchaser, with a copy to the insurance company:</p> <ul style="list-style-type: none"> (i) 2 Copies of Supplier's invoice showing Good's description, quantity, unit price, total amount; (ii) Original and four copies of the negotiable, clean on board bill of loading marked freight prepaid and four copies of non-negotiable bill of loading;



	<ul style="list-style-type: none"> (iii) Four copies of packing list identifying contents of each package; (iv) Manufacturer's / Suppliers Warranty Certificate; (v) Inspection certificate, issued by the nominated Engineer / Inspection Agent and the Manufacturer's factory inspection reports; (vi) Certificate of country of origin; (vii) Certificate of Insurance; <p>The above documents shall be received by the Purchaser at least one week before the arrival of Goods at the port of delivery and, if not received by this period, the Supplier will be responsible for any consequent expenses.</p> <p>For Goods from within the Purchaser's country as per Incoterms EXW:</p> <p>Upon each shipment, the supplier shall notify the Purchaser and the Insurance Company in writing by fax or email and send the following documents to the purchaser, with a copy to the insurance company:</p> <ul style="list-style-type: none"> (i) 2 copies of the Supplier's Invoice showing good's description, quantity, unit price, total amount; (ii) delivery note, railway receipt or truck receipt; (iii) Manufacturer's /Supplier's Warranty Certificate; (iv) Inspection Certificate issued by the nominated Engineer / Inspection agency and Manufacturer's / Supplier's factory inspection report; (v) Packing list identifying the contents of each packaging case; (vi) Certificate of country of origin; and (vii) Insurance Certificate in accordance with GCC 24.1. <p>The Purchaser shall receive the above document before the arrival of the Goods and if not received, the Supplier will be responsible for any consequent expenses.</p>
GCC 15.1	The prices charged for the Goods supplied and the related Services performed shall not be adjustable.
GCC 16.1	<p>GCC 16.1—The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:</p> <p>Payment shall be made in Indian Rupees in the following manner:</p> <ul style="list-style-type: none"> (i) Advance Payment: Ten (10) percent of the Contract Price shall be paid within thirty (30) days of signing of the Contract, and upon submission of claim and a bank guarantee for equivalent amount valid until the Goods are delivered and in the form provided in the bidding documents or another form



	<p>acceptable to the Purchaser.</p> <p>(ii) On Shipment: Fifty (50) percent of the Contract Price of the Goods shipped shall be paid through irrevocable confirmed letter of credit opened in favor of the Supplier in a bank in its country, upon submission of documents specified in GCC Clause 12.</p> <p>(iii) On Acceptance: Forty (40) percent of the Contract Price of Goods received shall be paid within thirty (30) days of receipt of the Goods upon submission of claim supported by the acceptance certificate issued by the Purchaser.</p>
GCC 16.5	<p>The payment-delay period after which the Purchaser shall pay interest to the supplier shall be 120 days.</p> <p>The interest rate that shall be applied is 5.00 %</p>
GCC 18.1	<p>A Performance Security shall be required.</p> <p>The amount of the Performance Security shall be: 10 (ten) percent in proportion to the amount and currency of the contract price.</p>
GCC 18.3	<p>If required, the Performance Security shall be in the form of : a Demand Guarantee.</p>
GCC 18.4	<p>Not Applicable</p>
GCC 23.2	<p>The packing, marking and documentation within and outside the packages shall be: as per requirements of the goods to be packed.</p>
GCC 24.1	<p>The insurance shall be as follows:</p> <p>The supplier must insure the goods in an amount equal to 110% of the CIP or EXW price of the goods from "Warehouse" to "Warehouse" on "All Risks" basis including War Risks and strikes and in Indian Rupees.</p>
GCC 25.1	<p>The Supplier is required under the Contract to transport the Goods to a specified place of final destination within the Purchaser's country, defined as the Project Site, transport to such place of destination in the Purchaser's country, including insurance and storage, as shall be specified in the Contract, shall be arranged by the Supplier, and related costs shall be included in the Contract Price.</p>
GCC 25.2	<p>Incidental services to be provided are:</p> <p>Pursuant to GCC Clause 25.2, the price quoted for incidental services shall be included in the bid price by the supplier.</p>



GCC 26.1	The inspections and tests shall be: as per Indian/International standards for the goods to be supplied.
GCC 26.2	The Inspections and tests shall be conducted at: a place mutually agreed between the parties within India.
GCC 27.1	The liquidated damage shall be: 0.05 (zero point zero five)% per week
GCC 27.1	The maximum amount of liquidated damages shall be: 10 (ten) %
GCC 28.3	<p>The period of validity of the Warranty shall be: 365 days from the date of acceptance certificate issued by the Purchaser.</p> <p>The Supplier shall, in addition, comply with the performance guarantees specified under the Contract. If, for reasons attributable to the Supplier, these guarantees are not attained in whole or in part, the Supplier shall, at its discretion, either:</p> <ul style="list-style-type: none"> (a) make such changes, modifications, and/or additions to the Goods or any part thereof as may be necessary in order to attain the contractual guarantees specified in the Contract at its own cost and expense and to carry out further performance tests in accordance with SCC 4, or (b) pay liquidated damages to the Purchaser with respect to the failure to meet the contractual guarantees. The rate of these liquidated damages shall be 0.005% of the contract value. <p>For purposes of the Warranty, the place(s) of final destination(s) shall be:</p> <p>Water Quality Monitoring and Surveillance Laboratories of District Project Management Units (DPMU) of Bongaigaon, Hailakandi, Jorhat, Kamrup, and Sivasagar as detailed in Part 2 – Supply Requirements).</p>
GCC 28.5	The period for repair or replacement shall be: 7 days.



Section X. Contract Forms

This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.

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Letter of Acceptance

[letterhead paper of the Purchaser]

[date]

To: *[name and address of the Supplier]*

Subject: **Notification of Award Contract No.**

This is to notify you that your Bid dated *[insert date]* for execution of the
.*[insert name of the contract and identification number, as given in the SCC]*. .
. for the Accepted Contract Amount of*[insert amount in numbers
and words and name of currency]*, as corrected and modified in accordance with the
Instructions to Bidders is hereby accepted by our Agency.

You are requested to furnish the Performance Security within 28 days in accordance
with the Conditions of Contract, using for that purpose the of the Performance Security
Form included in Section X, Contract Forms, of the Bidding Document.

Authorized Signature: _____
Name and Title of Signatory: _____
Name of Agency: _____

Attachment: Contract Agreement



Contract Agreement

[The successful Bidder shall fill in this form in accordance with the instructions indicated]

THIS AGREEMENT made

the *[insert: number]* day of *[insert: month]*, *[insert: year]*.

BETWEEN

- (1) *[insert complete name of Purchaser]*, a *[insert description of type of legal entity, for example, an agency of the Ministry of ... of the Government of {insert name of Country of Purchaser}, or corporation incorporated under the laws of {insert name of Country of Purchaser}]* and having its principal place of business at *[insert address of Purchaser]* (hereinafter called "the Purchaser"), of the one part, and
- (2) *[insert name of Supplier]*, a corporation incorporated under the laws of *[insert: country of Supplier]* and having its principal place of business at *[insert: address of Supplier]* (hereinafter called "the Supplier"), of the other part :

WHEREAS the Purchaser invited bids for certain Goods and ancillary services, viz., *[insert brief description of Goods and Services]* and has accepted a Bid by the Supplier for the supply of those Goods and Services

The Purchaser and the Supplier agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other contract documents.
 - (a) the Letter of Acceptance
 - (b) the Letter of Bid
 - (c) the Addenda Nos. _____ (if any)
 - (d) Special Conditions of Contract
 - (e) General Conditions of Contract
 - (f) the Specification (including Schedule of Requirements and Technical Specifications)



- (g) the completed Schedules (including Price Schedules)
 - (h) any other document listed in GCC as forming part of the Contract
3. In consideration of the payments to be made by the Purchaser to the Supplier as specified in this Agreement, the Supplier hereby covenants with the Purchaser to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of *[insert the name of the Contract governing law country]* on the day, month and year indicated above.

For and on behalf of the Purchaser

Signed: *[insert signature]*
in the capacity of *[insert title or other appropriate designation]*
in the presence of *[insert identification of official witness]*

For and on behalf of the Supplier

Signed: *[insert signature of authorized representative(s) of the Supplier]*
in the capacity of *[insert title or other appropriate designation]*
in the presence of *[insert identification of official witness]*



Performance Security

[The bank, as requested by the successful Bidder, shall fill in this form in accordance with the instructions indicated]

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[insert name and Address of Purchaser]*

Date: *_ [Insert date of issue]*

PERFORMANCE GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *_ [insert name of Supplier, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the supply of *_ [insert name of contract and brief description of Goods and related Services]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (*[insert amount in words]*),¹ such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the Day of, 2...², and any demand for payment under it must be received by us at this office indicated above on or before that date.

¹ The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, and denominated either in the currency(ies) of the Contract or a freely convertible currency acceptable to the Beneficiary.

² Insert the date twenty-eight days after the expected completion date as described in GC Clause 18.4. The Purchaser should note that in the event of an extension of this date for completion of the Contract, the Purchaser would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Purchaser might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed



This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[six months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."



Advance Payment Security

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[Insert name and Address of Purchaser]*

Date: *[Insert date of issue]*

ADVANCE PAYMENT GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *[insert name of Supplier, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the execution of *[insert name of contract and brief description of Goods and related Services]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum *[insert amount in figures]* () *[insert amount in words]* is to be made against an advance payment guarantee.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* () *[insert amount in words]*¹ upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:

- (a) has used the advance payment for purposes other than toward delivery of Goods; or
- (b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

¹ The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the Purchaser.



A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Applicant on its account number *[insert number]* at *[insert name and address of Applicant's bank]*.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, has been certified for payment, or on the *[insert day]* day of *[insert month]*, 2 *[insert year]*, whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No.758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

