

Office of the Director
Directorate of Technical Education, Vocational and Industrial Training
Himachal Pradesh, Sunder Nagar

Invitation for Bids No.: GP001/2020

Date: 04/07/2020

Loan/Grant No. and Title: Loan No.: 3573-IND/ Himachal Pradesh Skill Development Project.

Deadline for submission of bids: **05/08/2020** upto 12:30PM

Contract Package (NCB) No. and Title: Supply of the **Machinery & equipment's** for Govt. Polytechnic(Women) Rehan District Kangra Himachal Pradesh to enhance Technical and Vocational Skills among the youth of Himachal Pradesh under following packages/lots:

Package No.	Title
HPSDP-DOTE/WP/01	Information Technology and Related equipment's: Lot 1: Computers and Laptops Lot 2: UPS
HPSDP-DOTE/WP/05	Engineering Workshop and Related Equipment's: - Lot 1: Sheet Metal Workshops Hand Tools & Equipment's Lot 2: Electronics Workshops Hand Tools & Equipment's Lot 3: Electrical Workshops Hand Tools & Equipment's Lot 4: Carpentry Workshops Hand Tools & Equipment's Lot 5: Smithy Workshops Hand Tools & Equipment's Lot 6: Welding Workshops Hand Tools & Equipment's Lot 7: Fitting Workshops Hand Tools & Equipment's Lot 8: General Workshops Common Hand Tools & Equipment's Lot 9: Furniture for Workshops
HPSDP-DOTE/WP/06	Furniture for Classrooms, Labs, Workshop, Office Etc.: - Lot 1: Furniture for Common Facilities Lot 2: Labs, Workshops etc Furniture
HPSDP-DOTE/WP/07	Civil Engineering Lab Equipment's: - Lot 1: Applied Mechanics & Fluid Mechanics Building Construction Lab. Lot 2: Concrete Technology Lab. And Construction Material Labs. Lot 3: Surveying Lab. Lot 4: Soil and Highway Engineering Labs. Lot 5: Structure Mechanics Lab. Lot 6: Water Supply and Waste Water Engineering Lab. Lot 7: CACE Labs and Software.

- India has received a loan from the Asian Development Bank (ADB) towards the cost of "Himachal Pradesh Skill Development Project" and it intends to apply part of the proceeds of this financing to the payment under the Contract Package named above. Bidding is open to Bidders from eligible source countries of ADB.
- The "Directorate of Technical Education, Vocational and Industrial Training, Himachal Pradesh", represented by the Director ("The Purchaser") invites sealed bids from eligible Bidders for the supply of various equipment's for **Government Polytechnic**

(Women) Rehan District Kangra Himachal Pradesh. National Competitive Bidding will be conducted in accordance with ADB's Single-stage: Two-envelope bidding procedure and is open to all Bidders from eligible countries as described in the Bidding Document.

3. Only eligible Bidders with the following key qualifications should participate in this bidding:

Package No.	Lot. No.	Contractual experience: Successful completion as main supplier within the last three (3) years, of at least One (1) contract with nature, and complexity similar to the scope of supply described in Section 6 (Schedule of Supply). The contract value of Lot is indicated below:	Average Annual Turnover: Minimum average annual turnover as indicated below calculated as total payments received by the Bidder for contracts completed or under execution over the last three (3) years. The Average Annual Turnover of the Lot is indicated below:
HPSDP-DOTE/WP/01	Lot 1:	INR 181.00 Lakhs	INR 451.00 Lakhs
	Lot 2:	INR 5.70 Lakhs	INR 14.00 Lakhs
HPSDP-DOTE/WP/05	Lot 1:	INR 4.40 Lakhs	INR 11.00 Lakhs
	Lot 2:	INR 2.40 Lakhs	INR 6.00 Lakhs
	Lot 3:	INR 2.00 Lakhs	INR 6.00 Lakhs
	Lot 4:	INR 7.00 Lakhs	INR 16.00 Lakhs
	Lot 5:	INR 4.70 Lakhs	INR 11.80 Lakhs
	Lot 6:	INR 6.00 Lakhs	INR 15.00 Lakhs
	Lot 7:	INR 6.30 Lakhs	INR 15.70 Lakhs
	Lot 8:	INR 10.00 Lakhs	INR 25.00 Lakhs
HPSDP-DOTE/WP/06	Lot 1:	INR 199.30 Lakhs	INR 500.00 Lakhs
	Lot 2:	INR 36.00 Lakhs	INR 89.00 Lakhs
HPSDP-DOTE/WP/07	Lot 1:	INR 7.50 Lakhs	INR 18.80 Lakhs
	Lot 2:	INR 15.00 Lakhs	INR 37.00 Lakhs
	Lot 3:	INR 29.00 Lakhs	INR 72.00 Lakhs
	Lot 4:	INR 6.90 Lakhs	INR 17.00 Lakhs
	Lot 5:	INR 17.80 Lakhs	INR 44.50 Lakhs
	Lot 6:	INR 4.80 Lakhs	INR 12.00 Lakhs
	Lot 7:	INR 52.20 Lakhs	INR 130.00 Lakhs

However, for complete eligibility and qualification requirements, respective bid document should be referred.

4. To obtain further information and inspect the bidding documents, Bidders should contact:

Attention: **The Director,**

Directorate of Technical Education, Vocational and Industrial Training

Circular Road, Lalit Chowk, Sunder Nagar, District: Mandi, Himachal Pradesh

ZIP code: 175018 ; Country: India.

Telephone & Fax: 01907-266120; 266722, E-mail address: techedu-hp@nic.in

5. To purchase the bidding documents in English language, eligible Bidders should write or visit at the office of the Purchaser at address stated above and pay **a non-refundable fee of INR 10,000 for each bidding document** in the form of **Bank Demand Draft**.

In case of written request, the document will be sent by post and no liability will be accepted, for loss or late delivery.

The bidders who wish to receive the bidding document by post/courier shall have to pay **for each bidding document** an additional amount of INR 3,000/- for delivery within India or USD 250 for delivery outside India. The method of payment will be through bank demand draft payable at Sundernagar, Himachal Pradesh, India.

The eligible bidders may otherwise download the bidding document for English language from the website: <http://techedu.hp.gov.in/>, such bidders shall be required to submit **INR 10,000** with their bid **for each bidding document** in the form of **Bank demand draft** in the name of the Director Technical Education, HP, Sundernagar towards cost of bidding document.

6. Deliver your bid
 - to the address above
 - On or before the deadline: **05/08/2020 at 12:30 PM**.
 - together with a Bid Security as described in the Bidding Document.
7. Bids will be opened on **05/08/2020 at 12:30 PM** in the presence of Bidders' representatives who choose to attend.
8. The Purchaser will not be responsible for any cost or expenses incurred by the bidder in connection with the preparation or delivery of bids.

-sd-
Director

Himachal Pradesh Skill Development Project

Loan No: 3573-IND

Procurement of Goods

Single-Stage: Two-Envelope Bidding Procedure

Bidding Document for Procurement of

Supply of Civil Engineering Lab Equipments

for

Government Polytechnic (Women) Rehan, Distt. Kangra

to enhance

Technical and Vocational Skills

among the youth of Himachal Pradesh

(HPSDP-DOTE/WP/07):

Lot 1: Applied Mechanics & Fluid Mechanics Building Construction Lab.

Lot 2: Concrete Technology Lab. And Construction Material Labs.

Lot 3: Surveying Lab.

Lot 4: Soil and Highway Engineering Labs.

Lot 5: Structure Mechanics Lab.

Lot 6: Water Supply and Waste Water Engineering Lab.

Lot 7: CACE Labs and Software.

Volume 1 (Technical Bid)

Issued on: 04th July 2020

Invitation for Bids No.: GP001/2020

NCB No: HPSPD-DOTE/WP/07

Purchaser: Directorate of Technical Education, Vocational and Industrial Training, Himachal Pradesh represented by The Director.

Country: India

Preface

This Bidding Document for Procurement of Goods has been prepared by "*Directorate of Technical Education, Vocational and Industrial Training, Himachal Pradesh*" and is based on the Standard Bidding Document for the Procurement of Goods issued by the Asian Development Bank, dated *December 2015*.

This document reflects the structure and the provisions of the Master Procurement Document for the Procurement of Goods, except where specific considerations within the Asian Development Bank have required a change.

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Section 1 - Instructions to Bidders

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A. General

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| 1. Scope of Bid | <p>1.1 In connection with the Invitation for Bids (IFB) indicated in the Bid Data Sheet (BDS), the Purchaser, as indicated in the BDS, issues this Bidding Document for the supply of Goods and Related Services incidental thereto as specified in Section 6 (Schedule of Supply). The name, identification, and number of lots of the international competitive bidding (ICB) are provided in the BDS.</p> <p>1.2 Throughout this Bidding Document,</p> <ul style="list-style-type: none"> (a) the term “in writing” means communicated in written form and delivered against receipt; (b) except where the context requires otherwise, words indicating the singular also include the plural and words indicating the plural also include the singular; and (c) “day” means calendar day. |
| 2. Source of Funds | <p>2.1 The Borrower or Recipient (hereinafter called “Borrower”) indicated in the BDS has applied for or received financing (hereinafter called “funds”) from the Asian Development Bank (hereinafter called “ADB”) toward the cost of the project named in the BDS. The Borrower intends to apply a portion of the funds to eligible payments under the contract(s) for which this Bidding Document is issued.</p> <p>2.2 Payments by ADB will be made only at the request of the Borrower and upon approval by ADB in accordance with the terms and conditions of the Financing Agreement between the Borrower and ADB (hereinafter called the Financing Agreement), and will be subject in all respects to the terms and conditions of that Financing Agreement. No party other than the Borrower shall derive any rights from the Financing Agreement or have any claim to the funds.</p> |
| 3. Fraud and Corruption | <p>3.1 ADB’s Anticorruption Policy requires Borrowers (including beneficiaries of ADB-financed activity), as well as Bidders, Suppliers, and Contractors under ADB-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, ADB</p> <ul style="list-style-type: none"> (a) defines, for the purposes of this provision, the terms set forth below as follows: <ul style="list-style-type: none"> (i) “corrupt practice” means the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party; (ii) “fraudulent practice” means 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; (iii) “coercive practice” means 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;
- (iv) "collusive practice" means an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party;
 - (v) "obstructive practice" means (a) deliberately destroying, falsifying, altering, or concealing of evidence material to an ADB investigation; (b) making false statements to investigators in order to materially impede an ADB investigation; (c) failing to comply with requests to provide information, documents or records in connection with an Office of Anticorruption and Integrity (OAI) investigation; (d) 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 (e) materially impeding ADB's contractual rights of audit or access to information; and
 - (vi) "integrity violation" is any act which violates ADB's Anticorruption Policy, including (i) to (v) above and the following: abuse, conflict of interest, violations of ADB sanctions, retaliation against whistleblowers or witnesses, and other violations of ADB's Anticorruption Policy, including failure to adhere to the highest ethical standard.
- (b) will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations in competing for the Contract;
 - (c) will cancel the portion of the financing allocated to a contract if it determines at any time that representatives of the borrower or of a beneficiary of ADB-financing engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations during the procurement or the execution of that contract, without the borrower having taken timely and appropriate action satisfactory to ADB to remedy the situation;
 - (d) will impose remedial actions on a firm or an individual, at any time, in accordance with ADB's Anticorruption Policy and Integrity Principles and Guidelines (both as amended from time to time), including declaring ineligible, either indefinitely or for a stated period of time, to participate¹ in ADB-financed, administered, or supported activities or to benefit from an ADB-financed, administered, or supported contract, financially or otherwise, if it at any time determines that the firm or individual has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations; and
 - (e) will have the right to require that a provision be included in bidding documents and in contracts financed by ADB, requiring Bidders, suppliers and contractors to permit ADB or its

¹ Whether as a Contractor, Subcontractor, Consultant, Manufacturer or Supplier, or Service Provider; or in any other capacity (different names are used depending on the particular Bidding Document).

representative to inspect their accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by ADB.

- 3.2 Furthermore, Bidders shall be aware of the provision stated in Subclause 3.2 and Subclause 35.1 (c) of the General Conditions of Contract.

4. Eligible Bidders

- 4.1 A Bidder may be a natural person, private entity, or government-owned enterprise subject to ITB Sub-Clause 4.5-or any combination of them with a formal intent to enter into an agreement or under an existing agreement in the form of a joint venture. In the case of a joint venture,
- (a) all parties to the Joint Venture shall be jointly and severally liable; and
 - (b) the Joint Venture shall nominate a representative who shall have the authority to conduct all businesses for and on behalf of any and all the parties of the Joint Venture during the bidding process and, in the event the Joint Venture is awarded the Contract, during contract execution.
- 4.2 A Bidder, and all parties constituting the Bidder, shall have the nationality of an eligible country, in accordance with Section 5 (Eligible Countries). A Bidder shall be deemed to have the nationality of a country if the Bidder is a citizen or is constituted, or incorporated, and operates in conformity with the provisions of the laws of that country. This criterion shall also apply to the determination of the nationality of proposed subcontractors or suppliers for any part of the Contract, including related services.
- 4.3 A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to be in a conflict of interest with one or more parties in this bidding process if any of, including but not limited to, the following apply:
- (a) they have controlling shareholders in common; or
 - (b) they receive or have received any direct or indirect subsidy from any of them; or
 - (c) they have the same legal representative for purposes of this Bid; or
 - (d) they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to material information about or improperly influence the Bid of another Bidder, or influence the decisions of the Purchaser regarding this bidding process; or
 - (e) a Bidder participates in more than one bid in this bidding process, either individually or as a partner in a joint venture, except for alternative offers permitted under ITB 13. This will result in the disqualification of all Bids in which it is involved. However, subject to any finding of a conflict of interest in terms

of ITB 4.3 (a)–(d) above, this does not limit the participation of a Bidder as a subcontractor in another bid or of a firm as a subcontractor in more than one Bid; or

- (f) a Bidder or any affiliated entity, participated as a consultant in the preparation of the design or technical specifications of the goods and services that are the subject of the Bid; or
- (g) a Bidder was affiliated with a firm or entity that has been hired (or is proposed to be hired) by the Purchaser or Borrower as Project Manager for the contract.

4.4 A firm shall not be eligible to participate in any procurement activities under an ADB-financed, administered, or supported project while under temporary suspension or debarment by ADB pursuant to its Anticorruption Policy (see ITB 3), whether such debarment was directly imposed by ADB, or enforced by ADB pursuant to the Agreement for Mutual Enforcement of Debarment Decisions. A bid from a temporary suspended or debarred firm will be rejected.

4.5 Government-owned enterprises in the Purchaser's country shall be eligible only if they can establish that they (i) are legally and financially autonomous, (ii) operate under commercial law, and (iii) are not a dependent agency of the Purchaser.

4.6 Bidders shall provide such evidence of their continued eligibility satisfactory to the Purchaser, as the Purchaser shall reasonably request.

4.7 Firms shall be excluded if 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 persons or entities in that country.

5. Eligible Goods and Related Services

5.1 All Goods and Related Services to be supplied under the Contract and financed by ADB, shall have their country of origin in eligible source countries as defined in ITB 4.2, and all expenditures under the Contract will be limited to such Goods and Related Services.

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, transportation, installation, commissioning, training, and initial maintenance.

5.3 The term "country of 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 imported components.

5.4 The nationality of the firm that produces, assembles, distributes, or sells the goods shall not determine their origin.

B. Contents of Bidding Document

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|----|--|-----|--|
| 6. | Sections of the Bidding Document | 6.1 | <p>The Bidding Document consist of Parts I, II, and III, which include all the sections indicated below, and should be read in conjunction with any addenda issued in accordance with ITB Clause 8.</p> <p>PART I Bidding Procedures</p> <ul style="list-style-type: none"> • Section 1 Instructions to Bidders (ITB) • Section 2 Bid Data Sheet (BDS) • Section 3 Evaluation and Qualification Criteria (EQC) • Section 4 Bidding Forms (BDF) • Section 5 Eligible Countries (ELC) <p>PART II Supply Requirements</p> <ul style="list-style-type: none"> • Section 6 Schedule of Supply (SS) <p>PART III Contract</p> <ul style="list-style-type: none"> • Section 7 General Conditions of Contract (GCC) • Section 8 Special Conditions of Contract (SCC) • Section 9 Contract Forms (COF) |
| | | 6.2 | <p>The Invitation for Bids (IFB) issued by the Purchaser is not part of the Bidding Document.</p> |
| | | 6.3 | <p>The Purchaser is not responsible for the completeness of the Bidding Document and its addenda, if they were not obtained directly from the source stated by the Purchaser in the IFB.</p> |
| | | 6.4 | <p>The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Document. Failure to furnish all information or documentation required by the Bidding Document, may result in the rejection of the Bid.</p> |
| 7. | Clarification of Bidding Document | 7.1 | <p>A prospective Bidder requiring any clarification on the Bidding Document shall contact the Purchaser in writing at the Purchaser's address indicated in the BDS. The Purchaser will respond in writing to any request for clarification, provided that such request is received no later than 21 days prior to the deadline for submission of Bids. The Purchaser shall forward copies of its response to all Bidders who have acquired the Bidding Document in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. Should the Purchaser deem it necessary to amend the Bidding Document as a result of a clarification, it shall do so following the procedure under ITB 8 and ITB 24.2.</p> |
| 8. | Amendment of Bidding | 8.1 | <p>At any time prior to the deadline for submission of the Bids, the Purchaser may amend the Bidding Document by issuing addenda.</p> |

Document

- 8.2 Any addendum issued shall be part of the Bidding Document and shall be communicated in writing to all who have obtained the Bidding Document directly from the Purchaser in accordance with ITB 6.3.
- 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 the Bids, pursuant to ITB 24.2

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 in no case 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 in 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 two envelopes submitted simultaneously, one containing the Technical Bid and the other the Price Bid, both envelopes enclosed together in an outer single envelope.
- 11.2 The Technical Bid submitted by the Bidder shall comprise the following:
- (a) Technical Bid Submission Sheet;
 - (b) Bid Security or Bid-Securing Declaration, in accordance with ITB 21;
 - (c) alternative Technical Bid, if permissible, in accordance with ITB 13;
 - (d) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 22;
 - (e) documentary evidence in accordance with ITB 16, establishing the Bidder's eligibility to bid;
 - (f) documentary evidence in accordance with ITB 17, that the Goods and Related Services to be supplied by the Bidder are of eligible origin;
 - (g) documentary evidence in accordance with ITB 18 and ITB 32, that the Goods and Related Services conform to the Bidding Document;

- (h) documentary evidence in accordance with ITB 19, establishing the Bidder's qualifications to perform the contract if its Bid is accepted; and
 - (i) any other document required in the BDS.
- 11.3 The Price Bid submitted by the Bidder shall comprise the following:
 - (a) Price Bid Submission Sheet and the applicable Price Schedules, in accordance with ITB 12, ITB 14, and ITB 15;
 - (b) alternative Price Bid corresponding to the alternative Technical Bid, if permissible, in accordance with ITB 13; and
 - (c) any other document required in the BDS.
- 12. Bid Submission Sheets and Price Schedules**
 - 12.1 The Bidder shall submit the Technical Bid Submission Sheet and the Price Bid Submission Sheet using the form furnished in Section 4 (Bidding Forms). These forms must be completed without any alterations to their format, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested.
 - 12.2 The Bidder shall submit, as part of the Price Bid, the Price Schedules for Goods and Related Services, according to their origin as appropriate, using the forms furnished in Section 4 (Bidding Forms) and as required in the BDS.
- 13. Alternative Bids**
 - 13.1 Unless otherwise indicated 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 Price Bid Submission Sheet and in the Price Schedules shall conform to the requirements specified below.
 - 14.2 All items in the Schedule of Supply must be listed and priced separately in the Price Schedules. If a Price Schedule shows items listed but not priced, their prices shall be assumed to be included in the prices of other items. Items not listed in the Price Schedule shall be assumed not to be included in the Bid, and provided that the Bid is substantially responsive, the corresponding adjustment shall be applied in accordance with ITB 33.3.
 - 14.3 The price to be quoted in the Price Bid Submission Sheet shall be the total price of the Bid excluding any discounts offered. Absence of the total bid price in the Price Bid Submission Sheet may result in the rejection of the Bid.
 - 14.4 The Bidder shall quote discounts and the methodology for their application in the Price Bid Submission Sheet.
 - 14.5 The terms EXW, CIF, 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, at the date of the Invitation for Bids or as specified in the BDS.
 - 14.6 Prices proposed in the Price Schedule Forms for Goods and Related Services, shall be disaggregated, when appropriate, as indicated in

this sub-clause. This disaggregation shall be 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

- (a) for Goods offered from within 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 goods quoted ex works or ex factory, or on the previously imported goods of foreign origin quoted ex warehouse, ex showroom, or off-the-shelf;
 - (ii) sales tax and all other taxes applicable in the Purchaser's country and payable on the Goods if the Contract is awarded to the Bidder; and
 - (iii) the total price for the item.
- (b) for Goods offered from outside the Purchaser's country:
 - (i) the price of the goods quoted CIF (named port of destination), or CIP (border point), or CIP (named place of destination), in the Purchaser's country, as specified in the BDS;
 - (ii) the price of the goods quoted FOB port of shipment (or FCA, as the case may be), if specified in the BDS; and
 - (iii) the total price for the item.
- (c) for Related Services whenever such are specified in the Schedule of Supply:
 - (i) the local currency cost component of each item comprising the Related Services; and
 - (ii) the foreign currency cost component of each item comprising the Related Services, inclusive of all customs duties, sales and other similar taxes applicable in the Purchaser's country, payable on the Related Services, if the Contract is awarded to the Bidder.

14.7 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 BDS. A Bid submitted with an adjustable price quotation shall be treated as nonresponsive and shall be rejected, pursuant to ITB 32. However, if in accordance with the BDS, prices quoted by the Bidder shall be subject to adjustment during the performance of the Contract, but a Bid submitted with no indexes identified in the Tables of Adjustment Data, price adjustment shall be treated as zero for the purpose of price adjustment during the performance of the contract.

14.8 If so indicated in ITB 1.1, Bids are being invited for individual contracts (lots) or for any combination of contracts (packages). Unless otherwise indicated 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 any price discount for the award of more than one Contract shall specify in their Price Bids the price discount applicable to each package, or alternatively, to individual Contracts within the package. Price discounts shall be submitted in accordance with ITB 14.4, provided the Price Bids for all lots are submitted and opened at the same time.

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| 15. Currencies of Bid | 15.1 | <p>Bid prices shall be quoted in the following currencies:</p> <ul style="list-style-type: none"> (a) Bidders may express their bid price in any fully convertible currency. If a 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 currencies in addition to the currency of the Purchaser's country. (b) If some of the expenditures for the Related Services are to be incurred in the borrowing country, such expenditures should be expressed in the Bid and will be payable in the Purchaser's currency. |
| 16. Documents Establishing the Eligibility of the Bidder | 16.1 | <p>To establish their eligibility in accordance with ITB 4, Bidders shall</p> <ul style="list-style-type: none"> (a) complete the eligibility declarations in the Bid Submission Sheet, included in Section 4 (Bidding Forms); and (b) if the Bidder is an existing or intended Joint Venture in accordance with ITB 4.1, submit a copy of the Joint Venture Agreement, or a letter of intent to enter into such an Agreement. The respective document shall be signed by all legally authorized signatories of all the parties to the existing or intended Joint Venture, as appropriate. |
| 17. Documents Establishing the Eligibility of Goods and Related Services | 17.1 | <p>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 4 (Bidding Forms).</p> |
| 18. Documents Establishing the Conformity of the Goods and Related Services to the Bidding Document | 18.1 | <p>To establish the conformity of the Goods and Related Services to the Bidding Document, the Bidder shall furnish as part of its Technical Bid documentary evidence that the Goods and Related Services conform to the requirements specified in Section 6 (Schedule of Supply).</p> |
| | 18.2 | <p>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 those requirements, and if applicable, a statement of deviations and exceptions to the provisions of Section 6 (Schedule of Supply).</p> |

- 18.3 Standards for workmanship, process, material, and equipment, as well as references to brand names or catalogue numbers specified by the Purchaser in Section 6 (Schedule of Supply), 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 Section 6 (Schedule of Supply).
- 19. Documents Establishing the Qualifications of the Bidder**
- 19.1 To establish its qualifications to perform the Contract, the Bidder shall submit as part of its Technical Proposal the evidence indicated for each qualification criteria specified in Section 3 (Evaluation and Qualification Criteria).
- 19.2 If so 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 4 (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.
- 19.3 If so required in the BDS, a Bidder that does not conduct business within the Purchaser's country shall submit evidence that it will be 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.
- 20. Period of Validity of Bids**
- 20.1 Bids shall remain valid for the period specified in the BDS after the bid submission deadline date prescribed by the Purchaser. A Bid valid for a shorter period shall be rejected by the Purchaser as nonresponsive.
- 20.2 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 21, it shall also be extended 28 days beyond the deadline of the extended bid validity 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.
- 21. Bid Security/ Bid-Securing Declaration**
- 21.1 Unless otherwise specified in the BDS, the Bidder shall furnish as part of its Bid, in original form, either a Bid-Securing Declaration or a bid security as specified in the BDS. In the case of a bid security, the amount and currency shall be as specified in the BDS.
- 21.2 If a Bid-Securing Declaration is required pursuant to ITB 21.1, it shall use the form included in Section 4 (Bidding Forms). The Purchaser will declare a Bidder ineligible to be awarded a Contract for a specified period of time, as indicated in the BDS, if a Bid-Securing Declaration is executed.
- 21.3 If a bid security is specified pursuant to ITB 21.1, the bid security

shall be, at the Bidder's option, in any of the following forms:

- (a) an unconditional bank guarantee,
- (b) an irrevocable letter of credit, or
- (c) a cashier's or certified check,

all from a reputable source from an eligible country as described in Section 5 (Eligible Countries). In the case of a bank guarantee, the bid security shall be submitted either using the Bid Security Form included in Section 4 (Bidding Forms), or another form acceptable to the Purchaser. The form must include the complete name of the Bidder. The bid security shall be valid for 28 days beyond the original validity period of the bid, or beyond any period of extension if requested under ITB 20.2.

- 21.4 Unless otherwise specified in the BDS, any bid not accompanied by a substantially compliant bid security or Bid-Securing Declaration, if one is required in accordance with ITB 21.1, shall be rejected by the Purchaser as nonresponsive.
- 21.5 If a bid security is specified pursuant to ITB 21.1, the bid security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's furnishing of the performance security pursuant to ITB 46.
- 21.6 If a bid security is specified pursuant to ITB 21.1, the bid security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the Contract Agreement and furnished the required performance security.
- 21.7 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 as specified by the Bidder on the Technical Bid Submission Sheet, except as provided in ITB 20.2; or
 - (b) if the successful Bidder fails to
 - (i) sign the Contract Agreement in accordance with ITB 45;
 - (ii) furnish a performance security in accordance with ITB 46; or
 - (iii) accept the arithmetical corrections of its bid in accordance with ITB 36.
- 21.8 The bid security or the Bid-Securing Declaration of a Joint Venture shall be in the name of the Joint Venture that submits the bid. If the Joint Venture has not been legally constituted at the time of bidding, the bid security or the Bid-Securing Declaration shall be in the names of all future partners as named in the letter of intent mentioned in ITB 4.1.

22. Format and Signing of Bid

- 22.1 The Bidder shall prepare one original set of the Technical Bid and one original set of the Price Bid as described in ITB 11 and clearly mark each "ORIGINAL - TECHNICAL BID" and "ORIGINAL - PRICE BID". In addition, the Bidder shall submit copies of the Technical Bid and the Price Bid, in the number specified in the BDS and clearly mark them "COPY NO... - TECHNICAL BID" and "COPY NO.... - PRICE BID". In the event of any discrepancy between the original and the copies, the original shall prevail.
- 22.2 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, except for unamended printed literature, shall be signed or initialled by the person signing the Bid. If a Bidder submits a deficient authorization, the Bid shall not be rejected in the first instance. The Purchaser shall request the Bidder to submit an acceptable authorization within the number of days as specified in the BDS. Failure to provide an acceptable authorization within the prescribed period of receiving such a request shall cause the rejection of the Bid.
- 22.3 Any amendments such as interlineations, erasures, or overwriting shall be valid only if they are signed or initialled by the person signing the bid.

D. Submission and Opening of Bids**23. Sealing and Marking of Bids**

- 23.1 Bidders may submit their bids by mail or by hand. When so specified in the BDS, Bidders shall have the option of submitting their bids electronically. Procedures for submission, sealing and marking are as follows:
- (a) Bidders submitting Bids by mail or by hand shall enclose the original of the Technical Bid, the original of the Price Bid, and each copy of the Technical Bid and each copy of the Price Bid, including alternative Bids, if permitted in accordance with ITB 13, in separate sealed envelopes, duly marking the envelopes as "ORIGINAL - TECHNICAL BID", "ORIGINAL - PRICE BID" and "COPY NO... - TECHNICAL BID" and "COPY NO.... - PRICE BID", as appropriate. These envelopes containing the original and the copies shall then be enclosed in one single envelope. The rest of the procedure shall be in accordance with ITB 23.2 to ITB 23.6.
 - (b) Bidders submitting Bids electronically shall follow the electronic bid submission procedures specified in the BDS.

- 23.2 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; and
 - (c) bear the specific identification of this bidding process indicated in the BDS.
- 23.3 The outer envelopes and the inner envelopes containing the Technical Bids shall bear a warning not to open before the time and date for the opening of Technical Bids, in accordance with ITB 27.1.
- 23.4 The inner envelopes containing the Price Bids shall bear a warning not to open until advised by the Purchaser in accordance with ITB 27.2.
- 23.5 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.
- 23.6 Alternative Bids, if permissible in accordance with ITB 13, shall be prepared, sealed, marked, and delivered in accordance with the provisions of ITB 22 and ITB 23, with the inner envelopes marked in addition "ALTERNATIVE NO...." as appropriate
- 24. Deadline for Submission of Bids**
- 24.1 Bids must be received by the Purchaser at the address and no later than the date and time indicated in the BDS.
- 24.2 The Purchaser may, at its discretion, extend the deadline for the submission of Bids by amending the Bidding Document 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.
- 25. Late Bids**
- 25.1 The Purchaser shall not consider any Bid that arrives after the deadline for submission of Bids, in accordance with ITB 24. Any Bid received by the Purchaser after the deadline for submission of Bids shall be declared late, rejected, and returned unopened to the Bidder.
- 26. Withdrawal, Substitution, and Modification of Bids**
- 26.1 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 in accordance with ITB 22.2 (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 22 and ITB 23 (except that withdrawal notices do not require copies), and in addition, the respective inner and outer envelopes shall be clearly marked "Withdrawal," "Substitution," "Modification;" and

- (b) received by the Purchaser prior to the deadline prescribed for submission of bids, in accordance with ITB 24.

26.2 Bids requested to be withdrawn in accordance with ITB 26.1 shall be returned unopened to the Bidders.

26.3 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 Technical Bid Submission Sheet or any extension thereof.

27. Bid Opening

27.1 The Purchaser shall open the Technical Bids in public at the address, on the date, and time specified in the BDS in the presence of Bidder's designated representatives and anyone who choose to attend. Any specific electronic bid opening procedures required if electronic bidding is permitted in accordance with ITB 23.1, shall be as specified in the BDS.

27.2 The Price Bids will remain unopened and will be held in custody of the Purchaser until the time of opening of the Price Bids. The date, time, and location of the opening of Price Bids will be advised in writing by the Purchaser. If the Technical Bid and the Price Bid are submitted together in one envelope, the Purchaser may reject the Bid. Alternatively, the Price Bid may be immediately resealed for later evaluation.

27.3 First, envelopes marked "WITHDRAWAL" shall be opened, read out, and recorded, and the envelope containing the corresponding bid shall not be opened, but returned to the Bidder. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out and recorded at bid opening.

27.4 Next, outer envelopes marked "SUBSTITUTION" shall be opened. The inner envelopes containing the Substitution Technical Bid and/or Substitution Price Bid shall be exchanged for the corresponding envelopes being substituted, which are to be returned to the Bidder unopened. Only the Substitution Technical Bid, if any, shall be opened, read out, and recorded. Substitution Price Bid will remain unopened in accordance with ITB 27.2. No envelope shall be substituted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out and recorded at bid opening.

27.5 Next, outer envelopes marked "MODIFICATION" shall be opened. No Technical Bid and/or Price Bid shall be modified unless the corresponding modification notice contains a valid authorization to request the modification and is read out and recorded at the opening of Technical Bids. Only the Technical Bids, both Original as well as Modification, are to be opened, read out, and recorded at the opening. Price Bids, both Original as well as Modification, will remain unopened in accordance with ITB 27.2.

27.6 All other envelopes holding the Technical Bids shall be opened one

at a time, and the following read out and recorded

- (a) the name of the Bidder;
- (b) whether there is a modification or substitution;
- (c) the presence of a bid security or a Bid-Securing Declaration, if required; and
- (d) any other details as the Purchaser may consider appropriate.

Only Technical Bids and alternative Technical Bids read out and recorded at bid opening shall be considered for evaluation. Unless otherwise specified in the BDS, all pages of the Technical Bid Submission Sheet are to be initialed by at least three representatives of the Purchaser attending the bid opening. No Bid shall be rejected at the opening of Technical Bids except for late bids, in accordance with ITB 25.1.

- 27.7 The Purchaser shall prepare a record of the opening of Technical Bids that shall include, as a minimum: the name of the Bidder and whether there is a withdrawal, substitution, modification, or alternative offer; and the presence or absence of a bid security or a Bid-Securing Declaration, 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.
- 27.8 At the end of the evaluation of the Technical Bids, the Purchaser will invite bidders who have submitted substantially responsive Technical Bids and who have been determined as being qualified for award to attend the opening of the Price Bids. The date, time, and location of the opening of Price Bids will be advised in writing by the Purchaser. Bidders shall be given reasonable notice of the opening of Price Bids.
- 27.9 The Purchaser will notify Bidders in writing who have been rejected on the grounds of being substantially nonresponsive to the requirements of the Bidding Document and return their Price Bids unopened.
- 27.10 The Purchaser shall conduct the opening of Price Bids of all Bidders who submitted substantially responsive Technical Bids, in the presence of Bidders' representatives who choose to attend at the address, on the date, and time specified by the Purchaser. The Bidder's representatives who are present shall be requested to sign a register evidencing their attendance.
- 27.11 All envelopes containing Price Bids shall be opened one at a time and the following read out and recorded
 - (a) the name of the Bidder;
 - (b) whether there is a modification or substitution;
 - (c) the Bid Prices, including any discounts and alternative offers;

and

- (d) any other details as the Purchaser may consider appropriate.

Only Price Bids, discounts, and alternative offers read out and recorded during the opening of Price Bids shall be considered for evaluation. Unless otherwise specified in the BDS, all pages of the Price Bid Submission Sheet and Price Schedules are to be initialed by at least three representatives of the Employer attending bid the opening. No Bid shall be rejected at the opening of Price Bids.

- 27.12 The Purchaser shall prepare a record of the opening of Price Bids that shall include, as a minimum: the name of the Bidder, the Bid Price (per lot if applicable), any discounts, and alternative offers. 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 who submitted bids on time, and posted online when electronic bidding is permitted.

E. Evaluation and Comparison of Bids

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| 28. Confidentiality | <p>28.1 Information relating to the examination, evaluation, comparison, and qualification of Bids, and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process until information on the Contract award is communicated to all Bidders.</p> <p>28.2 Any attempt by a Bidder to influence the Purchaser in the examination, evaluation, comparison, and postqualification of the Bids or Contract award decisions may result in the rejection of its Bid.</p> <p>28.3 Notwithstanding ITB 28.2, from the time of opening the Technical Bids 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.</p> |
| 29. Clarification of Bids | <p>29.1 To assist in the examination, evaluation, comparison and post-qualification of the Bids, the Purchaser may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder with regard 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 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 Price Bids, in accordance with ITB 36.</p> <p>29.2 If a Bidder does not provide clarifications on its Bid by the date and time set in the Purchaser's request for clarification, its bid may be rejected.</p> |

- 30. Deviations, Reservations, and Omissions**
- 30.1 During the evaluation of Bids, the following definitions apply:
- (a) "Deviation" is a departure from the requirements specified in the Bidding Document;
 - (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document; and
 - (c) "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Document.
- 31. Examination of Technical Bids**
- 31.1 The Purchaser shall examine the Technical Bid to confirm that all documents and technical documentation requested in ITB 11.4 have been provided, and to determine the completeness of each document submitted.
- 31.2 The Purchaser shall confirm that the following documents and information have been provided in the Technical Bid. If any of these documents or information is missing, the offer shall be rejected:
- (a) Technical Bid Submission Sheet in accordance with ITB 12.1;
 - (b) written confirmation of authorization to commit the Bidder;
 - (c) bid security or Bid-Securing Declaration, if applicable; and
 - (d) Manufacturer's Authorization, if applicable.
- 32. Responsiveness of Technical Bid**
- 32.1 The Purchaser's determination of a Technical Bid's responsiveness is to be based on the contents of the Technical Bid itself, as defined in ITB 11.
- 32.2 A substantially responsive Technical Bid is one that meets the requirements of the Bidding Document 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 Section 6 (Schedule of Supply); or
 - (ii) limits in any substantial way, inconsistent with the Bidding Document, 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 Technical Bids.
- 32.3 The Purchaser shall examine the technical aspects of the Bid in particular, to confirm that all requirements of Section 6 (Schedule of Supply) have been met without any material deviation, reservation, or omission.
- 32.4 If a Technical Bid is not substantially responsive to the Bidding Document, it shall be rejected by the Purchaser and may not

subsequently be made responsive by the Bidder by correction of the material deviation, reservation, or omission.

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| 33. Nonmaterial Nonconformities | 33.1 | Provided that a Technical Bid is substantially responsive, the Purchaser may waive nonconformities in the Bid that does not constitute a material deviation, reservation, or omission. |
| | 33.2 | Provided that a Technical 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 Technical Bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the Price Bid of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid. |
| | 33.3 | Provided that a Technical Bid is substantially responsive, the Purchaser shall rectify quantifiable nonmaterial nonconformities or omissions. To this effect, the Bid Price shall be adjusted during evaluation of Price Bids, for comparison purposes only, to reflect the price of the missing or non-conforming item or component. The adjustment shall be made using the method indicated in Section 3 (Evaluation and Qualification Criteria). |
| 34. Qualification of the Bidder | 34.1 | The Purchaser shall determine to its satisfaction during the evaluation of Technical Bids whether Bidders meets the qualifying criteria specified in Section 3 (Evaluation and Qualification Criteria). |
| | 34.2 | The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 19. |
| | 34.3 | An affirmative determination shall be a prerequisite for the opening and evaluation of a Bidder's Price Bid. A negative determination shall result into the disqualification of the Bid, in which event the Purchaser shall return the unopened Price Bid to the Bidder. |
| 35. Examination of Price Bids | 35.1 | Following the opening of Price Bids, the Purchaser shall examine the Price Bids to confirm that all documents and financial documentation requested in ITB 11.5 have been provided, and to determine the completeness of each document submitted. |
| | 35.2 | The Purchaser shall confirm that the following documents and information have been provided in the Price Bid. If any of these documents or information is missing, the offer shall be rejected: <ul style="list-style-type: none"> (a) Price Bid Submission Sheet in accordance with ITB 12.1; and (b) Price Schedules, in accordance with ITB 12, ITB 14, and ITB 15. |
| 36. Correction of Arithmetical Errors | 36.1 | During the evaluation of Price Bids, the Purchaser shall correct arithmetical errors on the following basis: <ul style="list-style-type: none"> (a) If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, |

- the unit price shall prevail and the total price shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the total price 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.
 - (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.
- 36.2 If the Bidder that submitted the lowest evaluated Bid does not accept the correction of errors, its Bid shall be disqualified and its bid security may be forfeited, or its Bid-Securing Declaration executed.
- 37. Conversion to Single Currency**
- 37.1 For evaluation and comparison of Price Bids, the Purchaser shall convert all bid prices expressed in the amounts in various currencies into a single currency, using the selling exchange rates established by the source and on the date specified in the BDS.
- 38. Margin of Preference**
- 38.1 Unless otherwise specified in the BDS, a margin of preference shall not apply.
- 39. Evaluation of Price Bids**
- 39.1 The Purchaser shall use the criteria and methodologies indicated in this clause. No other criteria or methodology shall be permitted.
- 39.2 To evaluate a Price Bid, the Purchaser shall consider the following:
- (a) the bid price as quoted in accordance with ITB 14;
 - (b) price adjustment for correction of arithmetic errors in accordance with ITB 36.1;
 - (c) price adjustment due to discounts offered in accordance with ITB 14.4;
 - (d) price adjustment due to application of the evaluation criteria specified in Section 3 (Evaluation and Qualification Criteria). These criteria may include factors related to the characteristics, performance, and terms and conditions of purchase of the Goods and Related Services which shall be expressed to the extent practicable in monetary terms to facilitate comparison of bids unless otherwise specified in Section 3; and
 - (e) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITB 37.
- 39.3 The Purchaser's evaluation of a bid will exclude and not take into account,
- (a) in the case of Goods offered from within the Purchaser's country, all sales tax and all other taxes, applicable in the Purchaser's country and payable on the Goods if the Contract

is awarded to the Bidder;

- (b) in the case of Goods offered from outside the Purchaser's country, all customs duties, sales tax, and other taxes, applicable in the Purchaser's country and payable on the Goods if the Contract is awarded to the Bidder; and
- (c) any allowance for price adjustment during the period of performance of the Contract, if provided in the Bid.

39.4 If this Bidding Document allows Bidders to quote separate prices for different lots (contracts), and the award to a single Bidder of multiple lots (contracts), the methodology to determine the lowest evaluated price of the lot (contract) combinations, including any discounts offered in the Price Bid Submission Sheet, is as specified in Section 3 (Evaluation and Qualification Criteria).

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| 40. Comparison of Bids | 40.1 | The Purchaser shall compare all substantially responsive Bids to determine the lowest evaluated bid, in accordance with ITB 39. |
| 41. Purchaser's Right to Accept Any Bid, and to Reject Any or All Bids | 41.1 | 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 the Bidders. In case of annulment, all Bids submitted and specifically, bid securities, shall be promptly returned to the Bidders. |

F. Award of Contract

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| 42. Award Criteria | 42.1 | The Purchaser shall award the Contract to the Bidder whose offer has been determined to be the lowest evaluated Bid and is substantially responsive to the Bidding Document, provided further that the Bidder has remained qualified to perform the Contract satisfactorily. |
| | 42.2 | A Bid shall be rejected if the qualification criteria as specified in Section 3 (Evaluation and Qualification Criteria) are no longer met by the Bidder whose offer has been determined to be the lowest evaluated Bid. In this event the Purchaser shall proceed to the next lowest evaluated Bid to make a similar reassessment of that Bidder's capabilities to perform satisfactorily. |
| 43. Purchaser's Right to Vary Quantities at Time of Award | 43.1 | 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 6 (Schedule of Supply), provided this does not exceed the percentages indicated in the BDS, and without any change in the unit prices or other terms and conditions of the Bid and the Bidding Document. |
| 44. Notification of Award | 44.1 | 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. |
| | 44.2 | At the same time, the Purchaser shall also notify all other Bidders of the results of the bidding. The Purchaser will publish in an English language newspaper or well-known freely accessible website the |

results identifying the Bid and lot 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 winning Bidder, and the price it offered, as well as the duration and summary scope of the contract awarded. After publication of the award, unsuccessful Bidders may request in writing to the Purchaser for a debriefing seeking explanations on the grounds on which their Bids were not selected. The Purchaser shall promptly respond in writing to any unsuccessful Bidder who, after publication of contract award, requests a debriefing.

44.3 Until a formal Contract is prepared and executed, the notification of award shall constitute a binding Contract.

45. Signing of Contract

45.1 Promptly after notification, the Purchaser shall send to the successful Bidder the Agreement.

45.2 Within 28 days of receipt of the Agreement, the successful Bidder shall sign, date, and return it to the Purchaser.

46. Performance Security

46.1 Within 28 days of the receipt of notification of award from the Purchaser, the successful Bidder shall furnish the Performance Security in accordance with the GCC, using for that purpose the Performance Security Form included in Section 9 (Contract Forms), or another form acceptable to the Purchaser.

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

Section 2- Bid Data Sheet

A. General								
ITB 1.1	The number of the Invitation for Bids (IFB) is: GP001/2020							
ITB 1.1	The Purchaser is: Directorate of Technical Education, Vocational and Industrial Training, Himachal Pradesh represented by The Director.							
ITB 1.1	<p>The name of the National competitive bidding (NCB) is: <i>Supply of Civil Engineering Lab Equipment's for Government Polytechnic (Women) Rehan, Distt. Kangra to enhance Technical and Vocational Skills among the youth of Himachal Pradesh;</i></p> <p>The identification number of the NCB is: HPSDP-DOTE/WP/07</p> <p>Bids are being invited for individual contracts (Lots). Bidders can bid either one or more than one Lot and has to submit the Bid Security accordingly as specified against each Lot.</p> <p>The number and identification of Packages and Lots comprising this NCB is:</p> <p>HPSDP-DOTE/WP/07 comprising of 7 lots:</p> <table border="1"> <thead> <tr> <th>S.no</th><th>Package No.</th><th>Lot</th></tr> </thead> <tbody> <tr> <td>1</td><td>HPSDP-DOTE/WP/07 Supply of Civil Engineering Lab Equipment's</td><td> Lot 1: Applied Mechanics & Fluid Mechanics Building Construction Lab. Lot 2: Concrete Technology Lab. And Construction Material Labs. Lot 3: Surveying Lab. Lot 4: Soil and Highway Engineering Labs. Lot 5: Structure Mechanics Lab. Lot 6: Water Supply and Waste Water Engineering Lab. Lot 7: CACE Labs and Software. </td></tr> </tbody> </table>		S.no	Package No.	Lot	1	HPSDP-DOTE/WP/07 Supply of Civil Engineering Lab Equipment's	Lot 1: Applied Mechanics & Fluid Mechanics Building Construction Lab. Lot 2: Concrete Technology Lab. And Construction Material Labs. Lot 3: Surveying Lab. Lot 4: Soil and Highway Engineering Labs. Lot 5: Structure Mechanics Lab. Lot 6: Water Supply and Waste Water Engineering Lab. Lot 7: CACE Labs and Software.
S.no	Package No.	Lot						
1	HPSDP-DOTE/WP/07 Supply of Civil Engineering Lab Equipment's	Lot 1: Applied Mechanics & Fluid Mechanics Building Construction Lab. Lot 2: Concrete Technology Lab. And Construction Material Labs. Lot 3: Surveying Lab. Lot 4: Soil and Highway Engineering Labs. Lot 5: Structure Mechanics Lab. Lot 6: Water Supply and Waste Water Engineering Lab. Lot 7: CACE Labs and Software.						
ITB 2.1	The Borrower is: India							

ITB 2.1	<p>The name of the Project is: Himachal Pradesh Skill Development Project.</p> <p>Loan No: 3573-IND</p>
B. Contents of Bidding Document	
ITB 7.1	<p>For <u>clarification purposes</u> only, the Purchaser's address is: Attention: The Director, Technical Education, Vocational and Industrial Training Circular Road, City: Sunder Nagar, District: Mandi Himachal Pradesh, ZIP code: 175018, Country: India Telephone & Fax: 01907-266120; 266722 E-mail address: techedu-hp@nic.in</p> <p>A pre-bid meeting shall be held on 15th July 2020 at 11:30 AM in the following location:</p> <p>Conference Hall 1st Floor, Directorate of Technical Education, Vocational and Industrial Training Circular Road, City: Sunder Nagar, District: Mandi, Himachal Pradesh, ZIP code: 175018, Country: India Telephone& Fax: 01907-266120; 266722 E-mail address: techedu-hp@nic.in</p> <p>Notwithstanding the provisions of ITB 7.1, the Employer shall only upload the Clarifications on the bidding document on the freely accessible website : http://techedu.hp.gov.in/ instead of forwarding the copies to the bidders. Bidders are requested to keep themselves updated by regular checking.</p>
ITB 8.2	<p>The subclause 8.2 in its entirety stands replaced with:</p> <p>"Any addendum issued shall be a part of the bidding document.</p> <p>The addendum shall only be uploaded on the freely accessible website: http://techedu.hp.gov.in/ instead of forwarding the copies to the bidders. Bidders are requested to keep themselves updated by regular checking.</p>

C. Preparation of Bids	
ITB 10.1	The language of the Bid is: English
ITB 11.2 (i)	<p>The Bidder shall submit with its Technical Bid, the following additional documents:</p> <ol style="list-style-type: none"> 1. Printed catalogues, if any, with detailed technical information of the offered goods/equipment. 2. The bidder or each member of Joint Venture/ Intended Joint Venture as the case may be, shall submit their PAN No. (Permanent Account Number) issued by the Department of Income Tax, Government of India with the photocopy of the PAN card; <p>Should the bidder or each/any member of Joint Venture/ Intended Joint Venture have not been issued with such PAN No., the same shall be submitted before signing the Contract;</p> <ol style="list-style-type: none"> 3. Evidence of Enlistment of competent authority in Appropriate Class valid at the time of tender. 4. Sales tax/GST registration certificate. 5. If the bid or the Joint Venture Agreement/ Intent to enter into Joint Venture as the case may be, is signed by a person who is retired or relieved from the Government organization as a Gazetted or Non-Gazetted Officer within a period of two years preceding the deadline for the Bid submission, the bidder shall also submit a permission obtained from the organization last served by such person, allowing the person to do so.
ITB 11.3 (c)	The Bidder shall submit with its Price Bid the following additional documents: <i>Nil</i>
ITB 12.2	The units and rates in figures entered into the Price Schedules should be type written or if written by hand, must be in print form. Price Schedules not presented accordingly may be considered non responsive.
ITB 13.1	Alternative Bids <u>shall not be</u> permitted
ITB 14.5	The Incoterms edition is: 2010

ITB 14.6 (b) (i)	For Goods offered from outside the Purchaser's country, the Bidder shall quote prices using the following Incoterms: CIP (Sundernagar Distt Mandi Himachal Pradesh, INDIA)
ITB 14.6 (b) (ii)	In addition to the above, the Bidder shall quote prices for Goods offered from outside the Purchaser's country using the following Incoterms: Not Applicable
ITB 14.7	The prices quoted by the Bidder shall be: <i>fixed during the Bidder's performance of the Contract and not subject to variation on any account.</i>
ITB 14.8	Prices quoted for each lot shall correspond at least to <u>100 %</u> of the items specified for each lot. Prices quoted for each item of a lot shall correspond at least to <u>100 %</u> of the quantities specified for this item of a lot.
ITB 15.1(a)	The text "Bidders may express their bid price in any fully convertible currency. If a 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 currencies in addition to the currency of the Purchaser's country." stands replaced with: "Bidders are required to express their bid price in Indian National Rupees (INR) only".
ITB 19.2	The Bidder shall include with its bid the Manufacturer's Authorization. <i>or</i> The Bidder shall submit documentation with its bid documentation to substantiate that it is an authorized dealer, distributor or reseller of the goods being procured valid until the expiration of Bid validity.
ITB 19.3	The Bidder <u>shall be</u> required to include with its bid, evidence that it will be represented by an Agent in the Purchaser's country.
ITB 20.1	The bid validity period shall be <u>120</u> days.

ITB 21.1	<p>The Bidder shall furnish a Bid Security lot wise as indicated below:</p> <table><tr><th>S.no.</th><th>Lot no.</th><th>Description of lot</th><th>Bid Security (INR)</th></tr><tr><td>1.</td><td>Lot-1</td><td>Applied Mechanics & Fluid Mechanics Building Construction Lab.</td><td>18800/-</td></tr><tr><td>2.</td><td>Lot-2</td><td>Concrete Technology Lab. And Construction Material Labs.</td><td>37400/-</td></tr><tr><td>3.</td><td>Lot 3:</td><td>Surveying Lab.</td><td>72650/-</td></tr><tr><td>4.</td><td>Lot 4:</td><td>Soil and Highway Engineering Labs.</td><td>17200/-</td></tr><tr><td>5.</td><td>Lot 5:</td><td>Structure Mechanics Lab.</td><td>44500/-</td></tr><tr><td>6.</td><td>Lot 6:</td><td>Water Supply and Waste Water Engineering Lab.</td><td>12000/-</td></tr><tr><td>7.</td><td>Lot 7:</td><td>CACE Labs and Software.</td><td>130600/-</td></tr></table> <p>For a bidder who participates in more than one Lot and in case the bid security amount is less, the purchaser has the right to consider the appropriate lot for evaluation.</p>	S.no.	Lot no.	Description of lot	Bid Security (INR)	1.	Lot-1	Applied Mechanics & Fluid Mechanics Building Construction Lab.	18800/-	2.	Lot-2	Concrete Technology Lab. And Construction Material Labs.	37400/-	3.	Lot 3:	Surveying Lab.	72650/-	4.	Lot 4:	Soil and Highway Engineering Labs.	17200/-	5.	Lot 5:	Structure Mechanics Lab.	44500/-	6.	Lot 6:	Water Supply and Waste Water Engineering Lab.	12000/-	7.	Lot 7:	CACE Labs and Software.	130600/-
S.no.	Lot no.	Description of lot	Bid Security (INR)																														
1.	Lot-1	Applied Mechanics & Fluid Mechanics Building Construction Lab.	18800/-																														
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6.	Lot 6:	Water Supply and Waste Water Engineering Lab.	12000/-																														
7.	Lot 7:	CACE Labs and Software.	130600/-																														
ITB 21.2	The ineligibility period will be: ITB 21.2 stands deleted.																																
ITB 21.4	The provision in subclause 21.4 of Section-1-Instruction to bidders shall prevail.																																
ITB 22.1	In addition to the original Bid, the number of copies is: <i>one</i>																																
ITB 22.2	<p>The written confirmation of Authorization to sign on behalf of the Bidder shall consist of:</p> <p>A Power of Attorney (in original or duly notarized) stating</p>																																

	<p>the name, position held and signature of each person giving the authority, and the name, position and signature of the person authorized to sign the bid or Joint Venture Agreement/ Intent to Joint Venture as the case may be; or</p> <p>A Board resolution (original or duly notarized) in favour of the duly authorized representative of the bidder (or the member of the Joint Venture/ Intended Joint Venture) allowing him to sign the bid or Joint Venture Agreement/ Intent to Joint Venture as the case may be.</p>
ITB 22.2	The bidder shall submit an acceptable authorization within 14 days.
D. Submission and Opening of Bids	
ITB 23.1	Bidders <u>shall not</u> have the option of submitting their bids electronically.
ITB 23.1 (b)	If Bidders shall have the option of submitting their bids electronically, the electronic bidding submission procedures shall be: <u>Not Applicable</u>
ITB 23.2 (c)	The identification of this bidding process is: HPSDP-DOTE/WP/07
ITB 24.1	<p>For <u>bid submission purposes</u> only, the Purchaser's address is:</p> <p>Attention: The Director, Technical Education, Vocational and Industrial training</p> <p>Circular Road, City: Sunder Nagar, District: Mandi</p> <p>Himachal Pradesh, ZIP code: 175018</p> <p>Country: India</p>
ITB 24.1	<p>The deadline for bid submission is:</p> <p>Date: 05th August 2020</p> <p>Time: 12:30 PM</p>
ITB 27.1	<p>The technical bid opening shall take place at:</p> <p>Office of the Director</p> <p>Directorate of Technical Education, Vocational and Industrial training</p> <p>Circular Road City: Sunder Nagar, District: Mandi</p>

	<p>Himachal Pradesh, ZIP code: 175018</p> <p>Country: India</p> <p>Date: 05th August 2020</p> <p>Time: 12:30 PM</p>
ITB 27.1	Electronic bid opening procedure shall be as follows: <u>Not Applicable</u>
ITB 27.6	The Technical Bid Submission Sheet shall be initialed by <u>Three</u> representatives of the Purchaser attending Technical Bid opening.
ITB 27.11	The Price Bid Submission Sheet and Price Schedules shall be initialed by <u>Three</u> representatives of the Purchaser attending Price Bid opening.
E. Evaluation and Comparison of Bids	
ITB 37.1	<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 National Rupees (INR)</p> <p>The source of the selling exchange rate shall be: <u>Not Applicable</u>; Bidders are required to express their bid price in Indian National Rupees (INR) only.</p> <p>The date for the selling exchange rate shall be: <u>Not Applicable</u></p>
ITB 38.1	A margin of preference <u>shall not</u> apply.
F. Award of Contract	
ITB 43.1	<p>The maximum percentage by which quantities may be increased is: 20%</p> <p>The maximum percentage by which quantities may be decreased is: 20%</p>

Section 3- Evaluation and Qualification Criteria

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1. Technical Evaluation

1.1 Technical Criteria

The Goods and Related Services offered by the bidder shall comply with specifications described in Section 6 (Schedule of Supply). The bids shall be for complete scope of work. Any bid for part scope of work or related services shall be held non-responsive and shall be rejected.

The cost of all quantifiable deviations or deficiencies from the technical requirements as specified in Section 6 (Schedule of Supply) shall be evaluated. The Purchaser will make its own assessment of the cost of these deviations or deficiencies for the purpose of ensuring fair comparison of Bids.

1.2 Margin of Preference

A Margin of Preference shall not apply.

1.3 Economic Criteria

1.3.1 Adjustment for Scope of Supply and Services

i) Local Handling and Inland Transport: Costs for inland transportation, insurance, and other incidental costs for delivery of the goods from the EXW premises, or port of entry, or border point to Project Site as defined in Section 6 (Schedule of Supply), shall be quoted in the Price Schedule for Related Services to Be Offered from Outside and Within the Purchaser's Country provided In Section 4 (Bidding Forms). These costs will be taken into account during bid evaluation. If a Bidder fails to include such costs in its Bid, then these costs will be estimated by the Purchaser on the basis of published tariffs by the rail or road transport agencies, insurance companies, or other appropriate sources, and added to EXW or CIF or CIP price.

ii) Minor Omissions and Missing Items: Pursuant to ITB 32.3, the cost of all quantifiable nonmaterial nonconformities or omissions from the contractual and commercial conditions shall be evaluated. The Purchaser will make its own assessment of the cost of any nonmaterial nonconformities and omissions for the purpose of ensuring fair comparison of Bids.

1.3.2 Adjustment for Deviations from the Terms of Payment

Deviations from the Terms of Payment as specified in Sub-Clause 16.1 of General Conditions of Contract (GCC) read with Special Conditions of Contract (SCC) are not permitted.

1.3.3 Adjustment for Deviations from the Delivery and Completion Schedule

Bid offering Delivery and Completion Schedule exceeding those specified in the Delivery and Completion Schedule in Section 6 shall be rejected.

1.3.4 Operation and Maintenance Cost

Operation and Maintenance Cost shall not have any impact on the Bid Price.

1.3.5 Spare Parts

Bidder shall supply spare parts as specified in the Schedule of Supply in Section 6.

1.3.6 Multiple Lots (Contracts)

If the Works are grouped in multiple (Lots) contracts and pursuant to ITB 39.4, the Purchaser shall evaluate and compare Bids on the basis of a contract, or a combination of contracts, or as a total of contracts in order to arrive at the least-cost combination for the Purchaser by taking into account discounts offered by Bidders in case of award of multiple contracts.

If a Bidder submits several successful (lowest evaluated substantially responsive) bids, the evaluation will also include an assessment of the Bidder's capacity to meet the aggregated qualifying requirements relating to Average annual turnover requirements for each package as specified in Section-6 list of Goods and related services.

S.no.	Package No.	Lot No.
1	HPSDP-DOTE/WP/07 <i>Supply of Civil Engineering Lab equipment's.</i>	Lot 1: Applied Mechanics and Fluid Mechanics Building Construction Lab. Lot 2: Concrete Technology Lab. And Construction Material Labs. Lot 3: Surveying Lab. Lot 4: Soil and Highway Engineering Labs. Lot 5: Structure Mechanics Lab. Lot 6: Water Supply and Waste Water Engineering Lab. Lot 7: CACE Labs and Software.

2. Qualification Criteria

Bidders shall meet the qualification criteria set by the Purchaser on a pass-fail basis. Unless, specifically indicated otherwise, it is the legal entity or entities comprising the Bidder and not the Bidder's parent companies, subsidiaries or affiliates that must satisfy these criteria.

Part 1: Recommended Criteria

The following criteria are to establish the critical qualifications of the Bidder:

2.1 Eligibility

Eligibility for participation by Bidders in terms of nationality, conflict of interest, status as government-owned enterprise and sanctions either by ADB or other international development institutions.

2.2 Experience and Technical Capacity

2.2.1 Contractual Experience

One (1) contracts successfully completed as main supplier within the last three (3) years. Value, nature, and complexity of these contracts should be comparable to the contract to be let.

2.3 Financial Situation

2.3.1 Historical Financial Performance

Soundness of the Bidder's financial position showing long-term profitability demonstrated through audited annual financial statements (balance sheet, income statement) for the last three (3) years.

As a minimum, the Bidder's net worth for the last three (3) year calculated as the difference between total assets and total liabilities should be positive.

2.3.2 Size of Operation (Average Annual Turnover)

Average annual turnover defined as the total payments received by the Bidder for contracts completed or under execution over the last three (3) years should not be less than

Lot-1: INR 18.80 Lakhs

Lot-2: INR 37.00 Lakhs

Lot-3: INR 72.00 Lakhs

Lot-4: INR 17.00 Lakhs

Lot-5: INR 44.50 Lakhs

Lot-6: INR 12.00 Lakhs

Lot-7: INR 130.00 Lakhs

The specific requirements for each of these criteria are provided in Part 2.

Part 2: Specific Requirements for the Criteria

The legal entity or entities comprising the Bidder, and not the Bidder's parent companies, subsidiaries, or affiliates, must satisfy the qualification criteria described below.

2.1 Eligibility

2.1.1 Eligibility

Criteria	Compliance Requirements			Documents
Requirement	Single Entity	Joint Venture		Submission Requirements
		All Partners Combined	Each Partner	

2.1.1.1 Nationality

Nationality in accordance with ITB Subclause 4.2.	must meet requirement	must meet requirement	must meet requirement	not applicable	Technical Bid Submission Sheet; Forms ELI – 1 and ELI - 2
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2.1.1.2 Conflict of Interest

No conflicts of interest in accordance with ITB Subclause 4.3.	must meet requirement	must meet requirement	must meet requirement	not applicable	Technical Bid Submission Sheet
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2.1.1.3 ADB Eligibility

Not having been declared ineligible by ADB, as described in ITB Subclause 4.4.	must meet requirement	must meet requirement	must meet requirement	not applicable	Technical Bid Submission Sheet
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2.1.1.4 Government-Owned Enterprise

Bidder required to meet conditions of ITB Subclause 4.5.	must meet requirement	must meet requirement	must meet requirement	not applicable	Technical Bid Submission Sheet; Forms ELI – 1 and ELI - 2
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2.1.1.5 United Nations Eligibility

Not having been excluded by an act of compliance with a United Nations Security Council resolution in accordance with ITB Subclause 4.7.	must meet requirement	must meet requirement	must meet requirement	not applicable	Technical Bid Submission Sheet
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2.2 Experience and Technical Capacity

2.2.1 Contractual Experience

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
<p>Successful completion as main supplier within the last three (3) years, of at least One (1) contract with nature, and complexity similar to the scope of supply described in Section 6 (Schedule of Supply). The contract value lot wise is indicated below:</p> <p>a) INR 7.50 Lakhs for Lot-1 (Applied Mechanics and Fluid Mechanics Building Construction Lab)</p> <p>b) INR 15.00 Lakhs for Lot-2 (Concrete Technology Lab and Construction Material Lab)</p> <p>c) INR 29.00 Lakhs for Lot-3 (Surveying Lab)</p> <p>d) INR 6.90 Lakhs for Lot-4 (Soil and Highway Engg. Lab)</p> <p>e) INR 17.80 Lakhs for Lot-5 (Structure Mechanics Lab)</p> <p>f) INR 4.80 Lakhs for Lot-6 (Water Supply and Waste water Engg. Lab)</p> <p>g) INR 52.20 Lakhs for Lot-7 (CACE Lab and Software)</p> <p>Bidder bidding for more than 1 (one) Lot has to submit the Work Experience accordingly.</p>	must meet requirement	must meet requirement	not applicable	not applicable	Form EXP - 1

- Document to be attached to substantiate the successful completion of work for individual lot.

2.3 Financial Situation

2.3.1 Historical Financial Performance

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
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 three (3) years to demonstrate the current soundness of the Bidder's financial position. As a minimum, the Bidder's net worth for each of the last three (3) years calculated as the difference between total assets and total liabilities should be positive.	must meet requirement	not applicable	must meet requirement	not applicable	Form FIN - 1

2.3.2 Size of Operation (Average Annual Turnover)

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
Minimum average annual turnover as indicated below calculated as total payments received by the Bidder for contracts completed or under execution over the last three (3) years. The Average Annual Turnover lot wise is indicated below: a) INR 18.80 Lakhs for Lot-1 (Applied Mechanics and Fluid Mechanics Building Construction Lab) b) INR 37.00 Lakhs for Lot-2 (Concrete Technology Lab and Construction Material Lab) c) INR 72.00 Lakhs for Lot-3 (Surveying Lab) d) INR 17.00 Lakhs for Lot-4 (Chassis) e) INR 44.50 Lakhs for Lot-5 (Structure Mechanics Lab)	must meet requirement	must meet requirement	must meet 25% of the requirement	must meet 40% of the requirement	Form FIN - 2

<p>f) INR 12.00 Lakhs for Lot-6 (Water Supply and Waste water Engg.. Lab)</p> <p>g) INR 130.00 Lakhs for Lot-7 (CACE Lab and Software)</p> <p>Bidder bidding for more than 1 (one) Lot has to submit the turnover accordingly. In case of lesser amount of turnover submitted then the lot applied, the purchaser has the right to consider the appropriate lot for evaluation.</p>					
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Section 4- Bidding Forms

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Technical Bid Submission Sheet

-- Note --

The Bidder must accomplish the Technical Bid Submission Sheet on its letterhead clearly showing the bidder's complete name and address.

Date: _____
NCB No.: _____
Invitation for Bid No.: _____

To: _____

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Document, including the Addenda issued in accordance with Instructions to Bidders (ITB) Clause 8. _____
- (b) We offer to supply in conformity with the Bidding Document and in accordance with the delivery schedule specified in Section 6(Schedule of Supply), the following Goods and Related Services. _____
- (c) Our Bid consisting of the Technical Bid and the Price Bid shall be valid for a period of _____ days from the date fixed for the bid submission deadline in accordance with the Bidding Document, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
- (d) Our firm, including any subcontractors or suppliers for any part of the Contract, have nationalities from eligible countries in accordance with ITB 4.2. _____.
- (e) We, including any subcontractors or suppliers for any part of the contract, do not have any conflict of interest in accordance with ITB 4.3.
- (f) We are not participating, as a Bidder in more than one Bid in this bidding process in accordance with ITB 4.3(e), other than alternative offers in accordance with the Bidding Document.
- (g) Our firm, its affiliates or subsidiaries, including any subcontractors or suppliers for any part of the Contract, has not been declared ineligible by the ADB, under the Purchaser's country laws or official regulations or by an act of compliance with a decision of the United Nations Security Council.
- (h) [We are not a government-owned enterprise] / [We are a government-owned enterprise but meet the requirements of ITB 4.5].¹

¹ Use one of the two options as appropriate.

- (i) We agree to permit ADB or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors appointed by ADB.

Name _____

In the capacity of _____

Signed _____

Duly authorized to sign the Bid for and on behalf of _____

Date _____

Form of Bid Security

[Insert bank's name and address of issuing branch or office]¹

Beneficiary: *[insert name and address of purchaser]*

Date:*[insert date]*

Bid Guarantee No.:*[insert number]*

We have been informed that *[insert name of the bidder]*. (hereinafter called "the Bidder") has submitted to you its bid dated *[insert date]*. (hereinafter called "the Bid") for the execution of *[insert name of contract]*. under Invitation for Bids No. *[insert IFB number]*. ("the IFB").

Furthermore, we understand that, according to your conditions, bids must be supported by a bid guarantee.

At the request of the Bidder, we *[insert name of bank]*. hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *[insert amount in figures]**[insert amount in words]*. upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder

- (a) has withdrawn its Bid during the period of bid validity specified by the Bidder in the Technical Bid Submission Sheet and Price Bid Submission Sheet; or
- (b) does not accept the correction of errors in accordance with the Instructions to Bidders (hereinafter "the ITB"); or
- (c) having been notified of the acceptance of its Bid by the Purchaser during the period of bid validity, (i) fails or refuses to execute the Contract Agreement; or (ii) fails or refuses to furnish the Performance Security, in accordance with the ITB.

This guarantee will expire: (a) if the Bidder is the successful Bidder, upon our receipt of copies of the Contract Agreement signed by the Bidder and the Performance Security issued to you upon the instruction of the Bidder; or (b) if the Bidder is not the successful Bidder, upon the earlier of (i) our receipt of a copy of your notification to the Bidder of the name of the successful Bidder, or (ii) 28 days after the expiration of the Bidder's bid.

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

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 758.

¹ All italicized text is for use in preparing this form and shall be deleted from the final document. Input of information to be completed by the bidder.

Name _____

In the capacity of _____

Signed _____

Duly authorized to sign the Bid Security for and on behalf of _____

Date _____

-- Note --

In case of a joint venture, the bid security must be in the name of all partners to the joint venture that submits the bid.

Manufacturer's Authorization

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

NCB No.: *[insert number of bidding process]*

To:..... *[insert complete name of purchaser]*.....

WHEREAS

We *[insert complete name of manufacturer]*, who are official manufacturers of *[insert type of goods manufactured]*, having factories at *[insert full address of manufacturer's factories]*, do hereby authorize *[insert complete name of bidder]* to submit a bid the purpose of which is to provide the following goods, manufactured by us *[insert name and/or brief description of the goods]*, and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with Clause 28 of the General Conditions, with respect to the goods offered by the above firm.

Signed: *[insert signature(s) of authorized representative(s) of the manufacturer]*

Name: *[insert complete name(s) of authorized representative(s) of the manufacturer]*

Title: *[insert title]*

Duly authorized to sign this Authorization on behalf of: *[insert complete name of manufacturer]*

Dated on _____ day of _____, _____ *[insert date of signing]*

-- Note --

All italicized text is for use in preparing this form and shall be deleted from the final document. Input of information to be completed by the bidder.

The bidder shall require the manufacturer to fill out this form in accordance with the instructions indicated. This letter of authorization should be signed by a person with the proper authority to sign documents that are binding on the manufacturer. The bidder shall include it in its bid, if so indicated in the BDS.

Bidder's Qualification

To establish its qualifications to perform the contract in accordance with Section 3 (Evaluation and Qualification Criteria), the Bidder shall provide the information requested in the corresponding Information Sheets included hereunder.

Form ELI - 1: Bidder's Information Sheet

Bidder's Information	
Bidder's legal name	
In case of Joint Venture, legal name of each partner	
Bidder's country of constitution	
Bidder's year of constitution	
Bidder's legal address in country of constitution	
Bidder's authorized representative (name, address, telephone numbers, fax numbers and e-mail address)	
<p>Attached are copies of the following documents:</p> <p><input type="checkbox"/> 1. In case of single entity, articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.1 and ITB 4.2</p> <p><input type="checkbox"/> 2. Authorization to represent the firm or Joint Venture named above, in accordance with ITB 22.2</p> <p><input type="checkbox"/> 3. In case of Joint Venture, letter of intent to form Joint Venture or Joint Venture agreement, in accordance with ITB 4.1</p> <p><input type="checkbox"/> 4. In case of a government-owned enterprise, any additional documents not covered under 1 above required to comply with ITB 4.5</p>	

Form ELI - 2: Joint Venture Information Sheet

Each member of the Joint Venture must fill out this form separately.

Joint Venture Information	
Bidder's legal name	
Joint Venture Partner's legal name	
Joint Venture Partner's country of constitution	
Joint Venture Partner's year of constitution	
Joint Venture Partner's legal address in country of constitution	
Joint Venture Partner's authorized representative information (name, address, telephone numbers, fax numbers and e-mail address)	
Attached are copies of the following documents: <ul style="list-style-type: none"> <input type="checkbox"/> 1. Articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.1 and ITB 4.2 <input type="checkbox"/> 2. Authorization to represent the firm named above, in accordance with ITB 22.2 <input type="checkbox"/> 3. In the case of government-owned enterprise, documents establishing legal and financial autonomy and compliance with commercial law, in accordance with ITB 4.5 	

Form EXP - 1: Contractual Experience

Fill out one (1) form per contract.

Contractual Experience		
Contract No of	Contract Identification	
Award Date	Completion Date	
Role in Contract	<input type="checkbox"/> Manufacturer <input type="checkbox"/> Supplier <input type="checkbox"/> Subcontractor	
Total Contract Amount		
If partner in a joint venture or subcontractor, specify participation of total contract amount	Percent of Total	Amount
Purchaser's name Address Telephone/Fax Number E-mail		
Description of the similarity in accordance with Criterion 2.2.1 of Section 3		
<p>Successful completion as main supplier within the last three (3) years, of at least One (1) contract with nature, and complexity similar to the scope of supply described in Section 6 (Schedule of Supply). The contract value Lot-wise is indicated below:</p> <p>a) INR 7.50 Lakhs for Lot-1 (Applied Mechanics and Fluid Mechanics Building Construction Lab)</p> <p>b) INR 15.00 Lakhs for Lot-2 (Concrete Technology Lab and Construction Material Lab)</p> <p>c) INR 29.00 Lakhs for Lot-3 (Surveying Lab)</p> <p>d) INR 6.90 Lakhs for Lot-4 (Soil and Highway Engg. Lab)</p> <p>e) INR 17.80 Lakhs for Lot-5 (Structure Mechanics Lab)</p> <p>f) INR 4.80 Lakhs for Lot-6 (Water Supply and Waste water Engg. Lab)</p> <p>g) INR 52.20 Lakhs for Lot-7 (CACE Lab and Software)</p>		

Form FIN - 1: Historical Financial Performance

Each Bidder must fill out this form.

In case of joint ventures, each Joint Venture Partner must fill out this form separately, and provide the Joint Venture Partner name below:

Joint Venture Partner: _____

Financial Data for Previous 3 Years [INR or \$ Equivalent]		
Year 1:	Year 2:	Year 3__:

Information from Balance Sheet

Total Assets (TA)			
Total Liabilities (TL)			
Net Worth = TA-TL			
Current Assets (CA)			
Current Liabilities (CL)			
Working Capital = CA - CL			

Most Recent Working Capital		To be obtained for most recent year and carried forward to FIN-3 Line 1; in case of joint ventures, to the corresponding Joint Venture Partner's FIN-3.
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Information from Income Statement

Total Revenues			
Profits Before Taxes			
Profits After Taxes			

- ☐ Attached are copies of financial statements (balance sheets including all related notes, and income statements) for the last **three (3)** years, as indicated above, complying with the following conditions:
- Unless otherwise required by Section 3 of the Bidding Documents, all such documents reflect the financial situation of the legal entity or entities comprising the Bidder and not the Bidder's parent companies, subsidiaries, or affiliates.
 - Historical financial statements must be audited by a certified accountant.
 - Historical financial statements must be complete, including all notes to the financial statements.
 - Historical financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).

Form FIN - 2: Size of Operation (Average Annual Turnover)

Each Bidder must fill out this form.

The information supplied should be the Annual Turnover of the Bidder or each member of a Joint Venture in terms of the amounts billed to clients for each year for work in progress or completed, converted to US Dollars at the specified exchange rate.

In case of joint ventures, each Joint Venture Partner must fill out this form separately, and provide the Joint Venture Partner name below:

Joint Venture Partner: _____

Annual Turnover Data for the Last 3 Years			
Year	Amount Currency	Exchange Rate	INR or \$ Equivalent
Average Annual Turnover (AAT)			

Section 5- Eligible Countries

This Section contains the list of eligible countries.

1. Afghanistan
2. Armenia
3. Australia
4. Austria
5. Azerbaijan
6. Bangladesh
7. Belgium
8. Bhutan
9. Brunei Darussalam
10. Cambodia
11. Canada
12. China, People's Republic of
13. Cook Islands
14. Denmark
15. Fiji
16. Finland
17. France
18. Georgia
19. Germany
20. Hong Kong, China
21. India
22. Indonesia
23. Ireland
24. Italy
25. Japan
26. Kazakhstan
27. Kiribati

28. Korea, Republic of
29. Kyrgyz Republic
30. Lao PDR
31. Luxembourg
32. Malaysia
33. Maldives
34. Marshall Islands
35. Micronesia, Federated States of
36. Mongolia
37. Myanmar
38. Nauru
39. Nepal
40. The Netherlands
41. New Zealand
42. Norway
43. Pakistan
44. Palau
45. Papua New Guinea
46. Philippines
47. Portugal
48. Samoa
49. Singapore
50. Solomon Islands
51. Spain
52. Sri Lanka
53. Sweden
54. Switzerland
55. Taipei, China
56. Tajikistan
57. Thailand
58. Timor-Leste

- 59. Tonga
- 60. Turkey
- 61. Turkmenistan
- 62. Tuvalu
- 63. United Kingdom
- 64. United States
- 65. Uzbekistan
- 66. Vanuatu
- 67. Viet Nam

Section 6- Schedule of Supply

Contents

1. List of Goods and Related Services
2. Delivery and Completion Schedule
3. Technical Specifications
4. Drawings

1. List of Goods and Related Services

Package Name: Supply of Civil Engineering Lab Equipment's for Government Polytechnic (Women) Rehan, Distt. Kangra to enhance technical and vocational skills among the youth of Himachal Pradesh (HPSDP-DOTE/WP/07)

The Goods and Related Services are grouped in Lots. Bidders shall have the option of submitting Bids for one, any combination, or all of the lots. Lots shall not be further subdivided for the purpose of bidding. The bidder is required to supply the items as mentioned below for the respective Package and Lot(s) for which bidding.

Besides the supply of equipment, the bidder shall also carry-out required related services including unloading, installation & commissioning, after sales warranty & maintenance as well as the relevant handholding to the trainers of the Government Polytechnic(Women) Rehan, Distt. Kangra for proper usage and operations. The bidder shall do the necessary site preparation including electrical work, earthing, minor civil work, etc. as required for installation & commissioning of the equipment's/goods. While doing the site preparation the bidder shall ensure that aesthetics of the labs/workshops, IT Lab and the Library shall maintain /restored.

Lot No : 1							
Lot Name: Applied Mechanics & Fluid Mechanics Building Construction Lab.							
Item No	Name of Goods or Related Services	Description	Unit of Measure -ment	Quantity	Specification by the supplier(To be filled by the supplier)	Detailed information brochure attached at Page No.	Pass/Fail (By Purchaser)
1.	Triangle & Parallelogram Law of Force apparatus	Apparatus consists of a black wooden board which is fixed in a wooden slotted frame of size 75 x 70 cm. Four adjustable frictionless pulleys are provided in the slots of the frame and the frame is provided with suitable arrangements for fixing it to a wall. Apparatus is supplied complete with 4 hangers of 50 gm and 16 iron nickled slotted weights of 50 gm each. . Sample Calculations and manual to be provided along with the quotation.	No	3			

2.	Single purchase Winch Crab Apparatus	Apparatus consists of a heavy duty C.I. wall brackets. The grooved wheel is of 25 cm dia, and a set of gearing arrangements (machine cut gears) are provided for measurement of efficiency of winch crab. . Sample Calculations and manual to be provided along with the quotation.	No	2			
3.	Polygon law of forces apparatus	Apparatus consists of a black wooden board which is fixed in a wooden slotted frame of size 75 x 70 cm. Four adjustable frictionless pulleys are provided in the slots of the frame and the frame is provided with suitable arrangements for fixing it to a wall. Apparatus is supplied complete with 4 hangers of 50 gm and 16 iron nickled slotted weights of 50 gm each. . Sample Calculations and manual to be provided along with the quotation.	No	3			
4.	Simple Screw Jack	This will be consisting of the following: (a) A machine cut worm gear of 250 mm dia (b) A metal drum of 120 mm dia (c) A machine cut worm on steel spindle carrying 120 mm pulley at end. The complete assembly will be fitted on heavy duty C.I. frame suitable to fix the same on wall with weights and pan. Apparatus is supplied complete with effort pulley, String and hooks. . Sample Calculations and manual to be provided along with the quotation.	No	2			
5.	Worm & worm wheel Apparatus	An all metallic self contained apparatus useful for demonstrating the efficiency of worm and wheel and also the principle of works. Consisting of machine cut worm gear of 25 cm diameter, carrying a metal drum on 12 cm diameter, and machine cut worm on steel spindle carrying a 12 cm diameter pulley. The whole arrangement is fixed on heavy cast iron bracket capable to be a wall. Complete with effort pulley, string and hooks but with weights. . Sample Calculations and manual to be provided along with the quotation.	No	2			
6.	Inclined Plain Apparatus	Apparatus consists of a wooden plane 90 x 18 cm having adjustment for setting the angle precisely. Apparatus is supplied complete with a frictionless pulley, linear and circular scale, pan, a wheeled trolley and a set of eight slide draws (having bottom different materials). . Sample Calculations and manual to be provided along with the quotation.	No	2			

7.	Simple and compound Pulley Apparatus	Almost every kind of System of pulley (I & II system of pulley) can be demonstrated with the help of this equipment. The set consists of wooden polished base with two metal supports and a horizontal bar having different hooks from which pulleys can be suspended. Accessories provided with the unit are Single pulley with two hook -04 No., Pulley triple long -02 No. and two pan. . Sample Calculations and manual to be provided along with the quotation.	No	3			
8.	Jib Crane Apparatus	Apparatus consists of a tubular compression balance, pivoted about an axis fitted to the base. The tie chain has an adjustable angle bracket and fitted with a 10 Kg extension balance. Apparatus is complete on a wooden base with 1.2 m jib. . Sample Calculations and manual to be provided along with the quotation.	No	3			
9.	Centre of gravity of irregular and regular lamina	A simple and economical apparatus for demonstration of geometrical center of gravity of two-dimensional objects. Center of gravity of a freely suspended two-dimensional object always lies along the line drawn vertically downward from its point of suspension. Comprises a clear perspex rod mounted on a base with a suspension screw at the top and four laminas of clear acrylic – 1 each of circular, triangular, square and trapezoidal. Each lamina has suspension holes along their periphery. The point of intersection of lines drawn from point of suspension of 2 or more holes of a lamina gives center of gravity of that 2-dimensional lamin. . Sample Calculations and manual to be provided along with the quotation.	No	1			
10	Coefficient of friction between 3 points of given surface	Apparatus consists of a wooden plane 90 x 18 cm having adjustment for setting the angle precisely. Apparatus is supplied complete with a frictionless pulley, linear and circular scale, pan, a wheeled trolley and a set of eight slide draws (having bottom different materials). . Sample Calculations and manual to be provided along with the quotation.	No	3			
11	Bernoulli's apparatus :	Test Section : Material Acrylic (One Piece). Piezometer Tubes : Material P.U. Tubes (7 Nos.) Water Circulation : FHP Pump, Crompton make/ Kirloskar/kalsi/or any ISI mark. Flow Measurement : Using Measuring Tank with Piezometer,	No	1			

		Capacity 25 Ltrs. with Stop Watch (Electronic) Sump Tank : Capacity 70 Ltrs., Inlet Tank : Capacity 20 Ltrs. Control Panel Comprises of: Standard make On/Off Switch, Mains Indicator, etc. All the tanks should be made of Stainless Steel Grade- 304. Stainless Steel Sheets used for fabrication should be 2mm thick, Structure should be used of MS CR square / rectangular pipe with minimum thickness-1.5 mm for fabrication. Polyurifine paint (PU Paint) should be used. . Sample Calculations and manual to be provided along with the quotation.					
12	Venturimeter coefficient apparatus	. Venturimeter :Material Clear Acrylic compatible to 1" Dia. Pipe. Water Circulation : FHP Pump, Crompton make/ Kirloskar/kalsi/or any ISI mark Flow Measurement :Using Measuring Tank with Piezometer (Capacity 25 Ltrs.) and Electronic Stop Watch Sump Tank :Capacity 50 Ltrs. Control Panel Comprises of Standard make On/Off Switch, Mains Indicator, etc. Water manometer to be used for experimentation without any manometric fluid (Mercury, CCl ₄ , etc). All the tanks should be made of Stainless Steel Grade- 304. Stainless Steel Sheets used for fabrication should be 2mm thick, Structure should be used of MS CR square / rectangular pipe with minimum thickness-1.5 mm for fabrication. Pipe should be used of B Class, Polyurifine paint (PU Paint) . . Sample Calculations and manual to be provided along with the quotation.	No	1			
13	Orifice and mouthpiece apparatus	Set of Orifices :Material Acrylic (2 Nos.) Dia. 10mm and 15 mm Set of Mouthpieces : Material Acrylic (3 Nos.) Dia 10 mm(L/D =1, 2.5 & 4) Constant Head tank :35 Ltrs.	No	1			

		<p>Pointer Gauge :To measure X-Y co-ordinates of Jet.</p> <p>Water Circulation : FHP Pump, Crompton make/ Kirloskar/kalsi/or any ISI mark.</p> <p>Flow Measurement :Using Measuring Tank with Piezometer, Capacity 25 Ltrs.</p> <p>Sump Tank :Capacity 70 Ltrs. Stop Watch:Electronic.</p> <p>Control Panel Comprises of Standard make On/Off Switch, Mains Indicator, etc.</p> <p>Stainless Steel Sheets used for fabrication should be 2mm thick,</p> <p>Structure should be used of MS CR square / rectangular pipe with minimum thickness-1.5 mm for fabrication.</p> <p>Pipe should be used of B Class,</p> <p>Polyurifine paint (PU Paint)</p> <p>. Sample Calculations and manual to be provided along with the quotation.</p>					
14	<p>Reynold APPARATUS :</p>	<p>Tube :Material Borosilicate Glass (ID 14mm approx., Length: 600mm) Dye vessel :Material Stainless Steel, Suitable Capacity</p> <p>Capillary Tube:Material Copper/Stainless Steel.</p> <p>Constant Head Water Tank :Capacity 40 Ltrs.</p> <p>Water Circulation : FHP Pump, Crompton make/ Kirloskar/kalsi/or any ISI mark</p> <p>Flow Measurement :Using Measuring Cylinder with Stop Watch (Electronic.),</p> <p>Sump Tank :Capacity 60 Ltrs.</p> <p>Control Panel Comprises of Standard make On/Off Switch, Mains Indicator, etc.</p> <p>All the tanks should be made of Stainless Steel Grade- 304.</p> <p>Stainless Steel Sheets used for fabrication should be 2mm thick,</p> <p>Structure should be used of MS CR square / rectangular pipe with minimum thickness-1.5 mm for fabrication.</p> <p>Pipe should be used of B Class, Sample Calculations and manual to be provided along with the quotation.</p> <p>Polyurifine paint (PU Paint)</p> <p>. Sample Calculations and manual to be provided along with the quotation.</p>	No	1			

15	Losses in pipe fitting apparatus:	<p>Sudden Enlargement :From 15mm to 25mm Sudden Contraction :From 25mm to 15mm., Bend : ½" Elbow : ½", Ball valve :½", Gate valve :½" Water Circulation : FHP Pump, Crompton make/ Kirloskar/kalsi/or any ISI mark Flow Measurement :Using Measuring Tank with Piezometer, with Stop Watch Electronic Capacity 25 Ltrs. Sump Tank :Capacity 50 Ltrs. Pressure Drop Measurement :Differential Manometer Control Panel Comprises of Standard make On/Off Switch, Mains Indicator, etc. Water manometer to be used for experimentation without any manometric fluid (Mercury, CCl4, etc). All the tanks should be made of Stainless Steel Grade- 304. Stainless Steel Sheets used for fabrication should be 2mm thick, Structure should be used of MS CR square / rectangular pipe with minimum thickness-1.5 mm for fabrication. Pipe should be used of B Class, Polyurifine paint (PU Paint) . Sample Calculations and manual to be provided along with the quotation.</p>	No	1			
16	Current meter	<ul style="list-style-type: none"> - Acoustic, anti-corrosive and light weight. - Must have universal application on different fixing devices for use on rod or as cable suspended meter equipment. - Must be ideal for long term deployments. - Must be able to collect directional wave data simultaneously as it measures the mean current. - May be used in real-time application and also with an internal recorder, batteries and a highly sophisticated power management that makes it the system of choice for self-contained deployments. Must have maximum recording capacity. - Maximum measurements upto 300m depths. 	No	1			

		<ul style="list-style-type: none"> · Must have variable power output to get longer deployment times in waters with high scattering levels. · B rakeload 800 Kg. Range ± 5 m/s Accuracy(of measured value ± 0.5 m/s) · 1 % Maximum sampling rate(output): · 1Hz Internal sampling rate: · 23 Hz Sensors Required · Temperature :Thermistor embedded Range:-4°C to 40°C Accuracy/Resolution: 0.1°C/0.01°C, Time response: 10 min. · Compass(magnetometer) Maximum tilt: 30° Accuracy/Resolution:2 °/0.1.° · Tilt(Liquid level): Accuracy/Resolution: 0.2°/0.1° Up or down: Automatic detect · Pressure(Piezo resistive) Range:300m Accuracy/Resolution:0.25%/Better than 0.005% of full scale sample · Sample Calculations and manual to be provided along with the quotation. 					
17	Pitot tube Apparatus:	<p>Pitot Tube :Material Copper/SS of compatible size fitted with vernies scale.</p> <p>Test Section :Material Clear Acrylic, compatible to 1" Dia. Pipe.</p> <p>Water Circulation : FHP Pump, Crompton make/ Kirloskar/kalsi/or any ISI mark</p> <p>Flow Measurement :Using Measuring Tank with Piezometer (Capacity 25 Ltrs.) and Electronic Stop Watch</p> <p>Sump Tank :Capacity 50 Ltrs.</p> <p>Control Panel Comprises of Standard make On/Off Switch, Mains Indicator, etc.</p> <p>All the tanks should be made of Stainless Steel Grade- 304. Stainless Steel Sheets used for fabrication should be 2mm thick,</p> <p>Structure should be used of MS CR square / rectangular pipe with minimum thickness-1.5 mm for fabrication.</p>	No	1			

		Pipe should be used of B Class, PU paint should be used. . Sample Calculations and manual to be provided along with the quotation.					
18	Flow over notches apparatus:	<p>Channel Test Section : 600 x 250 x 180 mm.</p> <p>Notches : Material Brass (Rectangular Notch, 45° V Notch, 60° V Notch, & trapezoidal Notch)</p> <p>Pointer Gauge : With Vernier scale.</p> <p>Water Circulation : FHP Pump, Crompton make/ Kirloskar/kalsi/or any ISI mark</p> <p>Flow Measurement : Using Measuring Tank with Piezometer with Stop Watch Electronic Capacity 25 Ltrs.,</p> <p>Sump Tank : Capacity 50 Ltrs.</p> <p>Control Panel Comprises of Standard make On/Off Switch, Mains Indicator, etc.</p> <p>All the tanks should be made of Stainless Steel Grade- 304. Stainless Steel Sheets used for fabrication should be 2mm thick,</p> <p>Structure should be used of MS CR square / rectangular pipe with minimum thickness-1.5 mm for fabrication.</p> <p>Pipe should be used of B Class, Polyurifine paint (PU Paint)</p> <p>. Sample Calculations and manual to be provided along with the quotation.</p>	No	1			

Note: For detailed specifications please refer table 3: Technical Specifications

Lot No : 2							
Lot Name: Concrete Technology Lab. And Construction Material Labs.							
Item No	Name of Goods or Related Services	Description	Unit of Measure -ment	Quantity	Specification by the supplier (To be filled by the supplier)	Detailed information brochure attached at Page No.	Pass/Fail (By Purchaser)
1.	Vicat's test apparatus	Should Comply with IS:2542 (Part-2), 2645, 1727, 5513, BS:12, 146, 915, 1370, 4027, 4246, 4248, ASTM C-91 , C-141 , C- 187, C-308, C-359, C-472 & AASHTOT-129, E-131 With ISI Certification Mark, 15:5513 The equipment should consist of the following replaceable parts : Vicat Mould, Glass Base Plate, Initial Needle (in Plastic Case), Final Needle (in Plastic Case), Consistency Plunger (in Plastic Case), Mild Steel Base Plate, Vicat Mould Split Type, with Clamping Ring	No	4			
2.	Digital Compression testing Machine 2000KN	Should Comply with IS: 516 & IS: 14858 (2000) ASTM C-39, AASHTO T-22, BS, EN Pumping unit -Dual stage Pump allows fast approach of the platens, Automatic controls over the load application. Centrifugal for fast approach & multi-piston for loading. Means – high flow & low flow – cut-off from high pressure flow to low pressure flow as per set pace rate. DC motor powered, means less noise as well as power (energy) saving Machine control Through and Inbuilt Touch screen Display Pace rate control -Automatic pace rate control starts from 1% of machine full capacity. Platen Oil filled ball seating with heavy duty upper platen for increased stability Platen Hardness -55 to 60 HRC Digital Indicator -This is the 10.1 inch TFT LED backlit colour touch display with resolution: 800x480 (RGB) & features the integral load pacing bar display, maximum load & stress result display, export to USB & also Wi-Fi based cloud storage facility. Results from approximately 2000 completed tests can be stored in the in-built memory,	No	1			

		<p>Printer Store records can be printed on small thermal printer, where we can get peak load. But real time print of load Vs. time plot is not possible.</p> <p>Output Results should be Imperial / English, Metric or SI units The test commences with a live graph & ends with a report & online data transfer Dynamic cube status report, Dynamic strength reports (max., min., & avg.)</p> <p>Comprehensive date wise, plant wise report Data downloading through USB in ASCII format</p> <p>Calibration-Calibrated operating range between 5% to 100% of machine capacity with the accuracy of $\pm 1\%$ of the applied load.</p> <p>Door closed safety feature -Yes</p> <p>Loading frame -Fully welded construction with a top crosshead base & solid side walls with the precision ground hydraulic piston fixed to the base. Heavier frame with higher stiffness</p> <p>SMPS -Yes</p> <p>Platen flatness -0.01mm (10 microns)</p>					
3.	Le-chatelier apparatus for soundness test of cement,	<p>Should Comply with - IS:5514</p> <p>It should consists of a small split cylinder forming a mould of 30mm internal dia. and 30 mm high. On either side of the split cylinder, two parallel indicating arms with pointed ends are fixed. Two loops of suitable material and strength soldered to the upper half of the mould on each side of the central split is provided to facilitate demoulding of the hardened paste specimen after test The resilience of the mould shall be such that the action of a mass of 300g applied shall increase the distance between the indicator ends of the needle by 17 .5mm + 2.5mm without permanent deformation. The mould should be supplied complete with two glass plates and lead weight.</p>	No	5			
4.	Measuring Fibre Glass Tape	30 meter	No	2			

5.	Mixing Trays	As per the Size of the Oven	No	4			
6.	Electric Concrete Vibrating Table	Should Comply with : EN 12350-6, 7, 12390-2, 13286-50 Vibrating Table, Table top 1m x 1m for 16 moulds of 150mm cube	No	1			
7.	Oven electrically operated, thermostatically controlled	Laboratory Electric Oven, Thermostatically Controlled, range 50° to 250°C +/-3°C with Air Circulating Fan, S.S. Inside Size 450 x 450 x 450mm	No	1			
8.	Standard test sieves (Spun brass framed)	Conforming to IS:460, 200 mm dia, woven wire cloth (with lid and pan) having following aperture sizes: 4.75mm, 2.36mm, 1.18mm, 600 micron, 300 micron, 150 micron, 75 micron	sets	2			
9.	Standard test sieves (G.I. sheet framed)	Conforming to IS:460 (Part-II), perforated plate test sieves, 300 mm dia (with lid and pan) having following aperture sizes: 63mm, 40mm, 31.5mm, 25mm, 20mm, 16mm, 12.5mm, 10mm, 6.3mm, 4.75mm	sets	2			
10	Cube moulds	Size 7.5x7.5x7.5cm Mould frame , Cast Iron for 75 mm Cube with ISI Certification Mark as per IS:10086, the mould frame should be able to cast 3 moulds at one time.	No	10			
11	Platform Weighing Machine (Digital)	For weighing up to 100 kg, accuracy 50g	No	1			
12	Length Gauge:	Conforming to IS:2386 (Part-I) (consisting of a metal plate on which 8 steel pins are vertically mounted at specific distances, assembly mounted on a hardwood base)	No	4			
13	Thickness Gauge	Conforming to IS:2386 (Part-I) (consisting of a panel constructed from heavy gauge sheet steel, having accurately cut slots of different standard lengths and widths)	No	4			

14	Cylindrical metal measures	Conforming to IS:2386 (Part-III) Made out of sheet consisting of 3 ltr, 10 ltr, 15 ltr (set) Capacity, steel with handles, complete with one tamping rod 16 mm dia and 60 cm long rounded at one end.	set	3			
15	Compaction factor apparatus	Conforming to IS:7320 consisting of (i) two conical hoppers with trap doors [(Upper hopper-top internal dia = 25.4 cm, bottom internal dia = 12.7 cm and internal ht.=27.9 cm),(Lower hopper- top internal dia = 22.9 cm, bottom internal dia = 12.7 cm and internal ht.=22.9cm)] (ii) one cylindrical receiver -Internal dia=15.2 cm, internal ht.= 30.5 cm (iii) A welded steel stand for mounting the hoppers and the receiver co-axially at specified distances (iv) two trowels (v) one hand scoop (vi) one standard tamping rod 16mm dia and 60 cm long with one end rounded	No	2			
16	Sieve shaker (Motorized)	Having a sturdy cast iron body, inclined sieve table which can accommodate a maximum of eight sieves of 300 mm dia, adjustable top clamping plate to hold the sieves, table having a gyratory motion in addition to up and down jolting action, operating gear assembly enclosed in an oil bath fitted with a transparent oil level indicating window, suitable for operating on 220 V, 50 Hz, single phase supply, time switch adjustable from 0-60 minutes, adopter for 200 mm dia sieves .	No	1			
17	Slump test apparatus	Conforming to IS:7320 consisting of (i) a slump cone (made of sheet steel suitably protected against corrosion) 100 mm dia at the top, 200 mm dia at the bottom and 300 mm high with two cleats and lifting handle (ii) A base plate with clamping arrangement for the slump cone and a swivel handle (iii) a tamping rod 16mm dia and 60 cm long with one end rounded and graduated from 0 to 15 cm in 0.5 cm spacing's to measure the slump.	No	4			
18	Cube moulds	Conforming to IS:10086, Made up of cast iron, size 150mm x 150mm x 150mm, faces machined flat with +/- 0.02mm tolerance and the inside dimensions accurate within +/- 0.02mm, with BSI certification	No	10			

19	Glassware	Measuring cylinders set consisting of 250 ml , 500 ml ,1 ltr, 2ltrs ,	set	2			
20	Digital balance	For weighing upto 20 kg, accuracy 1g	No	1			

Note: For detailed specifications please refer table 3: Technical Specifications

Lot No : 3							
Lot Name: Surveying Lab							
Item No	Name of Goods or Related Services	Description	Unit of Measure -ment	Quantity	Specification by the supplier (To be filled by the supplier)	Detailed information brochure attached at Page No.	Pass/Fail (By Purchaser)
1.	Measuring Fibre Glass Tape	30 meter	No	10			
2.	Measuring tape(steel)	Each set consisting of 10m and 20m.	Set	3			
3.	Measuring tape(Invar)	Each set consisting of 10m and 20m.	Set	2			
4.	Ranging Rods	(STEEL) SOCKET TYPE: (30 MM DIA.): Made of steel conduit pipe. Alternatively painted black and white or red and white. Fitted with strong shoe at the bottom. Size 4 Mt	No	40			
5.	Metal arm Cross Staff	(Aluminium) with wooden box and pole stand 4"	No	4			
6.	Arrows along with arrow stands	Arrows made up of 6mm dia steel bar 40 cm length painted with black paint	No	60			
7.	Prismatic Compass with Stands	Made of gunmetal with stand size 125mm and 150 mm	No	5			
8.	Line Ranger	As per Standard specification	No	2			
9.	Auto Level	Telescope (configuration: Objective aperature-32 mm, magnification-24x, Image-erect, resolving power 4", Min. focussing distance-0.3m, Reticule-Cross hairs, stadia multiplication constant-100, stadia additive constant-0), Gun sight, 2mm standard deviation for 1 km double run levelling, Compensator (with magnetic damping system, working range - +/- 15', setting accuracy 0.5", horizontal circle graduations 1°, sensitivity of circular level-2mm, Plane mirror for circular vlevel , horizontal fine motion screw	No	8			

		with double sided endless drive, base-concave and flat, telescopic aluminium tripod, lens cap, plumb bob, vinyl cover, tool kit, operator's manual, carrying case with shoulder strap.					
10	Dumpy Level with Stands	228 mm internal focussing with all standard ass. Packed in wooden box with telescopic aluminium stand made of aluminium and brass	No	8			
11	Wooden Plane Tables with aluminium stand and accessories	Plane table size 750mmX600mm x150mm as per ISI specifications with all standard accessories (Spirit level, validate , plumbing fork with plum-bob, trough compass)	No	10			
12	Optical Square	Indian optical Square Round shaped and wedge shaped	No	4			
13	Telescopic Aluminium Staff (4m)	4 mtr. Long, 3 section, 5mm graduation, with cover	No	4			
14	Wooden Staff (3m)	3 mtr. Long, 3 section, 5mm graduation, with cover	No	4			
15	Transit Vernier Theodolite with prismatic compass and tripod Stand	Accuracy-20 sec, erect image with special coated high range lenses, Achromatic Eye Piece, all component made of metal, Optical Plummet System, complete with tools in Wooden Box & with Aluminium Powder coated coloured folding telescopic tripod stand in carrying case, complete with all standard accessories.	No	10			
16	Total Station with Prism & Stands	Having angular least count of 2" or better & accuracy of 5" (or better) both for horizontal & vertical angles, image-erect, field of view-1°30' or better, minimum focussing distance-2.0m or less, compensator (dual axis type, compensating range +/- 4' or better), memory for 10,000 data blocks and should measure at least 3 km with single prism, 500 m in reflector less mode, laser plummet, sensitivity of plate level 30"/2mm, sensitivity of circular level 10"/2mm, Display-Graphic CD illumination (bright readable in sunlight), keyboard-alphanumeric, two fixed control panels or one detachable GPS compatible controller (controller unit) proprietary required software's, operating temperature: -10°C to + 50°C, user manual, container, 30 x telescope magnification, blue tooth wireless technology, removable USB stick, USB port, RS 232 port, emitting guide light for stake out, tribrach with laser plummet, telescopic aluminium tripod, Rechargeable	No	2			

		batteries -2 nos., Charger with adapter-1 no., Data transferable cable-1no., Prism with holder and target plate - 2 nos., Reflector pole (of aluminium, telescopic with circular bubble, m & feet graduation, extendable to more than 2m, with lightweight aluminium tripod)- 2 nos., PC utility software Data Transfer and Conversion software.					
17	Electronic Digital theodolite	Telescope (configuration: Objective aperture-45 mm, magnification-30x, Image-erect, resolving power 3", Min. focussing distance-0.9m from telescope, stadia multiplication constant-100, stadia additive constant-0, Least count 1", Accuracy 2", automatic dual axis compensator, key board and display (LCD, 8 digitsx2 lines with backlight) on both sides, Interface (asynchronous serial, RS 232C compatible), self-diagnostic function, right angle buzzer, Sensitivity of plate level 20", Sensitivity of circular level 2mm, optical plummet (Image-erect, magnification 3x, min. focus 0.3m), detachable tribrach, operating temperature -20 to =50°C, automatic power cut off, batteries 2 Nos. (LR14/C), standard accessories (lens cap, lens hood plumb bob, vinyl cover, tool kit, operator's manual, carrying case with shoulder strap.	No	2			
18	Ceylon Ghat Tracer with all accessories	Made in full brass, with rack and pinion adjustment divided from 1 in 6 to 1 in 120 angle of elevation and depression complete in wooden box with wooden target and stand.	No	5			
19	Tangent Clinometer	Made in full brass, with rack and pinion adjustment, bubble and levelling screw, leather case.	No	10			
20	Pentagraph	Made of full brass with metal fittings with casters, clamps, socket complete in polished wooden box, size 24".	No	5			
21	Abney Level	With reflector arc divided to single degree, slow motion arrangement, size 125 mm, leather case	No	10			
22	Digital Planimeter	Roller type with computing function, Hold memory function, Auto power off, unit & scale values conversion function, Display [Liquid crystal display 8 digits, 10 Symbols, (Symbol :Batt-E, SCALE, MEMO, HOLD, cm2, m2, km2, ft2, acre], Transverse direction roller movement unlimited, Precision-within +/- 0.2%, Internal rechargeable Ni -Cd battery chargeable with AC adapter, Operating Time- around 30 Hours using Battery, plastic case, operating manual.	No	3			
23	Surveyor's Compass	100 mm size made of gunmetal with stand	No	5			

24	Handheld GPS	Internal GPS antenna: 72 channels GPS L1 C/A, GLONASS, Beidou, SBAS Integrated real-time : SBAS (WAAS/EGNOS/MSAS/GAGAN) • External antenna connector: Yes • Dual constellation system : GPS/GLONASS or GPS/Beidou • Accuracy: Real-time SBAS < 1.5 m typical • Camera: 8 MP camera with geotagging and flash light or better , • Processor : 1.2 Ghz. Qualcomm or better • Memory : 2GB RAM or better • Battery: Li-Ion removable battery with battery backup of 8 hours with GPS ON or better. • Storage/ Internal Memory : 4GB or better • Operating System : Android or better • Display: Gorilla Glass damage-resistant, auto rotate, 4.7" capacitive multi-touch, Resolution: 854x480px or better • Audio : Built-in microphone and speaker , Audio jack 2.5 plug Pogo pin connector : I/O, USB 2.0 (micro), external antenna connector • COMMUNICATIONS: Wi-Fi IEEE 802.11 b/g/n , Bluetooth 4.0 • Data collection software • Point, Line, Area, Attribute Management, Export[KML, .shp ,CSV] ,Import , share	No	4			
25	Digital Level	Along with bar coded staff and Telescope 24X, Compensator- Pendulum type, Working range $\pm 12''$,Electronic reading $\pm 2.0\text{mm}$ at 30m and Optical reading $\pm 2.0\text{mm}$ at 30m	No	4			

Note: For detailed specifications please refer table 3: Technical Specifications

Lot No : 4							
Lot Name: Soil and Highway Engineering Labs							
Item No	Name of Goods or Related Services	Description	Unit of Measure -ment	Quantity	Specification by the supplier (To be filled by the supplier)	Detailed information brochure attached at Page No.	Pass/Fail (By Purchaser)
1.	Aggregate Impact Value test apparatus	Should Comply with - IS:9377 It is for determining the aggregate impact value and should designed in accordance with IS:2386 (Part 4), IS:9377 with free fall 380 ± 5 mm. The hammer should provide with a locking arrangement. Cylindrical cup Metal Measure Tamping Rod Automatic Blow Counter	No	2			
2.	Cylinder for crushing value of aggregates	Steel cylinder with open ends and internal diameter 15.2 cm with square base plate plunger having piston diameter 150 mm with a whole provided along the stem of plunger and a cylindrical measure of internal dia 11.5 cm and height 18 cm.	No	2			
3.	Water bath	Water Bath, Rectangular, Double Walled, Inside Stainless Steel, Thermostatically Controlled, Temp. Range Ambient. +5°C. to 95°C +/- 0.5°C Size 300x250x100mm	No	1			
4.	Bitumen Penetrometer	Should Comply with IS 1203, ASTM D-5, EN-1426, 13179-2 • Penetration Needle • Transfer Dish made of copper. • Aluminium Sample Containers, Set of two. • Penetration Cone • Bitumen Penetration Kit • Penetration Test Cone Soil	No	2			

		Penetration Test Cup					
5.	Los Angles Abrasion test Apparatus	<p>Should Comply with IS: 10070</p> <p>This machine is for determining the resistance to wear off small size coarse aggregates and crushed rock. The machine consists of a hollow cylinder, mounted on a sturdy frame on ball bearings. A detachable shelf which extends throughout the inside length of the drum catches the abrasive charge and does not allow it to fall on the cover. The drum is rotated at a speed of 30-33 rpm by an electric motor through a heavy duty reduction gear. Should be Supplied complete with a tray for collection of the material and automatic counter and 15 nos of cast iron balls 48 mm in dia and weighing 390 to 445 gms</p>	No	1			
6.	Ring and Ball Apparatus for softening point test of Bitumen	<p>Should Comply with IS 1205</p> <p>The Ring and Ball Apparatus should be compact user friendly apparatus. It should have magnetic stirrer with heating facility and digital display of temperature, the heating should be controlled controlled through the integral PIO controller.]</p> <p>Should be supplied with</p> <ul style="list-style-type: none"> • Tapered Rings 2 Nos. • Ball Centering Guide 2 Nos. • Steel Balls of 9.5 mm dia 2 Nos. • Ring holder 1 No. • Electric Heater (Hot Plate) 1 No. • Thermometer IP 60C, Range: - 2° C to 80° C • Thermometer IP 61C, Range: 30° C to 200° C 	No	2			
7.	Oven electrically operated, thermostatically controlled	Laboratory Electric Oven, Thermostatically Controlled, range 50° to 250°C +/-3°C with Air Circulating Fan, S.S. Inside Size 600 x 600 x 600mm	No	2			
8.	Field density test apparatus with cutting tray, chisel, hammer Complete Set	<p>Should Comply with IS:2720 (Part 28)</p> <p>Sand Pouring Cylinder Apparatus, 100 mm</p> <p>The equipment should consist of the following replaceable parts :</p>	No	1			

		<ul style="list-style-type: none"> • Sand Pouring Cylinder fitted with Conical Funnel and Shutter, capacity 3 litre 1 No. • Cylindrical Calibration Container 100 mm ID x 150 mm height 1 No. • Metal Tray size 30 x 30 x 4 cm, with 10 cm central hole 1 No. <p>Sand Pouring Cylinder Apparatus, Large</p> <p>The equipment consist of the following replaceable parts :</p> <ul style="list-style-type: none"> • Large sand Pouring cylinder, 16.5 ltr. capacity fitted with conical funnel and shutter • Cylindrical calibrating container, internal diameter 200 mm and internal depth 250mm • Metal tray size, 45x45x5 cm deep with hole 					
9.	Proctor's Compaction Test Apparatus, 2.5 kg & 4.5 kg hammers etc. Complete Set	<p>Should Comply with IS:2720 (Part 7), IS:2720 (Part 8) IS:9198, IS:10074, BS:1377 ASTM 0698, D 1557</p> <p>Proctor Compaction Apparatus as per BS code</p> <p>Proctor Mould 105 mm ID, 115.5 mm height 1,000 ml volume</p> <p>Rammer 2.5kg x 300mm fall</p> <p>Compaction Apparatus for heavy compaction</p> <p>Proctor Mould 152mm ID, 127mm height 2,305 ml volume</p> <p>Rammer 4.5kg x 450 mm fall</p>	No	2			
10	Liquid Limit Test apparatus (Casagrande apparatus) Complete Set,	<p>Should Comply with : IS:2720 (Part 5), IS:9259, BS 1377</p> <p>Mechanical method known as the Casagrande Method has been a standardized test in Soil Mechanics for many years. High quality of design ensures consistency of results</p> <p>Satisfies International Standards Motorised model with integral blow counter is also available</p> <p>The Liquid Limit Device consists of a hard rubber base carrying a sliding carriage assembly to which a brass cup is hinged. The cup is raised and allowed to fall through a height of 1 cm on to the hard rubber base, with the help of a lead screw provided at the back of the sliding carriage. Supplied complete with Casagrande Grooving Tool (Type A of IS: 9259), ASTM Grooving Tool (Type B of IS : 9259) and Gauge Block. Suitable for operation on 220 V, 50 Hz, single phase, AC supply.</p>	No	2			
11	Plastic Limit Test	Should Comply with IS : 2720 (Part V) 1985.	No	2			

	Apparatus Complete Set,	Should consist of glass plate, Brass Rod, Spatula, Moisture Tin & Porcelain Dish					
12	Electronic Balance	The electronic balance should be able to operate with battery as well with A.C. power supply, The balance should have accuracy up to 0.01g., Pan Size – 200 x250 mm. Measurement up to (i) 5 Kg (ii) 10 Kg.	set	1			
13	Sieve (ISS Brass) 20 cm diameter	10.00 mm 5.60 mm 4.75 mm 4.00 mm 3.35 mm 2.80 mm 2.36 mm 2.00 mm 1.70 mm 1.60 mm 1.40 mm 1.18 mm 1.00 mm 850 microns 710 microns 600 microns 500 microns 425 microns 355 microns, 300 microns, 250 microns, 212 microns, 180 microns, 160 microns, 150 microns, 125 microns, 106 microns, 90 microns, 80 microns, 75 microns, 63 microns, 53 microns, 45 microns, 38 microns, Pan & Cover.	set	2			
14	Motorised Sieve Shaker	The instrument should have a digital timer adjustable from 0-99 minutes. The Sieve Shaker should be able to carry up to 8 sieves and should be able to be driven by a ¼ HP geared motor. The Sieve Table should change progressively in the clockwise direction. In addition to the gyratory motion of the table, there should be tapping motion for better sieving action. The equipment should be suitable for the operation on 220 V, 50 Hz, Single Phase, AC supply, and to be supplied with Adaptor to hold 8 sieves of 20cm diameter.	No	1			
15	Poly carbonate Beakers	One set of beakers should contain the following beakers 25 ml, 50 ml, 100 ml, 250 ml, 500 ml, 1000 ml	set	3			
16	Permeability Test Apparatus	Ref. Standards IS:2720 (Part 17), IS:11209 The apparatus consists of: Stand with three glass tubes of 6 mm, 10 mm and 20 mm dia approx. Metallic Mould 100 mm dia x 127.3 mm height, 1000 ml volume. Extension Collar 100 mm diameter.	No	1			
17	Sampling Auger Outfit	Blade Type, 100 mm dia. Sampling Auger Outfit, Blade Type, 150 mm dia. Extension Rods for use with the above mentioned Auger Heads, one metre in length, threaded at both ends with hexagonal couplings. Handle and T-piece Spanner	No	2			
18	Core Cutter	It consists one each of: Cylindrical core cutter made of steel, 127.3 mm long and 100mm internal diameter. Steel	No	2			

		Dolly, 25 mm high with a lip to enable it to be located on top of the core cutter. Rammer with detachable steel rod.					
19	Mixing Trays	As per the Size of the Oven	No	4			
20	Un confined Compression Test	Ref. Standard IS 2720 Part 10 AASHTO T208 AIM062-1. The equipment consists of the following replaceable parts; load frame motorised three speed 50 KN. Plain plate with adaptor and steel balls. High sensitivity proving ring capacity 2 KN dial gauge 25 mm Travel , .01mm least count , split mould 38 mm diameter X 76mm long rubber sheath for 38 mm diameter specimen .	No	1			
21	Moisture Cans	oven save cans of minimum of 50mm dia and 50mm height - with lid	No	12			
22	Measuring Fibre Glass Tape	30 meter	No	2			
23	Oven Safe Tongs	Standard	No	6			
24	Ductility test apparatus	The apparatus consists of a water bath with a thermostatic heater, and a circulating pump to maintain uniform water temperature. One half of the briquette moulds is fixed on a fixed plate in the water bath, the other half of the briquette mould is fixed to a carrier which slides over a rotating threaded shaft with a clutch. The motor and gears to rotate the shaft are housed in a cabinet fixed above the other end of the bath. A pointer fixed to the carrier moves over a scale graduated from 0-110 cm x 1mm fixed on the bath with "0" (zero) of the scale towards the fixed plate side. The rotating shaft has 2 speeds of travel for the bracket, 5cm/min and 1 cm/min., selected by a clutch. Water bath inside is aluminium, it is an insulated water bath. Water bath is provided with a drain. A heater with thermostatic control is fixed inside the water bath. Control switches for motor, stirrer, heater and indicator lamps are fixed at a convenient place on the water bath, complete with three briquette moulds and one base plate, all made of brass. Operates on 230 volts A.C. single phase. Accessories: 1. Thermometer IP 38 C, range 23°C to 27°C. 2. Ductility mould with base-plate.	No	1			
25	Platform Weighing Machine (Digital)	For weighing upto 100 kg, accuracy 50g	No	1			

Note: For detailed specifications please refer table 3: Technical Specifications

Lot No : 5							
Lot Name: Structure Mechanics Lab.							
Item No	Name of Goods or Related Services	Description	Unit of Measure -ment	Quantity	Specification by the supplier (To be filled by the supplier)	Detailed information brochure attached at Page No.	Pass/Fail (By Purchaser)
1.	Searls Apparatus	Comprises of a metal rod carrying vertically a polished stainless steel scale 0 to 15cm, with provision for its height adjustment. An integrated mass hanger/pointer is connected to the lower end of the spring with the eye-shaped upper end for suspension through an adjustable collar with cross bar, which is positioned above the scale. Complete apparatus mounted on a stable base.	No	3			
2.	Slopes and deflection Apparatus of the beam	Verification of moment Area theorem for slopes and deflection of the beam, Testing Apparatus. Apparatus consists of a mild steel beam 2.5cm x 3 mm in cross section and 100cm long, pinned to two supports 70cm apart situated symmetrically. One of the ends can be fixed of given a known slope by applying a known moment of the end with the help of suspended loads. At the other end also a known moment can be applied. Vertical loads can be applied at various points along the span of the beam. A dial gauge with 25 mm travel (with a magnetic base) is supplied with the apparatus. Apparatus is supplied complete with a supporting stand and a set of weights.	No	3			
3.	Universal Testing Machine (600KN):	The loading accuracy as high as +/- 1% of the indicating value. Equipment should be 6 pillar structure with hydraulic jaw grips, Strain measurement at variable speed to cover a wide range of materials adjustable by the manual control valve. High reading accuracy and rugged design of digital display. Simple control to facilitate ease of operation. Robust load frame with extremely rigid construction. Large effective clearance between columns enable testing of	No	1			

		<p>standard specimen as well as structures. Motor driven threaded columns for UP/DOWN movement of lower crosshead for quick change over of specimen, grips and attachment.</p> <p>The Universal Testing Machine should have the resolution of 0.01KN and the maximum clearance for tensile test lies in the range of 50-650mm and maximum clearance for compression test lies in 0-600 mm range. The clearance between columns is 650mm and Ram stroke is 250mm. The straining/piston speed at no load is 0-50mm/min. For tension test the clamping jaws for round specimens are in 8-16mm, 13-26mm, 26-40mm specification and clamping jaws for flat specimen's thickness is in 0-40mm range. The flat specimen width for tension test should be 70mm and for compression test the pair of compression plate's diameter of circular platen should be 220mm. For the transverse test the width and diameter of rollers is 140mm and 50mm respectively. In the transverse test the maximum clearance between supports is 600mm and radius of punch tops comes in two different specifications i.e. in 16mm and 22mm. The crosshead geared motor is of 0.37kw and power pack motor is of 2.20kw.</p> <p>The machine should have microprocessor based electronic panel, Precision load cell for load measurement, Rotary encoder for crosshead displacement/extension indication, LAN card for PC interface, Data entry for specimen dimension, serial number, gauge length. Unit selection for load, displacement. The Results include Load vs Displacement curve, Maximum displacement, UTS, % elongation, Young's Modulus & Proof stress. The equipment should be provided with Robust Standalone and real time data acquisition system with Universal Ports, 18 Bit Resolution, more than 10 Analogue channels and 12 flexible digital channels, 8 Bi-directional channels for state & count input and state output.</p> <p>LCD Display, interface all types of sensors. The data logger should have Accuracy: 0.1% of full scale, , Linearity 0.01 % and Easy Configurable Windows Based Software. The Equipment and Software should be provided with relevant attachments to conduct Tensile Test,</p>					
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		<p>Compression Test, Transverse test for flat specimen, Bend-Re bend Test, Shear Test and Extensometer. The extensometer test screen incorporates the result of the normal load VS Displacement Test as well as the Load Vs Extension online graphical view simultaneously, a unique facility on its own. The equipment to be provided with signal conditioner, strain gauges and temperature gauges. Electronic extensometer strain gauge type with 2.5mm extension and gauge length 25 & 50mm Bend Test attachment 180, flexural test attachment, Shear Test attachment 6, 8, 12, 16 & 20mm dia Shear test attachment 25, 30, 35 & 40 mm dia, Pair Threaded holdings heads 6, 8, 10, 12, 16, 18, 20mm. Gripping device for threaded and shouldered specimens ,Pair of split ring for shouldered specimen 6,8,10,12,16,18,20mm(per set), The approximate weight for the 1000KN Universal Testing machine is 3500Kg. The machines should be calibrated in accordance with BS:1610 and IS standards. Universal Testing Machine comply with grade A of BS 1610:1964 and grade 1 of IS:1828-1991. An accuracy of +/- 1% is guaranteed from 20% of the load range selected to full load. Below 20% of the selected range the maximum permissible error is 0.2% of the full load reading. The Universal Testing Machine is suitable for operation on 440V,50Hz, three phase, AC supply. The equipment to be supplied with Laptop and Laser printer with latest configuration to support the equipment software. The bidder has to submit detailed data sheet of the equipment with all accessories as mentioned above and show the working of the equipment along with all attachments /accessories to the department.</p>					
4.	Elastic Properties of Deflected Beam (Young's Modulus):	<p>Apparatus consists of a mild steel beam 2.5cm x 3mm in cross section and 100cm long, pinned to two supports 70cm apart situated symmetrically. One of the ends can be fixed or given a known slope by applying a known moment at the end with the help of suspended loads. At the other end also a known moment can be applied. Vertical loads can be applied at various points along the span of the beam. A dial gauge with 25mm travel (with a magnetic base) may</p>	No	1			

		be supplied with the apparatus. Apparatus to be supplied should be complete with a supporting stand and a set of weights. Beam Material Mild Steel Beam Size 2.5 cm x 3 mm Length 100 cm Gauge 25mm					
5.	Truss apparatus	Experimental and analytical study of 1 3 bar pin jointed Truss Apparatus consists of three suspension members (spring balances) of different stiffness which are jointed at a point to form the redundant joint. The upper end of the suspension members being tied in a position to a vertical wooden board. Arrangement is provided on a paper and also elongations and forces in the suspension members by the help of dial gauge	No	2			

Note: For detailed specifications please refer table 3: Technical Specifications

Lot No : 6							
Lot Name: Water Supply and Waste Water Engineering Lab							
Item No	Name of Goods or Related Services	Description	Unit of Measure -ment	Quantity	Specification by the supplier (To be filled by the supplier)	Detailed information brochure attached at Page No.	Pass/Fail (By Purchaser)
1.	Digital Turbidity Meter	Range: 0-1000 NTU, Display 3½ Digital LED, Detector: Photocell/photo diode, Resolution: 1 NTU accuracy ±3%FS ±1 digit compete with test tube set, light source 6v tungsten lamp, Power 230V±10%,	No	4			
2.	Chlorine Kit Complete for measuring Residual Chlorine content	As per standard specifications of chlorine kit available in market.	No	4			
3.	DO Meter	Display: 3½ digital LED, Range: 0 to 20 ppm, Resolution D.O. 0.1 ppm , Calibration: Manual, Accuracy:±0.1 ppm, Temp. Range: 0 to 60°C with ± 0.2°C accuracy, Compensation D.O. 3%, D.O. Sensor	No	4			
4.	pH meter (Microprocessor Based)	Range : 0-14 pH ,0to ±199mv Resolution: 0.01 pH,1mV Accuracy 0.01 pH±1 digit,±0.1mV Display: 16X2 Line Alphanumeric LCD Temperature compensation 0-100degree centigrade.	No	4			
5.	Jar Test Apparatus	Speed: Variable 20 rpm to 100 rpm with electronic speed regulator. Six Stirrer having paddle approx. 1" x 3" , stirring rod having 10" long approx. and sufficient space to hold Borosil Beakers.	No	2			
6.	Conductivity Meter /T.D.S Meter	Display: 3½ digit LED, Range 5 Ranges,0 - 1000 Mohs/cm 2 Ranges , 2 & 20 Mohs/cm ,Temperature Compensation Manual 0-50oC, Conductivity Cell Platinum DIP ,Cell Constant 0.2 to 1.8	No	2			
7.	Water Analysis Kit	Display: 3½ Digit LED ,TEMP. COMP.0°-100°C. Manual, pH Range 0 to 14pH ,Resolution 0.01pH ,accuracy ±0.01 pH±1 digit, Conductivity range 0-20ms, 0-200m,Resolution 0.1 Micro Mhos, O.R.P. /mV R	No	1			

8.	Water Supply and Sanitary Fitting Display Board	Different types like valves, , pipe fittings (union. Tee, Elbow, Socket, bib cock, pillar cock, long neck ,reducer, stopper etc). traps: P trap, S trap, floor trap, bottle trap, gully trap, intercepting trap etc .,mixer, water meter.	No	1			
9.	Water Distillation Plant	(Glass Type): panel mounted borosilicate Glass boiler with in built heater & borosilicate glass condenser complete with stand, clamps etc. Conductivity of distilled water produced is less than 1 micro-S/cm pH 6-7 suitable for HPLC. Output aprox. 2L per hour.	No	1			
10	Model for Septic Tank	For 10 users(2mX1.25mX1.25m) Metal based.	No	1			
11	Poly carbonate Beakers	One set of beakers should contain the following beakers 25 ml,50 ml,100 ml, 250 ml, 500 ml , 1000 ml	Set	6			

Note: For detailed specifications please refer table 3: Technical Specifications

Lot No : 7							
Lot Name: CACE Labs and Software							
Item No	Name of Goods or Related Services	Description	Unit of Measure -ment	Quantity	Specification by the supplier (To be filled by the supplier)	Detailed information brochure attached at Page No.	Pass/Fail (By Purchaser)
1.	Auto CAD	Latest Version of Auto CAD (For 25 users)	No	01			
2.	STAAD PRO	Latest Version of STAAD PRO College/Institution Version	No	01			
3.	Primavera	Latest Version of Primavera	No	01			

Note: For detailed specifications please refer table 3: Technical Specifications

2. Delivery and Completion Schedule

The delivery period shall start as of *date of Signing the Contract*

Lot No.	Description of Goods or Related Services	Delivery Schedule (Duration)	Location	Required Arrival Date of Goods or Completion Date for Related Services
Lot-1	Applied Mechanics and Fluid Mechanics Building Construction Lab.	Within 365 Days from the Signing of the contract.	Government Polytechnic (Women), Rehan Distt. Kangra H.P.	Within 365 Days from the Signing of the contract.
Lot-2	Concrete Technology Lab. And Construction Material Labs	Within 365 Days from the Signing of the contract.	Government Polytechnic (Women), Rehan Distt. Kangra H.P.	Within 365 Days from the Signing of the contract.
Lot-3	Surveying Lab.	Within 365 Days from the Signing of the contract.	Government Polytechnic (Women), Rehan Distt. Kangra H.P.	Within 365 Days from the Signing of the contract.
Lot-4	Soil and Highway Engineering Labs.	Within 365 Days from the Signing of the contract.	Government Polytechnic (Women), Rehan Distt. Kangra H.P.	Within 365 Days from the Signing of the contract.

Lot-5	Structure Mechanics Lab	Within 365 Days from the Signing of the contract.	Government Polytechnic (Women), Rehan Distt. Kangra H.P.	Within 365 Days from the Signing of the contract.
Lot-6	Water Supply and Waste Water Engineering Lab	Within 365 Days from the Signing of the contract.	Government Polytechnic (Women), Rehan Distt. Kangra H.P.	Within 365 Days from the Signing of the contract.
Lot-7	CACE Labs and Software.	Within 365 Days from the Signing of the contract.	Government Polytechnic (Women), Rehan Distt. Kangra H.P.	Within 365 Days from the Signing of the contract.

3. Technical Specifications

Special Note: 1	As a part of Documentation even if not mentioned all items supplied shall have minimum of 1. User/Operation Manual and 2. Warranty Certificate. Additional requirements for specific items will be explicitly mentioned.
Special Note: 2	The installation has to be carried out as per the guidelines given by the OEM with necessary ground work and fixtures wherever necessary.
Special Note: 3	All Light, Medium and Heavy machineries and item needing installation either on Ground or on Wall is the sole responsibility of the supplier.
Special Note: 4	All costs involved in installation such as materials and Labour is to be borne by the Supplier.
Special Note: 5	Machines and items shall be installed at the identified position in the designated workshop /Laboratory of Government Polytechnic (Women), Rehan Distt. Kangra H.P..
Special Note: 6	Warranty of One/Two/.. / means that the Supplier of the item takes full responsibility in ensuring the best working condition of the item during the warranty period.
Special Note: 7	In the event the item is not working the OEM ensure that the item is brought back to best working condition with-in a reasonable period of time not more than 5 days in the worst case.
Special Note: 8	All parts of the machine not intentionally damaged by the user should be replaced free of cost by the supplier.
Special Note: 9	All consumable items if any needing replacement will be supplied by the Government Polytechnic (Women), Rehan Distt. Kangra H.P..
Special Note: 10	All Items of delicate nature shall be supplied in a suitable Cloth/Wooden/ Other suitable storage case/cover for protection of the item from dust and moisture.
Special Note: 11	Detailed information brochures having specifications, make and model number of individual item to be attached.

Lot 1: Applied Mechanics and Fluid Mechanics Building Construction Lab

Item No.	Name of Goods or Related Services	Technical Specifications of Item and/or Bureau of Indian Standards (BIS) (if applicable) reference	Features	Accessories	Spare parts	Documents	Installation & Training	Warranty of Equipment/parts
1.	Triangle & Parallelogram Law of Force apparatus	Apparatus consists of a black wooden board which is fixed in a wooden slotted frame of size 75 x 70 cm. Four adjustable frictionless pulleys are provided in the slots of the frame and the frame is provided with suitable arrangements for fixing it to a wall. Apparatus is supplied complete with 4 hangers of 50 gm and 16 iron nickled slotted weights of 50 gm each. Sample Calculations and manual to be provided along with the	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year

		quotation.						
2.	Single purchase Winch Crab Apparatus	Apparatus consists of a heavy duty C.I. wall brackets. The grooved wheel is of 25 cm dia, and a set of gearing arrangements (machine cut gears) are provided for measurement of efficiency of winch crab. . Sample Calculations and manual to be provided along with the quotation.	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
3.	Polygon law of forces apparatus	Apparatus consists of a black wooden board which is fixed in a wooden slotted frame of size 75 x 70 cm. Four adjustable frictionless pulleys are provided in the slots of the frame and the frame is provided with suitable arrangements for fixing it to a wall. Apparatus is supplied complete with 4 hangers of 50 gm and 16 iron nickled slotted weights of 50 gm each. . Sample Calculations and manual to be provided along with the quotation.	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
4.	Simple screw jack	This will be consisting of the following: (a) A machine cut worm gear of 250 mm dia (b) A metal drum of 120 mm dia (c) A machine cut worm on steel spindle carrying 120 mm pulley at end. The complete assembly will be fitted on heavy duty C.I. frame suitable to fix the same on wall with weights and pan. Apparatus is supplied complete with effort pulley, String and hooks. . Sample Calculations and manual to be provided along with the quotation.	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
5.	Worm & worm wheel Apparatus	An all metallic self contained apparatus useful for demonstrating the efficiency of worm and wheel and also the principle of works. Consisting of machine cut worm gear of 25 cm diameter, carrying a metal drum on	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in	One Year

		12 cm diameter, and machine cut worm on steel spindle carrying a 12 cm diameter pulley. The whole arrangement is fixed on heavy cast iron bracket capable to be a wall. Complete with effort pulley, string and hooks but with weights. . Sample Calculations and manual to be provided along with the quotation.					Himachal Pradesh - Training as required by staff of Polytechnic	
6.	Inclined plain apparatus	Apparatus consists of a wooden plane 90 x 18 cm having adjustment for setting the angle precisely. Apparatus is supplied complete with a frictionless pulley, linear and circular scale, pan, a wheeled trolley and a set of eight slide draws (having bottom different materials) . Sample Calculations and manual to be provided along with the quotation.	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
7.	Simple and compound Pulley Apparatus	Almost every kind of System of pulley (I & II system of pulley) can be demonstrated with the help of this equipment. The set consists of wooden polished base with two metal supports and a horizontal bar having different hooks from which pulleys can be suspended. Accessories provided with the unit are Single pulley with two hook -04 No., Pulley triple long -02 No. and two pan. . Sample Calculations and manual to be provided along with the quotation.	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
8.	Jib crane apparatus	Apparatus consists of a tubular compression balance, pivoted about an axis fitted to the base. The tie chain has an adjustable angle bracket and fitted with a 10 Kg extension balance. Apparatus is complete on a wooden base with 1.2 m jib. . Sample Calculations and manual to be provided along with the quotation.	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year

9.	Centre of gravity of irregular and regular lamina	A simple and economical apparatus for demonstration of geometrical center of gravity of two-dimensional objects. Center of gravity of a freely suspended two-dimensional object always lies along the line drawn vertically downward from its point of suspension. Comprises a clear perspex rod mounted on a base with a suspension screw at the top and four laminas of clear acrylic – 1 each of circular, triangular, square and trapezoidal. Each lamina has suspension holes along their periphery. The point of intersection of lines drawn from point of suspension of 2 or more holes of a lamina gives center of gravity of that 2-dimensional lamin. . Sample Calculations and manual to be provided along with the quotation.	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
10.	Coefficient of friction between 3 points of given surface	Apparatus consists of a wooden plane 90 x 18 cm having adjustment for setting the angle precisely. Apparatus is supplied complete with a frictionless pulley, linear and circular scale, pan, a wheeled trolley and a set of eight slide draws (having bottom different materials). . Sample Calculations and manual to be provided along with the quotation.	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
11.	Bernoulli's apparatus :	Test Section : Material Acrylic (One Piece). Piezometer Tubes : Material P.U. Tubes (7 Nos.) Water Circulation : FHP Pump, Crompton make/ Kirloskar/kalsi/or any ISI mark. Flow Measurement : Using Measuring Tank with Piezometer, Capacity 25 Ltrs. with Stop Watch (Electronic) Sump Tank : Capacity 70 Ltrs.,	- Low maintenance -Sturdy construction -Corrosion-resistance	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Polytechnic in Himachal Pradesh - Training as required by staff of Polytechnic	One Year

		<p>Inlet Tank : Capacity 20 Ltrs.</p> <p>Control Panel Comprises of: Standard make On/Off Switch, Mains Indicator, etc.</p> <p>All the tanks should be made of Stainless Steel Grade- 304.</p> <p>Stainless Steel Sheets used for fabrication should be 2mm thick,</p> <p>Structure should be used of MS CR square / rectangular pipe with minimum thickness-1.5 mm for fabrication.</p> <p>Polyurifine paint (PU Paint) should be used.</p> <p>. Sample Calculations and manual to be provided along with the quotation.</p>						
12.	Venturimeter coefficient apparatus	<p>. Venturimeter :Material Clear Acrylic compatible to 1" Dia. Pipe.</p> <p>Water Circulation : FHP Pump, Crompton make/ Kirloskar/kalsi/or any ISI mark Flow Measurement :Using Measuring Tank with Piezometer (Capacity 25 Ltrs.) and Electronic Stop Watch</p> <p>Sump Tank :Capacity 50 Ltrs.</p> <p>Control Panel Comprises of Standard make On/Off Switch, Mains Indicator, etc.</p> <p>Water manometer to be used for experimentation without any manometric fluid (Mercury, CCl₄, etc).</p> <p>All the tanks should be made of Stainless Steel Grade- 304.</p> <p>Stainless Steel Sheets used for fabrication should be 2mm thick,</p> <p>Structure should be used of MS CR square / rectangular pipe with minimum thickness-1.5 mm for fabrication.</p> <p>Pipe should be used of B Class,</p> <p>Polyurifine paint (PU Paint) .</p> <p>. Sample Calculations and manual to be provided along with the quotation.</p>	<p>- Low maintenance</p> <p>-Sturdy construction</p> <p>-Corrosion-resistance</p>	Standard accessories	Standard	<p>User/Operating Manual</p> <p>- List of Service Centres in India</p> <p>- Warranty Certificates</p> <p>-Test Certificate from Competent Authority</p>	<p>- To be installed at Polytechnic in Himachal Pradesh</p> <p>- Training as required by staff of Polytechnic</p>	One Year
13.	Orifice and mouthpiece	<p>Set of Orifices :Material Acrylic (2 Nos.) Dia. 10mm and 15 mm</p> <p>Set of Mouthpieces : Material Acrylic (3</p>	- Low maintenance	Standard accessories	Standard	<p>User/Operating Manual</p> <p>- List of</p>	- To be installed at Polytechnic	One Year

	apparatus	<p>Nos.) Dia 10 mm (L/D =1, 2.5 & 4) Constant Head tank :35 Ltrs. Pointer Gauge :To measure X-Y co-ordinates of Jet. Water Circulation : FHP Pump, Crompton make/ Kirloskar/kalsi/or any ISI mark. Flow Measurement :Using Measuring Tank with Piezometer, Capacity 25 Ltrs. Sump Tank :Capacity 70 Ltrs. Stop Watch:Electronic. Control Panel Comprises of Standard make On/Off Switch, Mains Indicator, etc. Stainless Steel Sheets used for fabrication should be 2mm thick, Structure should be used of MS CR square / rectangular pipe with minimum thickness-1.5 mm for fabrication. Pipe should be used of B Class, Polyurifine paint (PU Paint) . Sample Calculations and manual to be provided along with the quotation.</p>	<p>-Sturdy construction -Corrosion-resistance</p>			<p>Service Centres in India - Warranty Certificates -Test Certificate from Competent Authority</p>	<p>in Himachal Pradesh - Training as required by staff of Polytechnic</p>	
14.	Reynold APPARATUS :	<p>Tube :Material Borosilicate Glass (ID 14mm approx., Length: 600mm) Dye vessel :Material Stainless Steel, Suitable Capacity Capillary Tube:Material Copper/Stainless Steel. Constant Head Water Tank :Capacity 40 Ltrs. Water Circulation : FHP Pump, Crompton make/ Kirloskar/kalsi/or any ISI mark Flow Measurement :Using Measuring Cylinder with Stop Watch (Electronic.), Sump Tank :Capacity 60 Ltrs. Control Panel Comprises of Standard make On/Off Switch, Mains Indicator, etc. All the tanks should be made of Stainless Steel Grade- 304. Stainless Steel Sheets used for fabrication should be 2mm thick,</p>	<p>- Low maintenance -Sturdy construction -Corrosion-resistance</p>	Standard accessories	Standard	<p>User/Operating Manual - List of Service Centres in India - Warranty Certificates -Test Certificate from Competent Authority</p>	<p>- To be installed at Polytechnic in Himachal Pradesh - Training as required by staff of Polytechnic</p>	One Year

		Structure should be used of MS CR square / rectangular pipe with minimum thickness-1.5 mm for fabrication. Pipe should be used of B Class, Sample Calculations and manual to be provided along with the quotation. Polyurifine paint (PU Paint) . Sample Calculations and manual to be provided along with the quotation.						
15.	Losses in pipe fitting apparatus:	<p>Sudden Enlargement :From 15mm to 25mm Sudden Contraction :From 25mm to 15mm., Bend : ½” Elbow : ½”, Ball valve :½”, Gate valve :½” Water Circulation : FHP Pump, Crompton make/ Kirloskar/kalsi/or any ISI mark Flow Measurement :Using Measuring Tank with Piezometer, with Stop Watch Electronic Capacity 25 Ltrs. Sump Tank :Capacity 50 Ltrs. Pressure Drop Measurement :Differential Manometer Control Panel Comprises of Standard make On/Off Switch, Mains Indicator, etc. Water manometer to be used for experimentation without any manometric fluid (Mercury, CCl4, etc). All the tanks should be made of Stainless Steel Grade- 304. Stainless Steel Sheets used for fabrication should be 2mm thick, Structure should be used of MS CR square / rectangular pipe with minimum thickness-1.5 mm for fabrication. Pipe should be used of B Class, Polyurifine paint (PU Paint) . Sample Calculations and manual to be provided along with the quotation.</p>	<p>- Low maintenance - Sturdy construction - Corrosion-resistance</p>	Standard accessories	Standard	<p>User/Operating Manual - List of Service Centres in India - Warranty Certificates - Test Certificate from Competent Authority</p>	<p>- To be installed at Polytechnic in Himachal Pradesh - Training as required by staff of Polytechnic</p>	One Year

16.	Current meter	<ul style="list-style-type: none"> · Acoustic, anti-corrosive and light weight. · Must have universal application on different fixing devices for use on rod or as cable suspended meter equipment. · Must be ideal for long term deployments. · Must be able to collect directional wave data simultaneously as it measures the mean current. · May be used in real-time application and also with an internal recorder, batteries and a highly sophisticated power management that makes it the system of choice for self-contained deployments. Must have maximum recording capacity. · Maximum measurements upto 300m depths. · Must have variable power output to get longer deployment times in waters with high scattering levels. · B raketload 800 Kg. Range ± 5 m/s Accuracy(of measured value ± 0.5 m/s) · 1 % Maximum sampling rate(output): · 1Hz Internal sampling rate: · 23 Hz Sensors Required · Temperature :Thermistor embedded Range:-4°C to 40°C Accuracy/Resolution: 0.1°C/0.01°C, Time response: 10 min. · Compass(magnetometer) Maximum tilt: 30° Accuracy/Resolution:2°/0.1° · Tilt(Liquid level): Accuracy/Resolution: 0.2°/0.1° 	<ul style="list-style-type: none"> - Low maintenance -Sturdy construction -Corrosion-resistance 	<ul style="list-style-type: none"> (· Mooring Head transducer configuration for three component observations of velocity. · Suitable inline frames are required for connecting the current meter to the mooring line. · Mooring stand · Deep water mounting systems. · Additional batteries required. · 5. Connectors required-cables. · Rugged Laptop required for data communication and data retrieval. · 64 bit, Operating system : Windows · Mooring frame)Data communication · Designed to be integrated third party controllers using with RS232 or RS422. · Software supports most 	Standard	<ul style="list-style-type: none"> User/Operating Manual - List of Service Centres in India - Warranty Certificates -Test Certificate from Competent Authority 	<ul style="list-style-type: none"> - To be installed at Polytechnic in Himachal Pradesh - Training as required by staff of Polytechnic 	One Year
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		Up or down: Automatic detect . Pressure(Piezo resistive) Range:300m Accuracy/Resolution:0.25%/Better than 0.005% of full scale sample. . Sample Calculations and manual to be provided along with the quotation.		commercially available USB-RS232 converters. . Communication Baud rate: 300-115200 (baud) 5. Operating Temperature - 5°C- 40° C 6. Pressure rating 0-300m 7. Power requirements . DC input 9 -15 VDC 8. Real time clock required with back up in absence of power Standard accessories - All the tools & keys required to operate the machine with attachments - With Suitable Starter / DOL				
17.	Pitot tube Apparatus:	Pitot Tube :Material Copper/SS of compatible size fitted with vernies scale. Test Section :Material Clear Acrylic, compatible to 1" Dia. Pipe. Water Circulation : FHP Pump, Crompton make/ Kirloskar/kalsi/or any ISI mark Flow Measurement :Using Measuring Tank with Piezometer (Capacity 25 Ltrs.) and Electronic Stop Watch Sump Tank :Capacity 50 Ltrs. Control Panel Comprises of Standard make On/Off Switch, Mains Indicator, etc. All the tanks should be made of Stainless Steel Grade- 304.	- Low maintenance -Sturdy construction -Corrosion-resistance	All the accessories .	Standard	User/Operating Manual - List of Service Centres in India - Warranty Certificates -Test Certificate from Competent Authority	- To be installed at Polytechnic in Himachal Pradesh - Training as required by staff of Polytechnic	One Year

		<p>Stainless Steel Sheets used for fabrication should be 2mm thick, Structure should be used of MS CR square / rectangular pipe with minimum thickness-1.5 mm for fabrication. Pipe should be used of B Class, PU paint should be used. . Sample Calculations and manual to be provided along with the quotation.</p>						
18.	Flow over notches apparatus:	<p>Channel Test Section : 600 x 250 x 180 mm. Notches : Material Brass (Rectangular Notch, 45° V Notch, 60° V Notch, & trapezoidal Notch) Pointer Gauge : With Vernier scale. Water Circulation : FHP Pump, Crompton make/ Kirloskar/kalsi/or any ISI mark Flow Measurement :Using Measuring Tank with Piezometer with Stop Watch Electronic Capacity 25 Ltrs., Sump Tank :Capacity 50 Ltrs. Control Panel Comprises of Standard make On/Off Switch, Mains Indicator, etc. All the tanks should be made of Stainless Steel Grade- 304. Stainless Steel Sheets used for fabrication should be 2mm thick, Structure should be used of MS CR square / rectangular pipe with minimum thickness-1.5 mm for fabrication. Pipe should be used of B Class, Polyurifine paint (PU Paint) . Sample Calculations and manual to be provided along with the quotation.</p>	<p>- Low maintenance -Sturdy construction -Corrosion-resistance</p>	All the accessories .	Standard	<p>User/Operating Manual - List of Service Centres in India - Warranty Certificates -Test Certificate from Competent Authority</p>	<p>- To be installed at Polytechnic in Himachal Pradesh - Training as required by staff of Polytechnic</p>	One Year

Lot 2: Concrete Technology Lab. And Construction Material Labs.

Item No.	Name of Goods or Related Services	Technical Specifications of Item and/or Bureau of Indian Standards (BIS) (if applicable) reference	Features	Accessories	Spare parts	Documents	Installation & Training	Warranty of Equipment/parts
1.	Vicat's test apparatus	Should Comply with IS:2542 (Part-2), 2645, 1727, 5513, BS:12, 146, 915, 1370, 4027, 4246, 4248, ASTM C-91 , C-141 , C- 187, C-308, C-359, C-472 & AASHTOT-129, E-131 With ISI Certification Mark, 15:5513 The equipment should consist of the following replaceable parts : Vicat Mould, Glass Base Plate, Initial Needle (in Plastic Case), Final Needle (in Plastic Case), Consistency Plunger (in Plastic Case), Mild Steel Base Plate, Vicat Mould Split Type, with Clamping Ring	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
2.	Digital Compression testing Machine 2000KN	Should Comply with IS: 516 & IS: 14858 (2000) ASTM C-39, AASHTO T-22, BS, EN Pumping unit -Dual stage Pump allows fast approach of the platens, Automatic controls over the load application. Centrifugal for fast approach & multi-piston for loading. Means – high flow & low flow – cut-off from high pressure flow to low pressure flow as per set pace rate. DC motor powered, means less noise as well as power (energy) saving Machine control Through and Inbuilt Touch screen Display Pace rate control -Automatic pace rate control starts from 1% of machine full capacity. Platen Oil filled ball seating with heavy duty upper platen for increased stability Platen Hardness -55 to 60 HRC Digital Indicator -This is the 10.1 inch TFT LED backlit color touch display with	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year

		<p>resolution: 800x480 (RGB) & features the integral load pacing bar display, maximum load & stress result display, export to USB & also Wi-Fi based cloud storage facility. Results from approximately 2000 completed tests can be stored in the in-built memory, Printer Store records can be printed on small thermal printer, where we can get peak load. But real time print of load Vs. time plot is not possible.</p> <p>Output Results should be Imperial / English, Metric or SI units The test commences with a live graph & ends with a report & online data transfer Dynamic cube status report, Dynamic strength reports (max., min., & avg.) Comprehensive date wise, plant wise report Data downloading through USB in ASCII format</p> <p>Calibration-Calibrated operating range between 5% to 100% of machine capacity with the accuracy of $\pm 1\%$ of the applied load.</p> <p>Door closed safety feature -Yes</p> <p>Loading frame -Fully welded construction with a top crosshead base & solid side walls with the precision ground hydraulic piston fixed to the base. Heavier frame with higher stiffness</p> <p>SMPS -Yes</p> <p>Platen flatness -0.01mm (10 microns)</p>						
3.	Le-chatelier apparatus for soundness test of cement,	<p>Should Comply with - IS:5514</p> <p>It should consists of a small split cylinder forming a mould of 30mm internal dia. and 30 mm high. On either side of the split cylinder, two parallel indicating arms with pointed ends are fixed. Two loops of suitable material and strength soldered to the upper half of the mould on each side of the central split is provided to facilitate demoulding of the hardened paste specimen after test The resilience of the mould shall be such that the action of a mass of 300g applied shall</p>	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	<p>- To be installed at Govt Polytechnic Rehan in Himachal Pradesh</p> <p>- Training as required by staff of Polytechnic</p>	One Year

		increase the distance between the indicator ends of the needle by 17 .5mm + 2.5mm without permanent deformation. The mould should be supplied complete with two glass plates and lead weight.						
4.	Measuring fibre glass tape	30 meter	Standard Features	Standard accessories	Standard	Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh	One Year
5.	Mixing trays	As per the Size of the Oven	Standard Features	Standard accessories	Standard	Concerned Brochure	- To be installed at Polytechnic in Himachal Pradesh	One Year
6.	Electric concrete vibrating table	Should Comply with : EN 12350-6, 7, 12390-2, 13286-50 Vibrating Table, Table top 1m x 1m for 16 moulds of 150mm cube	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
7.	Oven electrically operated, thermostatically controlled	Laboratory Electric Oven, Thermostatically Controlled, range 50° to 250°C +/-3°C with Air Circulating Fan, S.S. Inside Size 450 x 450 x 450mm	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh	One Year
8.	Standard test sieves (Spun brass framed)	Conforming to IS:460, 200 mm dia, woven wire cloth (with lid and pan) having following aperture sizes: 4.75mm, 2.36mm, 1.18mm, 600 micron, 300 micron, 150 micron, 75 micron	Standard Features	Standard accessories	Standard	Concerned Brochure	- To be installed at dGovt Polytechnic Rehan in Himachal Pradesh	One Year
9.	Standard test sieves (G.I. sheet framed)	Conforming to IS:460 (Part-II), perforated plate test sieves, 300 mm dia (with lid and pan) having following aperture sizes: 63mm, 40mm, 31.5mm, 25mm, 20mm, 16mm, 12.5mm, 10mm, 6.3mm, 4.75mm	Standard Features	Standard accessories	Standard	Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh	One Year

							Pradesh	
10.	Cube moulds	Size 7.5x7.5x7.5cm Mould frame, Cast Iron for 75 mm Cube with ISI Certification Mark as per IS:10086, the mould frame should be able to cast 3 moulds at one time.	Standard Features	Standard accessories	Standard	Concerned Brochure	- To be installed at Polytechnic Rehan in Himachal Pradesh	One Year
11.	Platform weighing machine (digital)	For weighing upto 100 kg, accuracy 50g	Standard Features	Standard accessories	Standard	Concerned Brochure	To be installed at Polytechnic Rehan in Himachal Pradesh	One Year
12.	Length gauge:	Conforming to IS:2386 (Part-I) (consisting of a metal plate on which 8 steel pins are vertically mounted at specific distances, assembly mounted on a hardwood base)	Standard Features	Standard accessories	Standard	Concerned Brochure	To be installed at Polytechnic Rehan in Himachal Pradesh	One Year
13.	Thickness gauge	Conforming to IS:2386 (Part-I) (consisting of a panel constructed from heavy gauge sheet steel, having accurately cut slots of different standard lengths and widths)	Standard Features	Standard accessories	Standard	Concerned Brochure	To be installed at Polytechnic Rehan in Himachal Pradesh	One Year
14.	Cylindrical metal measures	Conforming to IS:2386 (Part-III) Made out of sheet 3 ltr, 10 ltr, 15 ltr capacity steel with handles, complete with one tamping rod 16 mm dia and 60 cm long rounded at one end.	Standard Features	Standard accessories	Standard	Concerned Brochure	To be installed at Polytechnic Rehan in Himachal Pradesh	One Year
15.	Compaction factor apparatus	Conforming to IS:7320 consisting of (i) two conical hoppers with trap doors [(Upper hopper-top internal dia = 25.4 cm, bottom internal dia = 12.7 cm and internal ht.=27.9 cm), (Lower hopper- top internal dia = 22.9 cm, bottom internal dia = 12.7 cm and internal ht.=22.9cm)] (ii) one cylindrical receiver -Internal dia=15.2 cm, internal ht.=30.5 cm (iii) A welded steel stand for mounting the hoppers and the receiver co-axially at specified distances (iv) two trowels (v) one hand scoop (vi) one standard tamping rod 16mm dia and 60 cm long with one end rounded	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year

16.	Sieve shaker (Motorized)	Having a sturdy cast iron body, inclined sieve table which can accommodate a maximum of eight sieves of 300 mm dia, adjustable top clamping plate to hold the sieves, table having a gyratory motion in addition to up and down jolting action, operating gear assembly enclosed in an oil bath fitted with a transparent oil level indicating window, suitable for operating on 220 V, 50 Hz, single phase supply, time switch adjustable from 0-60 minutes, adopter for 200 mm dia sieves .	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
17.	Slump test apparatus	Conforming to IS:7320 consisting of (i) a slump cone (made of sheet steel suitably protected against corrosion) 100 mm dia at the top, 200 mm dia at the bottom and 300 mm high with two cleats and lifting handle (ii) A base plate with clamping arrangement for the slump cone and a swivel handle (iii) a tamping rod 16mm dia and 60 cm long with one end rounded and graduated from 0 to 15 cm in 0.5 cm spacing's to measure the slump.	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
18.	Cube moulds	Size 5x5x5cm Mould frame , Cast Iron for 50 mm Cube with ISI Certification Mark as per IS:10086, the mould frame should be able to cast 3 moulds at one time.	Standard Features	Standard accessories	Standard	Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh	One Year
19.	Glassware	Measuring cylinders 250 ml , 500 ml , 1 ltr, 2ltrs ,	Standard Features	Standard accessories	Standard	Concerned Brochure	- To be installed at Govt Polytechnic	One Year

							Rehan in Himachal Pradesh	
20.	Digital balance	For weighing upto 20 kg, accuracy 1g	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh	One Year

Lot 3: Surveying Lab.

Item No.	Name of Goods or Related Services	Technical Specifications of Item and/or Bureau of Indian Standards (BIS) (if applicable) reference	Features	Accessories	Spare parts	Documents	Installation & Training	Warranty of Equipment/parts
1.	Measuring fibre glass tape	30 meter	Standard Features	Standard accessories	Standard	Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh	One Year
2.	Measuring tape(steel)	10m and 20m	Standard Features	Standard accessories	Standard	Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh	One Year
3.	Measuring tape(Invar)	10 and 20 m	Standard Features	Standard accessories	Standard	Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh	One Year
4.	Ranging rods	(STEEL) SOCKET TYPE: (30 MM DIA.): Made of steel conduit pipe. Alternatively painted black and white or red and white. Fitted with strong shoe at the bottom. Size 4 Mt	Standard Features	Standard accessories	Standard	Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh	One Year

5.	Metal arm Cross Staff	(Aluminium) with wooden box and pole stand 4"	Standard Features	Standard accessories	Standard	Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
6.	Arrows along with arrow stands	Arrows made up of 6mm dia steel bar 40 cm length painted with black paint	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
7.	Prismatic Compass with Stands	Made of gunmetal with stand size 125mm and 150 mm	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
8.	Line ranger	As per Standard specification	Standard Features	Standard accessories	Standard	Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh	One Year
9.	Auto level	Telescope (configuration: Objective aperture-32 mm, magnification-24x, Image-erect, resolving power 4", Min. focussing distance-0.3m, Reticle-Cross hairs, stadia multiplication constant-100, stadia additive constant-0), Gun sight, 2mm standard deviation for 1 km double run levelling, Compensator (with magnetic damping system, working range - +/- 15', setting	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year

		accuracy 0.5", horizontal circle graduations 1°, sensitivity of circular level-2mm, Plane mirror for circular vlevel, horizontal fine motion screw with double sided endless drive, base-concave and flat, telescopic aluminium tripod, lens cap, plumb bob, vinyl cover, tool kit, operator's manual, carrying case with shoulder strap.						
10.	Dumpy Level with Stands	228 mm internal focussing with all standard ass. Packed in wooden box with telescopic aluminium stand made of aluminium and brass	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
11.	Wooden Plane Tables with aluminium stand and accessories	Plane table size 750mmX600mm x150mm as per ISI specifications with all standard accessories (Spirit level, alidate , plumbing fork with plum-bob, trough compass)	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
12.	Optical square	Indian optical Square Round shaped and wedge shaped	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
13.	Telescopic Aluminium Staff (4m)	4 mtr. Long, 3 section, 5mm graduation, with cover	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh	One Year

14.	Wooden Staff (3m)	3 mtr. Long, 3 section, 5mm graduation, with cover	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh	One Year
15.	Transit Vernier Theodolite with prismatic compass and tripod Stand	Accuracy-20 sec, erect image with special coated high range lenses, Achromatic Eye Piece, all component made of metal, Optical Plummet System, complete with tools in Wooden Box & with Aluminium Powder coated coloured folding telescopic tripod stand in carrying case, complete with all standard accessories.	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
16.	Total Station with Prism & Stands	Having angular least count of 2" or better & accuracy of 5" (or better) both for horizontal & vertical angles, image-erect, field of view-1°30' or better, minimum focussing distance-2.0m or less, compensator (dual axis type, compensating range +/- 4' or better), memory for 10,000 data blocks and should measure at least 3 km with single prism, 500 m in reflector less mode, laser plummet, sensitivity of plate level 30"/2mm, sensitivity of circular level 10"/2mm, Display-Graphic CD illumination (bright readable in sunlight), keyboard-alphanumeric, two fixed control panels or one detachable GPS compatible controller (controller unit) proprietary required software's, operating temperature: -10°C to + 50°C, user manual, container, 30 x telescope magnification, blue tooth wireless technology, removable USB stick, USB port, RS 232 port, emitting guide light for stake out, tribrach with laser plummet, telescopic aluminium tripod, Rechargeable batteries -2 nos., Charger with adapter-1 no., Data transferable cable-1no., Prism with holder and target plate - 2 nos., Reflector pole (of aluminium, telescopic with circular bubble, m & feet graduation, extendable to more than	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year

		2m, with light weight aluminium tripod)- 2 nos., PC utility software Data Transfer and Conversion software.						
17.	Electronic Digital theodolite	Telescope (configuration: Objective aperture-45 mm, magnification-30x, Image-erect, resolving power 3", Min. focussing distance-0.9m from telescope, stadia multiplication constant-100, stadia additive constant-0, Least count 1", Accuracy 2", automatic dual axis compensator, key board and display (LCD, 8 digitsx2 lines with backlight) on both sides, Interface (asynchronous serial, RS 232C compatible), self-diagnostic function, right angle buzzer, Sensitivity of plate level 20", Sensitivity of circular level 2mm, optical plummet (Image-erect, magnification 3x, min. focus 0.3m), detachable tribrach, operating temperature - 20 to =50°C, automatic power cut off, batteries 2 Nos. (LR14/C), standard accessories (lens cap, lens hood plumb bob, vinyl cover, tool kit, operator's manual, carrying case with shoulder strap.	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
18.	Ceylon Gnat Tracer with all accessories	Made in full brass, with rack and pinion adjustment divided from 1 in 6 to 1 in 120 angle of elevation and depression complete in wooden box with wooden target and stand.	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
19.	Tangent clinometer	Made in full brass, with rack and pinion adjustment, bubble and levelling screw, leather case.	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year

20.	Pentagraph	Made of full brass with metal fittings with casters, clamps, socket complete in polished wooden box, size 24".	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
21.	Abney level	With reflector arc divided to single degree, slow motion arrangement, size 125 mm, leather case	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
22.	Digital planimeter	Roller type with computing function, Hold memory function, Auto power off, unit & scale values conversion function, Display [Liquid crystal display 8 digits, 10 Symbols, (Symbol : Batt-E, SCALE, MEMO, HOLD, cm ² , m ² , km ² , ft ² , acre], Transverse direction roller movement unlimited, Precision- within +/- 0.2%, Internal rechargeable Ni -Cd battery chargeable with AC adapter, Operating Time- around 30 Hours using Battery, plastic case, operating manual.	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
23.	Surveyor's compass	100 mm size made of gunmetal with stand	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
24.	Handheld GPS	Internal GPS antenna: 72 channels GPS L1 C/A, GLONASS, Beidou, SBAS Integrated real-time : SBAS	Standard Features	Standard accessories	Standard	User/Operating Manual and	- To be installed at Govt Polytechnic	One Year

		(WAAS/EGNOS/MSAS/GAGAN) • External antenna connector: Yes • Dual constellation system : GPS/GLONASS or GPS/Beidou • Accuracy: Real-time SBAS < 1.5 m typical • Camera: 8 MP camera with geotagging and flash light or better , • Processor : 1.2 Ghz Qualcomm or better • Memory : 2GB RAM or better • Battery: Li-Ion removable battery with battery backup of 8 hours with GPS ON or better. • Storage/ Internal Memory : 4GB or better • Operating System : Android or better • Display: Gorilla Glass damage-resistant, auto rotate, 4.7" capacitive multi-touch, Resolution: 854x480px or better • Audio : Built-in microphone and speaker , Audio jack 2.5 plug Pogo pin connector : I/O, USB 2.0 (micro), external antenna connector • COMMUNICATIONS: Wi-Fi IEEE 802.11 b/g/n , Bluetooth 4.0 • Data collection software • Point, Line, Area, Attribute Management, Export[KML, .shp ,CSV] ,Import , share				Concerned Brochure	Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	
25.	Digital level	Along with bar coded staff and Telescope 24X, Compensator- Pendulum type, Working range $\pm 12''$,Electronic reading $\pm 2.0\text{mm}$ at 30m and Optical reading $\pm 2.0\text{mm}$ at 30m	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year

Lot 4: Soil and Highway Engineering Labs

Item No.	Name of Goods or Related Services	Technical Specifications of Item and/or Bureau of Indian Standards (BIS) (if applicable) reference	Features	Accessories	Spare parts	Documents	Installation & Training	Warranty of Equipment/parts
1.	Aggregate Impact Value test apparatus	Should Comply with - IS:9377 It is for determining the aggregate impact value and should designed in accordance with IS:2386 (Part 4), IS:9377 with free fall 380 ± 5 mm. The hammer should provided with a locking arrangement. Cylindrical cup Metal Measure Tamping Rod Automatic Blow Counter	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
2.	Cylinder for crushing value of aggregates	Steel cylinder with open ends and internal diameter 15.2 cm with square base plate plunger having piston diameter 150 mm with a whole provided along the stem of plunger and a cylindrical	Standard Features	Standard accessories	Standard	Concerned Brochure	- To be installed at Polytechnic in Himachal Pradesh	One Year

		measure of internal dia 11.5 cm and height 18 cm.						
3.	Water bath	Water Bath, Rectangular, Double Walled, Inside Stainless Steel, Thermostatically Controlled, Temp. Range Amb. +5°C. to 95°C +/- 0.5°C Size 300x250x100mm	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
4.	Bitumen penetrometer	Should Comply with IS 1203, ASTM D-5, EN-1426, 13179-2 <ul style="list-style-type: none"> • Penetration Needle • Transfer Dish made of copper. • Aluminium Sample Containers, Set of two. • Penetration Cone • Bitumen Penetration Kit • Penetration Test Cone Soil Penetration Test Cup 	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
5.	Los Angeles Abrasion test Apparatus	Should Comply with IS: 10070 This machine is for determining the resistance to wear off small size coarse aggregates and crushed rock. The machine	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of	One Year

		consists of a hollow cylinder, mounted on a sturdy frame on ball bearings. A detachable shelf which extends throughout the inside length of the drum catches the abrasive charge and does not allow it to fall on the cover. The drum is rotated at a speed of 30-33 rpm by an electric motor through a heavy duty reduction gear. Should be Supplied complete with a tray for collection of the material and automatic counter and 15 nos of cast iron balls 48 mm in dia and weighing 390 to 445 gms					Polytechnic	
6.	Ring and Ball Apparatus for softening point test of Bitumen	Should Comply with IS 1205 The Ring and Ball Apparatus should be compact user friendly apparatus. It should have magnetic stirrer with heating facility and digital display of temperature, the heating should be controlled through	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year

		<p>the integral PIO controller.]</p> <p>Should be supplied with</p> <ul style="list-style-type: none"> • Tapered Rings 2 Nos. • Ball Centering Guide 2 Nos. • Steel Balls of 9.5 mm dia 2 Nos. • Ring holder 1 No. • Electric Heater (Hot Plate) 1 No. • Thermometer IP 60C, Range: - 2° C to 80° C • Thermometer IP 61C, Range: 30° C to 200° C 						
7.	Oven electrically operated, thermostatically controlled	<p>Laboratory Electric Oven, Thermostatically Controlled, range 50° to 250°C +/-3°C with Air Circulating Fan, S.S. Inside Size 450 x 450 x 450mm</p>	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	<p>- To be installed at Govt Polytechnic Rehan in Himachal Pradesh</p> <p>- Training as required by staff of Polytechnic</p>	One Year
8.	Field density test apparatus with cutting tray, chisel, hammer Complete Set	<p>Should Comply with IS:2720 (Part 28)</p> <p>Sand Pouring Cylinder Apparatus, 100 mm</p> <p>The equipment should consist of the following replaceable parts :</p> <ul style="list-style-type: none"> • Sand Pouring 	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	<p>- To be installed at Govt Polytechnic Rehan in Himachal Pradesh</p> <p>- Training as required by staff of Polytechnic</p>	One Year

		<p>Cylinder fitted with Conical Funnel and Shutter, capacity 3 litre 1 No.</p> <ul style="list-style-type: none"> • Cylindrical Calibration Container 100 mm ID x 150 mm height 1 No. • Metal Tray size 30 x 30 x 4 cm, with 10 cm central hole 1 No. <p>Sand Pouring Cylinder Apparatus, Large</p> <p>The equipment consist of the following replaceable parts :</p> <ul style="list-style-type: none"> • Large sand Pouring cylinder, 16.5 ltr. capacity fitted with conical funnel and shutter • Cylindrical calibrating container, internal diameter 200 mm and internal depth 250mm • Metal tray size, 45x45x5 cm deep with hole 						
9.	Proctor's Compaction Test Apparatus, 2.5 kg & 4.5 kg hammers etc Complete Set	Should Comply with IS:2720 (Part 7), IS:2720 (Part 8) IS:9198, IS:10074, BS:1377 ASTM 0698, D 1557	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochur	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh	One Year

		Proctor Compaction Apparatus as per BS code Proctor Mould 105 mm ID, 115.5 mm height 1,000 ml volume Rammer 2.5kg x 300mm fall Compaction Apparatus for heavy compaction Proctor Mould 152mm ID, 127mm height 2,305 ml volume Rammer 4.5kg x 450 mm fall				e	- Training as required by staff of Polytechnic	
10.	Liquid Limit Test apparatus (Casagrande apparatus) Complete Set,	Should Comply with : IS:2720 (Part 5), IS:9259, BS 1377 Mechanical method known as the Casagrande Method has been a standardized test in Soil Mechanics for many years. High quality of design ensures consistency of results Satisfies International Standards Motorised model with integral blow counter is also available The Liquid Limit Device consists of a hard rubber base carrying a sliding	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year

		carriage assembly to which a brass cup is hinged. The cup is raised and allowed to fall through a height of 1 cm on to the hard rubber base, with the help of a lead screw provided at the back of the sliding carriage. Supplied complete with Casagrande Grooving Tool (Type A of IS: 9259), ASTM Grooving Tool (Type B of IS : 9259) and Gauge Block. Suitable for operation on 220 V, 50 Hz, single phase, AC supply.						
11.	Plastic limit test apparatus complete set,	Should Comply with IS : 2720 (Part V) 1985. Should consist of glass plate, Brass Rod, Spatula, Moisture Tin & Porcelian Dish	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
12.	Electronic balance	The electronic balance should be able to operate with battery as well with A.C. power supply,	Standard Features	Standard accessories	Standard	User/Operating Manual and Concern	- To be installed at Govt Polytechnic Rehan in	One Year

		The balance should have accuracy up to 0.01g.Measurement up to 5 Kg & 10 Kg, Pan Size – 200 x250 mm.				ed Brochure	Himachal Pradesh - Training as required by staff of Polytechnic	
13.	Sieve (ISS Brass) 20 cm diameter	10.00 mm 5.60 mm 4.75 mm 4.00 mm 3.35 mm 2.80 mm 2.36 mm 2.00 mm 1.70 mm 1.60 mm 1.40 mm 1.18 mm 1.00 mm 850 microns 710 microns 600 microns 500 microns 425 microns 355 microns 300 microns 250 microns 212 microns 180 microns 160 microns 150 microns 125 microns 106 microns 90 microns 80 microns 75 microns 63 microns 53 microns 45 microns 38 microns Pan & Cover.	Standard Features	Standard accessories	Standard	Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
14.	Motorised sieve shaker	The instrument should have a digital timer adjustable from 0-99 minutes. The Sieve Shaker	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned	- To be installed at Govt Polytechnic Rehan in Himachal	One Year

		should be able to carry up to 8 sieves and should be able to be driven by a ¼ HP geared motor. The Sieve Table should changes progressively in the clockwise direction. In addition to the gyratory motion of the table, there should be tapping motion for better sieving action. The equipment should be suitable for the operation on 220 V, 50 Hz, Single Phase, AC supply, and to be supplied with Adaptor to hold 8 sieves of 20cm diameter.				Brochure	Pradesh - Training as required by staff of Polytechnic	
15.	Poly carbonate Beakers	One set of beakers should contain the following beakers 25 ml,50 ml,100 ml, 250 ml, 500 ml , 1000 ml	Standard Features	Standard accessories	Standard	Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
16.	Permeability test apparatus	Ref. Standards IS:2720 (Part 17), IS:11209 The apparatus consists of :Stand with three glass tubes of 6 mm, 10 mm and 20	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at designated Govt Polytechnic Rehan in Himachal	One Year

		mm dia approx. Metallic Mould 100 mm dia x 127.3 mm height, 1000 ml volume. Extension Collar 100 mm diameter.				e	Pradesh - Training as required by staff of Polytechnic	
17.	Sampling auger outfit	Blade Type, 100 mm dia. Sampling Auger Outfit, Blade Type, 150 mm dia. Extension Rods for use with the above mentioned Auger Heads, one metre in length, threaded at both ends with hexagonal couplings. Handle and T-piece Spanner	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
18.	Core cutter	It consists one each of : Cylindrical core cutter made of steel, 127.3 mm long and 100mm internal diameter. Steel Dolly, 25 mm high with a lip to enable it to be located on top of the core cutter. Rammer with detachable steel rod.	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at designated Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
19.	Mixing trays	As per the Size of the Oven	Standard Features	Standard accessories	Standard	Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh	One Year

							- Training as required by staff of Polytechnic	
20.	Un confined Compression Test	Ref. Standard IS 2720 Part 10 AASHTO T208 AIM062-1. The equipment consist of the following replaceable parts ; load frame motorised three speed 50 KN .Plain plate with adaptor and steel balls. High sensitivity proving ring capacity 2 KN dial gauge 25 mm Travel , .01mm least count , split mould 38 mm diameter X 76mm long rubber sheath for 38 mm diameter specimen .	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
21.	Moisture cans	oven save cans of minimum of 50mm dia and 50mm height - with lid	Standard Features	Standard accessories	Standard	Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
22.	Measuring fibre glass tape	30 meter	Standard Features	Standard accessories	Standard	Concerned Brochure	- To be installed at Govt Polytechnic	One Year

						e	Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	
23.	Oven safe tongs		Standard Features	Standard accessories	Standard	Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
24.	Ductility test apparatus	The apparatus consists of a water bath with a thermostatic heater, and a circulating pump to maintain uniform water temperature. One half of the briquette moulds is fixed on a fixed plate in the water bath, the other half of the briquette mould is fixed to a carrier which slides over a rotating threaded shaft with a clutch. The motor and gears to rotate the shaft are housed in a cabinet fixed above the other end of the bath. A	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year

		<p>pointer fixed to the carrier moves over a scale graduated from 0-110 cm x 1mm fixed on the bath with "0" (zero) of the scale towards the fixed plate side. The rotating shaft has 2 speeds of travel for the bracket, 5cm/min and 1 cm/min., selected by a clutch. Water bath inside is aluminium, it is an insulated water bath. Water bath is provided with a drain. A heater with thermostatic control is fixed inside the water bath. Control switches for motor, stirrer, heater and indicator lamps are fixed at a convenient place on the water bath, complete with three briquette moulds and one base plate, all made of brass. Operates on 230 volts A.C. single phase. Accessories : 1. Thermometer IP 38 C, range 23°C to 27°C. 2. Ductility mould with base-plate.</p>						
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25.	Platform weighing machine (digital)	For weighing upto 100 kg, accuracy 50g	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
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Lot 5: Structure Mechanics Lab

Item No.	Name of Goods or Related Services	Technical Specifications of Item and/or Bureau of Indian Standards (BIS) (if applicable) reference	Features	Accessories	Spare parts	Documents	Installation & Training	Warranty of Equipment/parts
1.	Searls apparatus	Comprises of a metal rod carrying vertically a polished stainless steel scale 0 to 15cm, with provision for its height adjustment. An integrated mass hanger/pointer is connected to the lower end of the spring with the eye-shaped upper end for suspension through an adjustable collar	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year

		with cross bar, which is positioned above the scale. Complete apparatus mounted on a stable base.						
2.	Slopes and deflection Apparatus of the beam	Verification of moment Area theorem for slopes and deflection of the beam, Testing Apparatus. Apparatus consists of a mild steel beam 2.5cm x 3 mm in cross section and 100cm long, pinned to two supports 70cm apart situated symmetrically. One of the ends can be fixed of given a known slope by applying a known moment of the end with the help of suspended loads. At the other end also a known moment can be applied. Vertical loads can be applied at various points along the	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year

		span of the beam. A dial gauge with 25 mm travel (with a magnetic base) is supplied with the apparatus. Apparatus is supplied complete with a supporting stand and a set of weights.						
3.	Universal testing machine (600kn):	The loading accuracy as high as +/- 1% of the indicating value. Equipment should be 6 pillar structure with hydraulic jaw grips, Strain measurement at variable speed to cover a wide range of materials adjustable by the manual control valve. High reading accuracy and rugged design of digital display. Simple control to facilitate ease of operation. Robust load frame with extremely rigid construction. Large effective clearance between columns enable testing of	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year

		<p>standard specimen as well as structures. Motor driven threaded columns for UP/DOWN movement of lower crosshead for quick change over of specimen, grips and attachment. The Universal Testing Machine should have the resolution of 0.01KN and the maximum clearance for tensile test lies in the range of 50-650mm and maximum clearance for compression test lies in 0-600 mm range. The clearance between columns is 650mm and Ram stroke is 250mm. The straining/piston speed at no load is 0-50mm/min. For tension test the clamping jaws for round specimens are in 8-16mm, 13-26mm, 26-40mm specification and clamping jaws for flat specimens thickness is in 0-</p>						
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		<p>40mm range. The flat specimen width for tension test should be 70mm and for compression test the pair of compression plate's diameter of circular platen should be 220mm. For the transverse test the width and diameter of rollers is 140mm and 50mm respectively. In the transverse test the maximum clearance between supports is 600mm and radius of punch tops comes in two different specifications i.e. in 16mm and 22mm. The crosshead geared motor is of 0.37kw and power pack motor is of 2.20kw. The machine should have microprocessor based electronic panel, Precision load cell for load measurement, Rotary encoder for crosshead displacement/extension indication, LAN card for PC</p>						
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		<p>interface, Data entry for specimen dimension, serial number, gauge length. Unit selection for load, displacement. The Results include Load vs Displacement curve, Maximum displacement, UTS, % elongation , Young's Modulus & Proof stress. The equipment should be provided with Robust Standalone and real time data acquisition system with Universal Ports, 18 Bit Resolution, more than 10 Analogue channels and 12 flexible digital channels, 8 Bi-directional channels for state & count input and state output.</p> <p>LCD Display, interface all types of sensors. The data logger should have Accuracy: 0.1% of full scale, , Linearity 0.01 % and Easy Configurable Windows Based Software.</p>						
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		<p>The Equipment and Software should be provided with relevant attachments to conduct Tensile Test, Compression Test, Transverse test for flat specimen, Bend-Rebend Test, Shear Test and Extensometer. The extensometer test screen incorporates the result of the normal load VS Displacement Test as well as the Load Vs Extension online graphical view simultaneously, a unique facility on its own. The equipment to be provided with signal conditioner ,strain gauges and temperature gauges. Electronic extensometer strain gauge type with 2.5mm extension and gauge length 25 & 50mmBend Test attachment 180, flexural test attachment, Shear Test attachment 6, 8, 12, 16 & 20mm dia</p> <p>Shear test</p>						
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		<p>attachment 25, 30, 35 & 40 mm dia, Pair Threaded holdings heads 6, 8, 10, 12, 16, 18, 20mm. Gripping device for threaded and shouldered specimens ,Pair of split ring for shouldered specimen 6,8,10,12,16,18,20 mm(per set), The approximate weight for the 1000KN Universal Testing machine is 3500Kg. The machines should be calibrated in accordance with BS:1610 and IS standards. Universal Testing Machine comply with grade A of BS 1610:1964 and grade 1 of IS:1828-1991.An accuracy of +/- 1% is guaranteed from 20% of the load range selected to full load. Below 20% of the selected range the maximum permissible error is 0.2% of the full load reading. The Universal Testing Machine is suitable</p>						
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		for operation on 440V,50Hz ,three phase, AC supply. The equipment to be supplied with Laptop and Laser printer with latest configuration to support the equipment software. The bidder has to submit detailed data sheet of the equipment with all accessories as mentioned above and show the working of the equipment along with all attachments /accessories to the department.						
4.	Elastic Properties of Deflected Beam (Young's Modulus):	Apparatus consists of a mild steel beam 2.5cm x 3mm in cross section and 100cm long, pinned to two supports 70cm apart situated symmetrically. One of the ends can be fixed or given a known slope by applying a known moment at the end with the help of	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year

		<p>suspended loads. At the other end also a known moment can be applied. Vertical loads can be applied at various points along the span of the beam. A dial gauge with 25mm travel (with a magnetic base) may be supplied with the apparatus. Apparatus to be supplied should be complete with a supporting stand and a set of weights. Beam Material Mild Steel Beam Size 2.5 cm x 3 mm Length 100 cm Gauge 25mm</p>						
5.	Truss apparatus	<p>Experimental and analytical study of 1 3 bar pin jointed Truss Apparatus consists of three suspension members (spring balances) of different stiffness which are jointed at a point to form</p>	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	<p>- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic</p>	One Year

		the redundant joint. The upper end of the suspension members being tied in a position to a vertical wooden board. Arrangement is provided on a paper and also elongations and forces in the suspension members by the help of dial gauge						
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Lot 6: Water Supply and Waste Water Engineering Lab

Item No.	Name of Goods or Related Services	Technical Specifications of Item and/or Bureau of Indian Standards (BIS) (if applicable) reference	Features	Accessories	Spare parts	Documents	Installation & Training	Warranty of Equipment/parts
1.	Digital turbidity meter	Range: 0-1000 NTU, Display 3½ Digital LED, Detector: Photocell/photo diode, Resolution: 1 NTU accuracy $\pm 3\%FS \pm 1$ digit compete with test tube set, light source 6v tungsten lamp, Power 230V $\pm 10\%$,	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
2.	Chlorine Kit Complete for measuring Residual Chlorine content	As per standard specifications of chlorine kit available in market.	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
3.	Do meter	Display: 3½ digital LED, Range: 0 to 20 ppm, Resolution D.O. 0.1 ppm , Calibration: Manual,	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned	- To be installed at Govt Polytechnic Rehan in Himachal	One Year

		Accuracy:±0.1 ppm, Temp. Range: 0 to 60°C with ± 0.2°C accuracy, Compensation D.O. 3%, D.O. Sensor				Brochure	Pradesh - Training as required by staff of Polytechnic	
4.	Ph meter (Microprocessor Based)	Range : 0-14 pH ,0to ±199mv Resolution: 0.01 pH,1mV Accuracy 0.01 pH±1 digit,±0.1mV Display: 16X2 Line Alphanumeric LCD Temperature compensation 0-100degree centigrade.	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
5.	Jar test apparatus	Speed: Variable 20 rpm to 100 rpm with electronic speed regulator. Six Stirrer having paddle approx. 1" x 3" , stirring rod having 10" long approx and sufficient space to hold Borosil Beakers.	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
6.	Conductivity meter /t.d.s meter	Display: 3½ digit LED, Range 5 Ranges,0 - 1000 Mohs/cm 2 Ranges , 2 & 20 Mohs/cm ,Temperature Compensation Manual 0-50oC, Conductivity Cell Platinum DIP ,Cell Constant 0.2 to 1.8	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year

7.	Water analysis kit	Display: 3½ Digit LED ,TEMP. COMP.0°-100°C. Manual, pH Range 0 to 14pH ,Resolution 0.01pH ,accuracy ±0.01 pH±1 digit, Conductivity range 0-20ms, 0-200m,Resolution 0.1 Micro Mhos, O.R.P. /mV R	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
8.	Water Supply and Sanitary Fitting Display Board	Different types like valves, , pipe fittings (union. Tee, Elbow, Socket, bib cock, pillar cock, long neck ,reducer, stopper etc). traps: P trap, S trap, floor trap, bottle trap, gully trap, intercepting trap etc .,mixer, water meter.	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
9.	Water distillation plant	(Glass Type): panel mounted borosilicate Glass boiler with in built heater & borosilicate glass condenser complete with stand, clamps etc. Conductivity of distilled water produced is less than 1 micro-S/cm pH 6-7 suitable for HPLC. Output aprox. 2L per hour.	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year

10.	Model for Septic Tank	For 10 users(2mX1.25mX1.25m) Metal based.	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year
11.	Poly carbonate Beakers	One set of beakers should contain the following beakers 25 ml,50 ml,100 ml, 250 ml, 500 ml , 1000 ml	Standard Features	Standard accessories	Standard	Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	One Year

Lot 7: CACE Labs and Software

Item No.	Name of Goods or Related Services	Technical Specifications of Item and/or Bureau of Indian Standards (BIS) (if applicable) reference	Features	Accessories	Spare parts	Documents	Installation & Training	Warranty of Equipment/parts
1.	Auto CAD	Latest Version of Auto CAD Prof. (Three Year License)	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	Three Year
2.	Staad pro	Latest Version of STAAD PRO (Three Year License)	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	Three Year
3.	Primavera	Latest Version of Primavera (Three Year License)	Standard Features	Standard accessories	Standard	User/Operating Manual and Concerned Brochure	- To be installed at Govt Polytechnic Rehan in Himachal Pradesh - Training as required by staff of Polytechnic	Three Year

4. Drawings

Not Applicable

Section 7 - General Conditions of Contract

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1. Definitions

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

- (a) "Contract" means the Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendixes, and all documents incorporated by reference therein.
- (b) "Contract Documents" means the documents listed in the Agreement, including any amendments thereto.
- (c) "Contract Price" means the price payable to the Supplier as specified in the Agreement, subject to such additions and adjustments thereto or deductions therefrom, as may be made pursuant to the Contract.
- (d) "Day" means calendar day.
- (e) "Delivery" means the transfer of the Goods from the Supplier to the Purchaser in accordance with the terms and conditions set forth in the Contract.
- (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) "Eligible Countries" means the countries and territories eligible as listed in Section 5.
- (h) "GCC" means the General Conditions of Contract.
- (i) "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.
- (j) "Purchaser's Country" is the country specified in the Special Conditions of Contract (SCC).
- (k) "Purchaser" means the entity purchasing the Goods and Related Services, as specified in the SCC.
- (l) "Related Services" means the services incidental to the supply of the goods, such as insurance, installation, training and initial maintenance and other similar obligations of the Supplier under the Contract.
- (m) "SCC" means the Special Conditions of Contract.
- (n) "Subcontractor" means any natural person, private or government entity, or a combination of the above, including its legal successors or permitted assigns, to whom any part of the Goods to be supplied or execution of any part of the Related Services is subcontracted by the Supplier.
- (o) "Supplier" means the natural 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 Agreement, and includes the legal successors or permitted assigns of the Supplier.

(p) "ADB" is the Asian Development Bank.

(q) "The Site," where applicable, means the place named in the SCC.

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| 2. Contract Documents | 2.1 | Subject to the order of precedence set forth in the Agreement, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory. |
| 3. Fraud and Corruption | 3.1 | <p>ADB's Anticorruption Policy requires Borrowers (including beneficiaries of ADB-financed activity), as well as Bidders, Suppliers, and Contractors under ADB-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, ADB</p> <p>(a) defines, for the purposes of this provision, the terms set forth below as follows:</p> <ul style="list-style-type: none"> (i) "corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party; (ii) "fraudulent practice" means 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; (iii) "coercive practice" means 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; (iv) "collusive practice" means an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party; (v) "obstructive practice" means (a) deliberately destroying, falsifying, altering, or concealing of evidence material to an ADB investigation; (b) making false statements to investigators in order to materially impede an ADB investigation; (c) failing to comply with requests to provide information, documents or records in connection with an Office of Anticorruption and Integrity (OAI) investigation; (d) 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 (e) materially impeding ADB's contractual rights of audit or access to information; and (vi) "integrity violation" is any act which violates ADB's Anticorruption Policy, including (i) to (v) above and the following: abuse, conflict of interest, violations of ADB sanctions, retaliation against whistleblowers or witnesses, and other violations of ADB's Anticorruption Policy, |

including failure to adhere to the highest ethical standard.

- (b) will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations in competing for the Contract;
- (c) will cancel the portion of the financing allocated to a contract if it determines at any time that representatives of the borrower or of a beneficiary of ADB-financing engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations during the procurement or the execution of that contract, without the borrower having taken timely and appropriate action satisfactory to ADB to remedy the situation; and
- (d) will impose remedial actions on a firm or an individual, at any time, in accordance with ADB's Anticorruption Policy and Integrity Principles and Guidelines (both as amended from time to time), including declaring ineligible, either indefinitely or for a stated period of time, to participate¹ in ADB-financed, administered, or supported activities or to benefit from an ADB-financed, administered, or supported contract, financially or otherwise, if it at any time determines that the firm or individual has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations.

- 3.2 The Supplier shall permit ADB to inspect the Supplier's accounts and records relating to the performance of the Supplier and to have them audited by auditors appointed by ADB, if so required by ADB.

4. Interpretation

- 4.1 If the context so requires it, singular means plural and vice versa.

4.2 Incoterms

- (a) The meaning of any trade term and the rights and obligations of parties thereunder shall be as prescribed by Incoterms.
- (b) EXW, CIF, 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 at the date of the Invitation for Bids or as specified in the SCC.

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 parties with respect thereto made prior to the date of Contract.

¹ Whether as a Contractor, Subcontractor, Consultant, Manufacturer or Supplier, or Service Provider; or in any other capacity (different names are used depending on the particular Bidding Document).

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 Subclause 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 the SCC, 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.

6. Joint Venture

6.1 If the Supplier is a Joint Venture 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. The composition or the constitution of the Joint Venture 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 or incorporated, 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 ADB 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 imported 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.
- 10. Settlement of Disputes**
- 10.1 The Purchaser and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.
- 10.2 If the parties fail to resolve such a dispute or difference by mutual consultation within 28 days from the commencement of such consultation, either party may require that the dispute be referred for resolution to the formal mechanisms specified in the SCC.
- 11. Scope of Supply**
- 11.1 Subject to the SCC, the Goods and Related Services to be supplied shall be as specified in Section 6 (Schedule of Supply).
- 11.2 Unless otherwise stipulated in the Contract, the Scope of Supply shall include all such items not specifically mentioned in the Contract but that can be reasonably inferred from the Contract as being required for attaining Delivery and Completion of the Goods and Related Services as if such items were expressly mentioned in the Contract.
- 12. Delivery**
- 12.1 Subject to GCC Subclause 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 Section 6 (Schedule of Supply). The details of shipping and other documents to be furnished by the Supplier are specified in the SCC.
- 13. Supplier’s Responsibilities**
- 13.1 The Supplier shall supply all the Goods and Related Services included in the Scope of Supply in accordance with GCC Clause 11, and the Delivery and Completion Schedule, as per GCC Clause 12.
- 14. Purchaser’s Responsibilities**
- 14.1 Whenever the supply of Goods and Related Services requires that the Supplier obtain permits, approvals, and import and other licenses from local public authorities, the Purchaser shall, if so required by the Supplier, make its best effort to assist the Supplier in complying with such requirements in a timely and expeditious manner.

- 14.2 The Purchaser shall pay all costs involved in the performance of its responsibilities, in accordance with GCC Subclause 14.1.
- 15. Contract Price**
- 15.1 The Contract Price shall be as specified in the Agreement subject to any additions and adjustments thereto, or deductions therefrom, as may be made pursuant to the Contract.
- 15.2 Prices charged by the Supplier for the Goods delivered 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 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 12 and upon fulfillment of all the obligations stipulated in the Contract.
- 16.3 Payments shall be made promptly by the Purchaser, no later than 60 days after submission of an invoice or request for payment by the Supplier, and the Purchaser has accepted it.
- 16.4 The currency or currencies in which payments shall be made to the Supplier under this Contract shall be specified in the SCC.
- 17. Taxes and Duties**
- 17.1 For goods supplied from 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 supplied from 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 The Supplier shall, within 28 days of the notification of Contract award, provide a Performance Security for the due performance of the Contract in the amounts and currencies 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 The Performance Security shall be denominated in the currencies of the Contract, or in a freely convertible currency acceptable to the Purchaser, and shall be in one of the forms stipulated by the Purchaser in the SCC, or in another form acceptable to the Purchaser.

- 18.4 The Performance Security shall be discharged by the Purchaser and returned to the Supplier not later than 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 design, procurement, or other work and services required for the performance of the Contract.
- 20.3 The obligation of a party under GCC Subclauses 20.1 and 20.2 above, however, shall not apply to information that
- (a) the Purchaser or Supplier need to share with ADB 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. Subcontracting shall in no event 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 Supplier shall ensure that the Goods and Related Services comply with the technical specifications and other provisions of the Contract.
 - (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) The Goods and Related Services supplied under this Contract shall conform to the standards mentioned in Section 6 (Schedule of Supply) and, when no applicable standard is mentioned, the standard shall be equivalent or superior to the official standards whose application is appropriate to the country of origin of the Goods.
- 22.2 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 Section 6 (Schedule of Supply). 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 final destination of the Goods 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.

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| 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 | 25.1 Unless otherwise specified in the SCC, obligations for transportation of the Goods shall be in accordance with the Incoterms specified in Sections 6 (Schedule of Supply). |
| 26. Inspections and Tests | <p>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 Sections 6 (Schedule of Supply).</p> <p>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 final destination of the Goods, or in another place in the Purchaser's country as specified in the SCC. Subject to GCC Subclause 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.</p> <p>26.3 The Purchaser or its designated representative shall be entitled to attend the tests and/or inspections referred to in GCC Subclause 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.</p> <p>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.</p> <p>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.</p> <p>26.6 The Supplier shall provide the Purchaser with a report of the results of any such test and/or inspection.</p> <p>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</p> |

the test and/or inspection, at no cost to the Purchaser, upon giving a notice pursuant to GCC Subclause 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 Subclause 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 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 Contract Price for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in the 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 Subclause 22.1, 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 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 18 months after the date of shipment or 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 Subclause 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 Subclause 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 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 gross negligence or willful misconduct,
- (a) neither party shall be liable to the other party 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 amount specified in the SCC, 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 the Invitation for Bids, 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 and 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 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.

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 12, 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 27, unless an extension of time is agreed upon, pursuant to GCC Subclause 34.1.

35. Termination

35.1 Termination for Default

- (a) The Purchaser, without prejudice to any other remedy for breach of Contract, by 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; or
 - (ii) if the Supplier fails to perform any other obligation under 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.
- (c) 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.

35.2 Termination for Insolvency

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 28 days after the Supplier's receipt of the 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.

Section 8- Special Conditions of Contract

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

GCC 1.1(j)	The Purchaser's country is: India
GCC 1.1(k)	The Purchaser is: Directorate of Technical Education, Vocational and Industrial Training, Himachal Pradesh represented by The Director
GCC 1.1 (q)	The Site is: the deliveries shall be made at multiple locations within the state of Himachal Pradesh India as stated in Delivery and Completion Schedule of Section 6 (Schedule of Supply)
GCC 4.2 (b)	The version of Incoterms shall be: 2010
GCC 5.1	The language shall be: English
GCC 8.1	<p>For <u>notices</u>, the Purchaser's address shall be:</p> <p>Attention: The Director</p> <p>Directorate of Technical Education, Vocational and Industrial training</p> <p>Circular Road</p> <p>City: Sunder Nagar,</p> <p>District: Mandi</p> <p>Himachal Pradesh</p> <p>ZIP code: 175018</p> <p>Country: India</p> <p>Telephone & Fax: 01907-266120; 266722</p> <p>E-mail address: techedu-hp@nic.in</p>
GCC 9.1	The governing law shall be: Laws of India
GCC 10.2	<p>The formal mechanism for the resolution of disputes shall be:</p> <p><u>For a contract with a Foreign Supplier:</u></p> <p>International arbitration shall be conducted in accordance with the rules of the Singapore International Arbitration Centre (SIAC).</p>

	<p>Arbitration shall be administered by the Singapore International Arbitration Centre (SIAC).</p> <p>The place of arbitration shall be: the place of the institution administering the arbitration.</p> <p><u>For a contract with a Local Supplier:</u></p> <p>In the case of a dispute between the purchaser and the supplier, the dispute shall be settled by arbitration in accordance with the provisions of the local arbitration procedures in the Purchaser's country.</p> <p>Place of arbitration: in the Purchaser's country.</p>
GCC 11.1	<p>The Scope of Supply shall be defined in: List of Goods and Related Services of Section 6 (Schedule of Supply). At the time of awarding the contract, the Purchaser shall specify any change in the scope of supply with respect to Section 6 (Schedule of Supply) included in the Bidding Document. Such changes may be due, for instance, if the quantities of Goods and Related Services are increased or decreased at the time of award.</p>
GCC 12.1	<p>Details of shipping and documents to be furnished by the Supplier shall be:</p> <p>For Goods supplied from abroad as per Incoterm CIP:</p> <p>Upon shipment, the Supplier shall notify the Purchaser and the Insurance Company by telex or fax the full details of the shipment, including Contract number, description of Goods, quantity, the vessel, the bill of lading number and date, port of loading, date of shipment, port of discharge, etc. The Supplier shall send the following documents to the Purchaser, with a copy to the Insurance Company:</p> <ul style="list-style-type: none"> (a) 3 copies of the Supplier's invoice showing the description of the Goods, quantity, unit price, and total amount; (b) Original and 3 copies of the negotiable, clean, on-board bill of lading marked "freight prepaid" and 3 copies of non-negotiable bill of lading; (c) 3 copies of the packing list identifying contents of each package; (d) Insurance certificate; (e) Manufacturer's or Supplier's warranty certificate; (f) Inspection certificate, issued by the nominated inspection agency, and the Supplier's factory inspection report; and (g) Certificate of origin. <p>The Purchaser shall receive the above documents at least one (1) week before arrival of Goods at the port or place of arrival and, if not received, the Supplier will be responsible for any consequent expenses.</p>

	<p><u>For Goods from within the Purchaser's country as per Incoterm EXW:</u></p> <p>Upon delivery of the Goods to the transporter, the Supplier shall notify the Purchaser and send the following documents to the Purchaser:</p> <ul style="list-style-type: none"> (a) 3 copies of the Supplier's invoice showing the description of the Goods, quantity, unit price, and total amount; (b) Delivery note, railway receipt, or truck receipt; (c) Manufacturer's or Supplier's warranty certificate; (d) inspection certificate issued by the nominated inspection agency, and the Supplier's factory inspection report; and (e) Certificate of origin. <p>The Purchaser shall receive the above documents before the arrival of the Goods and, if not received, the Supplier will be responsible for any consequent expenses..</p>
GCC 15.2	The price adjustment <i>shall not</i> be applicable.
GCC 16.1	<p>Payment of the Contract Price shall be made in the following manner:</p> <p>For Goods and Related Services supplied from outside the Purchaser's country:</p> <ul style="list-style-type: none"> a) Advance Payment: 10% of the Contract Price within 28 days of signing of the Contract. Payment shall be made provided the Supplier presents a request for payment accompanied by an Advance Payment Security in the form of a bank guarantee for an amount equal to the amount of the payment, and that shall be valid until the Goods are delivered. The security shall be in the form as specified in Section 9 (Contract Forms); b) On Shipment: The Purchaser shall pay the Supplier 80% of the Contract Price of the Goods shipped through irrevocable confirmed letter of credit opened in favour of the Supplier in a bank in its country under the ADB commitment procedure, upon submission of documents specified in SCC Clause 12.1; c) On Acceptance: 10% of the Contract Price of Goods received shall be paid within 28 days of receipt of the Goods upon submission of a claim supported by the acceptance certificate issued by the Purchaser. <p>For Goods and Related Services supplied from within the Purchaser's country:</p> <ul style="list-style-type: none"> (a) Advance Payment: 10% of the Contract Price within 28 days of signing of the Contract. Payment shall be made provided the Supplier

	<p>presents a request for payment accompanied by an Advance Payment Security in the form of a bank guarantee for an amount equal to the amount of the payment, and that shall be valid until the Goods are delivered. The security shall be in the form as specified in Section 9 (Contract Forms);</p> <p>(b) On Delivery: The Purchaser shall pay the Supplier 80% of the Contract Price of the Goods shipped through irrevocable confirmed letter of credit opened in favour of the Supplier in a bank in its country under the ADB commitment procedure, upon submission of documents specified in SCC Clause 12.1;</p> <p>(c) On Acceptance: 10% of the Contract Price of Goods received shall be paid within 28 days of receipt of the Goods upon submission of a claim supported by the acceptance certificate issued by the Purchaser.</p>
GCC 16.4	The currencies for payments shall be: the currency/ies in which the bid price is expressed in the bid of the successful bidder.
GCC 18.1	<p>The Supplier shall provide a Performance Security of 10% of the Contract Price. The Performance Security shall be denominated in the following amounts and currencies: 10% of the Contract Price in INR.</p> <p>Because of the above, the currencies and amounts of the performance security can only be specified at the time of awarding the contract.</p>
GCC 18.3	The forms of acceptable Performance Security are: A bank guarantee issued by a reputable bank located in the Purchaser's country or abroad, acceptable to the Purchaser, in the format included in Section 9 (Contract Forms), or a cashier's or certified check, or cash
GCC 18.4	Discharge of the Performance Security shall take place: Pursuant to GCC Subclause 18.4, after delivery and acceptance of the Goods, the performance security shall be reduced to five percent (5.0 %) of the Contract Price to cover Supplier's warranty obligations in accordance with GCC Clause 28.3.
GCC 23.2	<p>The packing, marking, and documentation within and outside the packages shall be:</p> <p>Packing:</p> <p>(1) The supplied Goods shall be packed by standard protective measures. Such packing shall be suitable for long distance transportation and well protected against dampness, moisture, shock, rust and rough handling so as to ensure that the Goods will safely arrive at the designated site without any damage due to the above mentioned reasons, and</p>

	<p>(2) In each package there shall be one copy each of the detailed packing list and the quality certificate.</p> <p>Marking:</p> <p>(1) The Supplier shall mark the following on the four adjacent sides of each package with indelible paint in conspicuous English printed words:</p> <p>A. CONSIGNEE</p> <p>B. CONTRACT NO.</p> <p>C. SHIPPING MARK</p> <p>D. CONSIGNEE CODE</p> <p>E. DESTINATION</p> <p>F. NAME OF GOODS AND ITEM NO., CASE NO.</p> <p>G. GROSS/NET WEIGHT (Kg)</p> <p>H. MEASUREMENT (LENGTH x WIDTH x HEIGHT IN CM)</p> <p>(2) If any package weighs two (2) tons or more, the Supplier shall mark on two sides of each package in English and with appropriate transportation marks to show the "center of gravity" and "points of slinging" in order to facilitate loading, discharging and handling. According to the characteristics of the Goods and the different</p> <p>8-6 Section 8 - Special Conditions of Contract</p> <p>Bidding Document for _____ Procurement of Goods Single-Stage: Two-Envelope</p> <p>requirements in transportation, packages shall be marked legibly by the Supplier with words "Handle with Care", "Right Side Up", "Keep Dry", etc., and with other appropriate marks..</p>
GCC 24.1	<p>The insurance coverage shall be in accordance with: Pursuant to GCC, Subclause 24.1, the Supplier must insure the Goods in an amount to 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.</p>
GCC 25.1	<p>Obligations for transportation of the Goods shall be in accordance with: Incoterms 2010 - the Supplier is required to transport the Goods to a specified place of final destination, in good condition, including storage, and related costs shall be borne by the Supplier.</p>
GCC 26.2	<p>Tests and Inspections specified in Section 6 (Schedule of Supply), shall be carried out at the following times or milestones, and places:</p> <p>Factory Inspection: Not required;</p> <p>Site inspection: upon delivery of the Goods</p>

GCC 27.1	The applicable rate for liquidated damages for delay shall be: 0.1% of the Contract Price per day.
GCC 27.1	The maximum amount of liquidated damages shall be: 10% of the Contract Price.
GCC 28.3	The period of validity of the Warranty shall be: 365 days. The place of final destination shall be: As specified in the Delivery and Completion Schedule of Section 6 (Schedule of Supply).
GCC 28.5	The Supplier shall correct any defects covered by the Warranty within 14 days of being notified by the Purchaser of the occurrence of such defects.
GCC 30.1 (b)	The amount of aggregate liability shall be: equivalent to 100% of the Contract Price

Section 9- Contract Forms

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Letter of Acceptance

---- on letterhead 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 dateddate. . . . for execution of the name of the contract and identification number, as given in the Bid Data Sheet for the Accepted Contract Amount of the equivalent of amount in figures 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 Performance Security Form included in Section 9 (Contract Forms) of the Bidding Document.

Authorized Signature:

Name and Title of Signatory:

Name of Agency:

Attachment: Contract Agreement

Contract Agreement

THIS AGREEMENT made on the *[insert number]* day of *[insert month]*, *[insert year]*, between *[insert complete name of Purchaser]* of *[insert complete address of purchaser]* (hereinafter "the Purchaser"), of the one part, and *[insert complete name of supplier]* of *[insert complete address of supplier]* (hereinafter "the Supplier"), of the other part:

WHEREAS the Purchaser invited Bids for certain Goods and Related Services, viz., *[insert brief description of the goods and related services]* and has accepted a Bid by the Supplier for the supply of those Goods and Related Services in the sum of *[insert currency or currencies and amount of contract price in words and figures]* (hereinafter "the Contract Price").

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Contract referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:
 - (a) the Letter of Acceptance;
 - (b) the Price Bid Submission Sheet and the Price Schedules submitted by the Supplier;
 - (c) the Technical Bid Submission Sheet submitted by the Supplier;
 - (d) the Special Conditions of Contract;
 - (e) the List of Eligible Countries that was specified in Section 5 of the Bidding Document;
 - (f) the General Conditions of Contract;
 - (g) the Schedule of Supply;

This Contract shall prevail over all other Contract documents. In the event of any discrepancy or inconsistency within the Contract documents, then the documents shall prevail in the order listed above.

3. In consideration of the payments to be made by the Purchaser to the Supplier as indicated in this Agreement, the Supplier hereby covenants with the Purchaser to provide the Goods and Related 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 Related 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 *[indicated name of country]* on the day, month and year indicated above.

Signed by *[insert authorized signature for the purchaser]* (for the Purchaser)

Signed by *[insert authorized signature for the supplier]* (for the Supplier)

Performance Security

*Bank's name, and address of issuing branch or office*¹

Beneficiary: *Name and address of purchaser*

Date:

Performance Guarantee No.:

We have been informed that *name of the supplier*. (hereinafter called "the Supplier") has entered into Contract No. *reference number of the contract*. datedwith you, for the execution of *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 Supplier, we *name of the bank*. hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *name of the currency and amount in figures*². (*amount in words*.) such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of your first demand in writing accompanied by a written statement stating that the Supplier is in breach of its obligation(s) under the Contract, without your 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, ³ and any demand for payment under it must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458 , except that subparagraph (ii) of Sub-article 20(a) is hereby excluded.⁴

.....
Seal of bank and signature(s)

-- Note to Bidder --

If the institution issuing the performance security is located outside the country of the purchaser, it shall have a correspondent financial institution located in the country of the purchaser to make it enforceable.

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- ¹ All italicized text is for guidance on how to prepare this demand guarantee and shall be deleted from the final document.
 - ² The guarantor shall insert an amount representing the percentage of the contract price specified in the contract and denominated either in the currency(ies) of the contract or a freely convertible currency acceptable to the purchaser.
 - ³ Insert the date 28 days after the expected completion date. The purchaser should note that in the event of an extension of the time 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 [six months][one year], in response to the Purchaser's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."
 - ⁴ Or the same or similar to this clause specified in the Uniform Rules for Demand Guarantees, ICC Publication No. 758 where applicable.

Advance Payment Security

Bank's name, and address of issuing branch or office¹

Beneficiary: *Name and address of purchaser*

Date:

Advance Payment Guarantee No.:

We have been informed that *name of the supplier*. (hereinafter called "the Supplier") has entered into Contract No. *reference number of the contract*. dated with you, for the execution of *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 of. *name of the currency and amount in figures²*. (*amount in words*.) is to be made against an advance payment guarantee.

At the request of the Supplier, we *name of the bank*. hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *name of the currency and amount in figures³*. (*amount in words*.) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Supplier is in breach of its obligation under the Contract because the Supplier used the advance payment for purposes other than the costs of mobilization in respect of the Goods and Related Services.

It is a condition for any claim and payment under this guarantee to be made that the advance payment referred to above must have been received by the Supplier on its account number *Supplier's account number*. At *name and address of the bank*.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Supplier as indicated in copies of interim statements or payment certificates that 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 percent (90%) of the Contract Price has been certified for payment, or on the . . . day of ,⁴ 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, ICC Publication No. 458 (or ICC Publication No. 758 as applicable).

..... *Seal of bank and signature(s)*

-- Note to Bidder --

If the institution issuing the advance payment security is located outside the country of the purchaser, it shall have a correspondent financial institution located in the country of the purchaser to make it enforceable.

- ¹ All italicized text is for guidance on how to prepare this demand guarantee and shall be deleted from the final document.
- ² The guarantor shall insert an amount representing the amount of the advance payment 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.
- ³ Footnote 2.
- ⁴ Insert the expected expiration date of the time for completion. The purchaser should note that in the event of an extension of the time 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 [six months][one year], in response to the Purchaser's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

Himachal Pradesh Skill Development Project.
Loan No: 3573-IND

Procurement of Goods
Single-Stage: Two-Envelope Bidding Procedure

Bidding Document for Procurement of

Supply of Civil Engineering Lab Equipments
for

Govt. Polytechnic Rehan District Kangra
to enhance

Technical and Vocational Skills
among the youth of Himachal Pradesh

(HPSDP-DOTE/WP/07)

Volume 2 (Price Bid)

Issued on: **04th July 2020**

Invitation for Bids No.: **GP001/2020**

NCB No: **HPSDP-DOTE/WP/07**

Purchaser: Department of Technical Education, Vocational and
Industrial Training, Himachal Pradesh represented by The Director

Country: **India**

Section 4- Bidding Forms

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Price Bid Submission Sheet

Note

The Bidder must accomplish the Price Bid Submission Sheet on its letterhead clearly showing the bidder's complete name and address.

Date: _____

NCB No.: _____

Invitation for Bid No.: _____

To: _____

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Document, including the Addenda issued in accordance with Instructions to Bidders (ITB) Clause 8. _____
- (b) We offer to supply in conformity with the Bidding Document and in accordance with the delivery schedule specified in Section 6(Schedule of Supply), the following Goods and Related Services.
- (c) The total Bid price, excluding any discounts offered in item (d) below is

[amount of foreign currency in words], [amount in figures], and [amount of local currency in words],
[amount in figures]

The total bid price from the Price Schedules should be entered by the Bidder inside this box. Absence of the total bid price in the Price Bid Submission Sheet may result in the rejection of the bid.

- (d) The discounts offered and the methodology for their application are as follows:

Discounts: If our Bid is accepted, the following discounts shall apply: _____

Methodology of Application of the Discounts: The discounts shall be applied using the following method: _____

- (e) Our bid shall be valid for a period of _____ days from the date fixed for the 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.
- (f) If our Bid is accepted, we commit to obtain a Performance Security in the amount of _____ percent of the Contract Price for the due performance of the Contract.
- (g) The following commissions, gratuities, or fees have been paid or are to be paid with respect to the bidding process or execution of the Contract:

Name of Recipient	Address	Reason	Amount
_____	_____	_____	_____
_____	_____	_____	_____

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

- (h) 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.
- (i) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.
- (j) We agree to permit ADB or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors appointed by ADB.

Name _____

In the capacity of _____

Signed _____

Duly authorized to sign the Bid for and on behalf of _____

Date _____

Price Schedule for Goods to Be Offered from Within the Purchaser's Country

Name of Bidder _____ IFB Number _____ Page ____ of ____

Item	Description	Country of Origin	Domestic Value Added in Percent	Quantity and Unit of Measurement	Unit Price EXW (INR)	Total EXW Price per item (INR)	Sales and Other Taxes Per Item (INR)	Total Price per Item including Taxes (INR)
1	2	3	4	5	6	7 = 5 x 6	8	9 = 7 + 8
			Not Applicable					
Total Amount								

Notes:

- Column 4: In accordance with margin of preference ITB 38, if applicable.
Domestic Value Added comprises domestic labour, the domestic content of materials, domestic overheads and profits from the stage of mining the raw material until final assembly.
- Column 6: Incoterm in accordance with ITB 14
Currency in accordance with ITB 15
Price shall include all customs duties and sales and other taxes already paid or payable on the components and raw materials used in the manufacture or assembly of the item or the customs duties and sales and other taxes already paid on previously imported items.
- Column 8: Payable in the Purchaser's country if Contract is awarded

Name _____

In the capacity of _____

Signed _____

Duly authorized to sign the Bid for and on behalf of _____

Date _____

Price Schedule for Goods to Be Offered from Outside the Purchaser's Country

Name of Bidder _____ IFB Number _____ Page ____ of ____

Item	Description	Country of Origin	Quantity and Unit of Measurement	Unit Price CIF (...) or CIP (...) (INR)	Unit Price FOB (...) or FCA (...) (INR)	Total Price CIF or CIP per Item (INR)	Total Price FOB or FCA per Item (INR)
1	2	3	4	5	6	7 = 4 x 5	8 = 4 x 6
Total Amount							

Notes:

Column 5 and 6: Incoterm in accordance with ITB 14
Currency in accordance with ITB 15

Column 6: Only to be used if the Purchaser wishes to reserve transportation and insurance to domestic companies or other designated sources. Identification of the lowest evaluated bid must be on the basis of the CIF or CIP price, but the Purchaser may sign the contract on FOB or FCA terms and make its own arrangement for transportation and/or insurance.

Name _____

In the capacity of _____

Signed _____

Duly authorized to sign the Bid for and on behalf of _____

Date _____

Price Schedule for Related Services to Be Offered from Outside and Within the Purchaser's Country

Name of Bidder _____ IFB Number _____ Page ____ of ____

Item No.	Description	Country of Origin	Quantity and Unit of Measurement	Unit Price		Total Price per Item	
				(a)	(b)	(a)	(b)
				Foreign Currency	Local Currency	Foreign Currency	Local Currency
1	2	3	4	5(a)	5(b)	6(a) = 4 x 5(a)	6(b) = 4 x 5(b)
				Not Applicable		Not Applicable	
Total Amount							

Notes:

Column 5 and 6: Currencies in accordance with ITB 15

Prices are to be quoted inclusive of all customs duties, sales and other similar taxes applicable in the Purchaser's country and payable on the Related Services, if the Contract is awarded to the Bidder

Name _____

In the capacity of _____

Signed _____

Duly authorized to sign the Bid for and on behalf of _____

Date _____