INVITATION LETTER

Package Code: TEQIP-III/2019/ntst/107 **Current Date: 20-June-2019**

Package Name: NITS/TEQIP-III/CE/03 **Method: Shopping Goods**

Sub: INVITATION LETTER FOR NITS/TEQIP-III/CE/03

Dear Sir,

1. You are invited to submit your most competitive quotation for the following goods with item wise detailed specifications given at Annexure-I:

S. No.	Item Name	Quantity	Place of Delivery	Installation Requirement (if any)
1	Instruments for Water Resources Engineering Laboratory	As per Annexure -I	NIT Sikkim	YES

2. Government of India has received a credit from the International Development Association (IDA) towards the cost of the **Technical Education Quality Improvement Programme [TEQIP]-Phase III** Project and intends to apply part of the proceeds of this credit to eligible payments under the contract for which this invitation for quotations is issued.

3. **Qualification Criteria**:

   The bidder/supplier should have:

   3.1. The bid should be accompanied with an EMD (Earnest Money Deposit) of Rs. 1,50,000/- (Rupees One Lakh Fifty Thousand only) in favour of The Director NIT Sikkim in the form of Demand Draft (DD) drawn on any commercial bank payable at Ravangla/Gangtok.

   3.2. A minimum of 3 years experience of supplying similar items, substantiated by relevant documents.

   3.3. A turnover of Rs.50Lakh in last three years.

   3.4. Not been blacklisted by any Govt. Institution/Organization.

4. **Quotation:**

   4.1. The contract shall be for the **full quantity** as described above.

   4.2. The vendors are requested to quote lowest rate for the supply of all the items in the prescribed **Format for Quotation Submission.**

   4.3. Corrections, if any, shall be made by crossing out, initialling, dating and re writing.

4.4. All duties and other levies payable by the supplier under the contract shall be included in the unit Price.

4.5. Applicable taxes shall be quoted separately for all items.The Institute has DSIR certificate (applicable GST would be 5%).

4.6. The prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.

4.7. The Prices should be quoted in Indian Rupees only.

4.8. The vendor should submit trade licence/certificate of Registration (as applicable) in the required business/field, GST registration number and photocopy of the GST registration certificate, the PAN of proprietor/firm/company with photocopy of the PAN card. Please attach a certificate that the quoted price is not more than that of any govt. organization/Intuition in India. This has to be mention in the offer letter clearly.

5. Each bidder shall submit only one quotation.

6. Quotation shall remain valid for a period not less than **45** days after the last date of quotation submission.

7. The quotation should include the following information:

7.1. Authorization certificate from the OEM/Principal assuring full guarantee and warrantee obligations during the liability period, for the goods offered.

7.2. The list of clients (IITs, NITs/Central Universities and other reputed Institution) duly supported by copies of purchase order.

7.3. Details of service/supports centres located in India.

8. **Evaluation of Quotations**: The Purchaser will evaluate and compare the quotations determined to be Substantially responsive i.e. which:

8.1. are properly signed; and

8.2. Confirm to the terms and conditions, and specifications.

8.3. The vendor should provide complete technical details (printed literature of the manufacturer along with model/make) and the same should be verifiable from the website of the vendor/OEM. Mere copying the technical specification provided in the Annexure-I may lead to cancellation of the bid.

8.4. The Institute reserves the right for pre-inspection of the goods/equipment quoted by the vendor.

9. The Quotations would be evaluated for all items together.

10. **Award of Contract:** The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

10.1. Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of Contract.

10.2. The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.

11. Performance Bank Guarantee:Performance Security has to be submitted by the successful bidder. A Bank guarantee issued by a Nationalized Bank in India towards PBG for an amount equal to 5% of total order value of purchase order and valid till the period of beyond the 2 months of completion of warrantee period should be submitted in favour of **Director NIT Sikkim**. In case, the vendor fails to provide satisfactory service, the PBG is liable to be forfeited.

12. Payment shall be made in Indian Rupees as follows:

    Satisfactory Delivery & Installation - 70% of total cost
    Satisfactory Acceptance - 30% of total cost

13. Liquidated Damages will be applied as per the below:
    Liquidated Damages per Day Min %: 0
    Liquidated Damages Max %: 10

14. **All supplied items are under onsite warranty of 5 years from the date of successful acceptance of items and AMC/Others is NA.**

15. You are requested to provide your offer latest by **17:30** hours on **15-July-2019.**

16. Detailed specifications of the items are at **Annexure-I**.

17. Training Clause (if any) **YES**

18. Testing/Installation Clause (if any) **YES**

19. Performance Security shall be applicable**: 5%**

20. Information brochures/ Product cataloguemust be accompanied with the quotation clearly indicating the model quoted for.

21. **The vendors should submit the technical and financial bids in two separate sealed envelopes. Financial bids of only the technically responsive bidders will be evaluated.** Sealed quotation to be submitted/ delivered at the address mentioned below:

    The Nodal Office (Procurement),
    TEQIP-III,
    National Institute of Technology Sikkim,
    Barfung Block, Ravangla, South Sikkim
    Pin Code-737139.

22. We look forward to receiving your quotation and thank you for your interest in this project.

Dr. Achintesh N. Biswas
Nodal Officer (Procurement)

Annexure-I

S. No.	Name of the Item	Quantity	Specification
1.	Flow channel and Flume Apparatus,	1	**Flow Channel and Flume Apparatus (5m)** It should be designed for students to study the principles of fluid mechanics pertaining to engineering structures in open channel flow. The unit should come with an open channel made of transparent working section mounted on a strong framework. The unit is to be supplied with a 5 m long flume which can be tilted using a calibrated screw jack. The unit is to be fitted with pressure tapings and fixing points as well as longitudinal scale. The scale should be positioned at the top of the channel so that the depth gauges and pilot-static tubes can be positioned along the channel length. The unit should be incorporated with a sump tank and a water pump. The water flow rates can be measured by a digital flow meter for accurate measurements. **Specification:** **Flow Channel** Material: Clear acrylic Size: 5,000 mm (L), 250 mm (H), 75 mm (W) **Sump Tank** Capacity: 250-L Flow rate of circulation pump: Up to 2.0 L/sec **Vernier Level Gauges** 3unitsofverniercaliper Should be suppliedwiththefollowings:- • Venturiflume • Sharpandbroadcrestedweirs • 3vernierlevelgauges • Crump weir • Adjustableundershotweir • Pitottubeandmanometerboard • Culvertfitting,oneedgesquare, over rounded • Flowsplitters,centralwallwithvariousnosepieces • Freeoverflowspillnaysectioncompletewithski jump,slopingapronandbladedreversecurvatureattachments • Syphonspillwayandairregulatedsyphon • Modelradialgate • Wavegeneratorandwaveabsorbingbeach • Artificiallytoughendbed2.5m (2pieces) • Falsefloorsectionsforgraduallyvariedprofiles **Optional Educational software for calculation, data processing and graph plotting**. The unit should be supplied with Operating and Experimental Manuals in English giving full descriptions of the unit, summary of theory, experimental procedures and typical experimental results.
2	Double Ring Soil Infiltrometer	2	**Double Ring Soil Infiltrometer** The standard set of the double ring Infiltrometer should consist of 2 steel rings with different diameters, a hammer, floats, a stainless-steel hammering cross and a stopwatch. The instrument should consist of two centric rings, driving plate, for inner and outer rings. The outer ring (ID = 45 cm), the inner ring (ID = 30 cm)

3	Pan Evaporimeter	1	**Pan Evaporimeters** Pan Evaporimeter IS 5973-1970 The equipment consists of a large cylindrical pan, 220 mm in diameter and 255 mm deep, made from copper sheet, tinned inside and painted white outside Pan: 1 No. Thermometer: 1 No. Measuring Jar: 1 No. Wooden Stand: 1 No.
4	Vertical Axis Cup Type Water Velocity Sensor with Handheld Data-logger	1	**Vertical Axis Cup Type Water Velocity Sensor with Handheld Data-logger** Technical Features : 6 Cup Wheel Cup type Type Current meter body : All parts of brass, chrome plated Operating Range : 0.3 to 3.5 meter per second Accuracy : For velocities up to 0.3 m/s, 1% Full scale, For velocities >0.3 m/s, 0.5% Full Scale Contact chamber : Magnetic Dimension : Bucket Open end diameter: 2.0 inch, Bucket diameter: 5.0 inch Rates spin test > 75 seconds Accessories: Instrument oil, cleaning cloth, screwdriver with 10kg fish weigh, 10m suspension wire and a rugged wooden carrying case. Data Logger Features & Specifications: Sensor Input: Any Current Meters of any make with switch closure output Mode of Operation: Velocity Logger Mode & Rev. Counter Mode Parameter Monitored: in Velocity Logger Mode : Date, Time, Velocity (m/s). In Rev. Counter Mode: Date, Time, Rev. & duration. Display: LCD (16 X 2) to display the instrument status. Keyboard: provided for on-site programming. Logging: Automatic (after measurement) Site Reference: Programmable View/Delete Data: User can be able to view / delete logger data at site without help of computer. Current Meter Revolution Buzzer : Provided with user selectable ON/OFF Feature Key Tone: Provided with user selectable ON/OFF Feature Back Light: Provided with user selectable High, Medium & Low intensity and ON/Timed ON feature. LCD Contrast: Provided with user selectable 0 to 7 contrast Levels. Real Time Clock: Internal with accuracy of +/- 2 minutes /year & leap year compensation Memory: 8192 data sets. Battery: 2XAA Alkaline Batteries (easily replaceable onsite). Battery Monitoring: Battery Level display on LCD with Low Battery Warning Operating Humidity :0 to 100%, Operating Temp: - 20 to 70 °C Data Port: USB Port for Downloading Data from Data Logger to Computer/Laptop
5	Fluid Friction Measurements Apparatus	1	**Fluid Friction Measurements Apparatus** It should be designed for students to study on the fluid friction head losses of an incompressible fluid flow. The unit should be self-contained supplied with facilities for students to study the friction losses on smooth-bore pipes of various diameters and an artificially roughened pipe. In addition to the study of losses in straight pipes, a wide range of accessories are also provided including 90° bend, elbow and T, 45° elbow and Y, sudden

			contraction and enlargement, inline strainer, various valves and flow meters. **SPECIFICATIONS** ***i) Test Rig*** High quality frame and backboard to support test circuits comes with the following facilities: a) Four smooth-bore pipes of different diameters ranging from 4.5mm ID to 17.2mm ID b) An artificially roughened pipe (17mm) c) 90° bend d) 90° elbow e) 90° T f) 45° elbow g) 45° Y h) Sudden enlargement i) Sudden contraction j) Ball valve k) Gate valve l) Globe valve m) Inline strainer n) Perspex venturi o) Perspex orifice meter p) Perspex pipe section with a pitottube & static tapping ***ii) Manometers*** Water manometer : 1 tubes of 1 m length with 1mm reading. Differential pressure transmitter (Replace with mercury manometer) **All fixed pipes fabricated in stainless steel. Optional data logging accessory with software.** **REQUIREMENT** Hydraulic Bench (optional accessories) **OVERALL DIMENSION** Height : 2.05 m Width : 0.45 m Length : 2.40 m The unit should be supplied with Operating and Experimental Manuals in English giving full descriptions of the unit, summary of theory, experimental procedures and typical experimental results.
6	Hydraulic Bench	1	**<u>Hydraulic Bench</u>** The unit should consist of upper and lower mouldings mounted on a steel structure fitted with lockable wheels. The mouldings should be made of fibreglass for lightweight and corrosion resistant features. An open channel and volumetric measuring tank are to be incorporated with the bench and means for mounting and connecting the various accessories are to be provided. Self-contained with recirculating water circuit. **SPECIFICATIONS** a) ***Sump Tank*** Material : Fibreglass Capacity : 160-L b) ***Volumetric Tank*** Material : Fibreglass Capacity : 85-L

			c) ***Deliver Pump*** Type : Submersible pump Material : Stainless steel Capacity : 0 to 60 LPM Power : 0.55 kW Head : 20 meters d) **Digital flow display with electronic flowmeter.** Flow meter display : $L.s^{-1}$ and $L.min^{-1}$ Resolution : $0.001L.s^{-1}$ and $0.1\ L.min^{-1}$ The unit should be supplied with Operating and Experimental Manuals in English giving full descriptions of the unit, summary of theory, experiment procedures and typical experimental results.
7	Laminar flow table	1	**<u>Laminar Flow Table</u>** Designed to simulate ideal fluid flow and give clear visualisation of the flow patterns created using water as the working fluid. Working section and end tanks to be made of Glass Reinforced Plastic (GRP). **SPECIFICATIONS** ***Working Section*** Width inside moulding: 606 mm Length of glass plates: 892mm Distance between glass plates: 3.2mm Sinks/sources: 8 tappings in 7 positions Dye injectors: 19 hypodermic needles ***Models to be Supplied*** 2 x canal banks 2 x rectangles 3 x cylinders 1 x aerofoil 1 bottle blue dye (water based) The unit should be supplied with Operating and Experimental Manuals in English giving full descriptions of the unit, summary of theory, experimental procedures and typical experimental results.
8	Flow over Weirs	1	**<u>Flow Over Weirs</u>** Apparatus should come with two weir plates of different shapes. The unit should consist of the following to be used in conjunction with the flow channel in the moulded bench top of a Hydraulic Bench. a) A delivery nozzle in the base of the channel. b) A stilling baffle in the walls of the channel. c) A Vernier hook and point gauge mounted on an instrument carrier (movable) located on the side channels of the moulded top. **SPECIFICATIONS** ***Weir Plates*** Material: Stainless steel Height:160 mm Width:230mm Thickness:4 mm ***Rectangular Notch*** Height:82 mm Width:30 mm ***Vee Notch*** Angle of vee notch weir:90° inclusive

			Hook & point gauge: 0 to 150 mm, ±0.1 mm REQUIREMENT Hydraulics Bench (optional accessories) The unit should be supplied with Operating and Experimental manuals in English giving full descriptions of the unit, summary of theory, experimental procedures and typical experimental results.
9	Pressure Measurement Bench	1	**<u>Pressure Measurement Bench</u>** It should be a complete laboratory bench for test and calibration of the various elements of pressure readings as defined by new specifications for the industry. The measuring unit should comprise of the following main components: □ Pressure gauge □ Vacuum gauge □ Differential pressure gauge □ U-tube manometer □ Single tube manometer □ Inclined tube manometer The unit is to be supplied with: □ Pressure calibrator □ Pressure/ vacuum pump □ Pressure and vacuum tank SPECIFICATIONS ***a) Vacuum/Pressure Pump*** Free air capacity: 15.6 LPM Max. vacuum: 22“ Hg Max. pressure: 20 psi ***b) Pressure Gauge*** Material/Type: Fully stainless steel (oil filled) Range: 0 to 35 psi ***c) Vacuum Gauge*** Material/Type: Fully stainless steel (oil filled) Range: -760 to 0 mm Hg ***d) Differential Pressure Gauge*** Material: Aluminium case/acrylic cover Max diff. pressure: 30 psi ***e) Inclined Tube Manometer*** Material: Acrylic Plastic Range: 0 to 3“ H_2O ***f) Single-Tube Manometer*** Material: Steel casing/anodisedaluminium scale Range: 0 to 2.0 kPa ***g) U-Tube Manometer*** Material: Acrylic plastic Range: 0 to 1000 mm H_2O ***h) Vacuum Tank*** Material: Stainless steel Volume: 1.1 L ***i) Pressure Tank*** Material: Stainless steel Volume: 1.1 L ***j) Pressure Calibrator*** Operating range: 2bar / 28psi Over range: 4bar / 58psi **UTILITY REQUIREMENT** Electrical supply: 230VAC/1-phase/50Hz **OVERALL DIMENSIONS** Height: 1.15 m Width: 1.20 m

			Depth: 0.75 m The unit should be supplied with Operating and Experimental Manuals in English giving full descriptions of the unit, summary of theory, experimental procedures and typical experimental results.
10	Centrifugal Pump Demonstration unit	1	**<u>Centrifugal Pump Demonstration Unit</u>** The centrifugal pump is to be designed with transparent casing to allow visualisation of the impeller rotation. The unit should be maintenance-free due to its robust construction. As a result of its clear layout, the unit should be suitable for demonstrations and for student experiments. DESCRIPTION This unit is to be constructed on stable steel base plate, comprises of a fixed speed centrifugal pump, a water tank and all required pipe works. It should be installed with necessary pressure gauges and flowmeter for pump characteristic studies. The pump casing should be made of transparent material; therefore, the centrifugal pumps mechanism can be clearly visualised. TECHNICAL SPECIFICATIONS ***i) Pump*** Type: Centrifugal pump Maximum head : 9 m H_2O Maximum flow : 120 LPM ***ii) Circulation Tank*** Cylindrical, transparent tank Volume:15 L ***iii)Pressure gauge*** Delivery side:0 to 1.2 bar Suction side:-1 to 1 bar ***iv)Rotameter*** Size: 1” Range: 0 to 150 LPM **OPTIONAL ITEMS** **- EI** **DIGITAL INSTRUMENTATION** i) 2 units of digital indicator ii) 1 unit of electronic flowmeter iii) 2 units of pressure sensor **- DAS** **SOLDAS DATA ACQUISITION SYSTEM** i) A PC with latest Pentium Processor ii) An electronic signal conditioning system iii) Stand alone data acquisition modules iv) Windows based software □ Data Logging □ Signal Analysis □ Process Control □ Real-Time Display □ Tabulated Results □ Graph of Experiment Results **- CAL** **SOLCAL COMPUTER AIDED LEARNING SOFTWARE** i) Interactive multimedia features ii) Graphical simulation iii) Experiment results samples iv) Full experiment manuals OVERALL DIMENSION Height : 0.75 m

			Width : 1.00 m Depth : 0.60 m MANUAL The unit should be supplied with Operating and Experiment Manuals in English giving full descriptions of the unit, summary of theory, experimental procedures and typical experimental results.

FORMAT FOR QUOTATION SUBMISSION

(In letterhead of the supplier with seal)

Date: .....

To,

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Sl.No.	Description of goods\ (with full Specifications)	Qty.	Unit	Quoted Unit rate in Rs. (Including Ex-Factory price, excise duty, packing and forwarding, transportation, insurance, other local costs incidental to delivery andwarranty/ guaranty commitments)	Total Price (A)	Sales tax and other taxes payable	
						In %	In figures (B)
Total Cost							

Gross Total Cost (A+B): Rs. .....

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs. .....(Amount in figures) (Rupees ..... amount in words) within the period specified in the Invitation for Quotations.

We confirm that the normal commercial warranty/ guarantee of ..... months shall apply to the offered items and we also confirm to agree with terms and conditions as mentioned in the Invitation Letter.

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

Signature of Supplier

Name: .....

Address: .....

Contact No.: .....