

INVITATION FOR QUOTATION

TEQIP-II/2016/CH1G02/Shopping/139

14 -Apr-2016

To,

Sub: Invitation for Quotations for supply of Goods

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,

Sr. No	Brief Description	Quantity	Delivery Period (in days)	Place of Delivery	Installation Requirement (if any)
1	BERNOULLI'S THEOREM APPARATUS	1	40	Dr SS Bhatnagar University Institute of Chemical Engg and Tech, Panjab University, Chandigarh	Will be done at the site
2	DISCHARGE THROUGH VENTURIMETER, ORIFICEMETER & ROTAMETER (With Data Logging Facility)	1	40	Dr SS Bhatnagar University Institute of Chemical Engg and Tech, Panjab University, Chandigarh	Will be done at the site
3	REYNOLD'S APPARATUS	1	40	Dr SS Bhatnagar University Institute of Chemical Engg and Tech, Panjab University,	Will be done at the site

				Chandigarh	
4	CAVITATION APPARATUS (With Data Logging Facility)	1	40	Dr SS Bhatnagar University Institute of Chemical Engg and Tech, Panjab University, Chandigarh	Will be done at the site
5	COMPUTER CONTROLLED CENTRIFUGAL PUMP TEST RIG (Variable Speed)	1	40	Dr SS Bhatnagar University Institute of Chemical Engg and Tech, Panjab University, Chandigarh	Will be done at the site
6	COMPUTER CONTROLLED RECIPROCATING PUMP TEST RIG (Variable Speed)	1	40	Dr SS Bhatnagar University Institute of Chemical Engg and Tech, Panjab University, Chandigarh	Will be done at the site

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 II** 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. Quotation,
 - 3.1 The contract shall be for the full quantity as described above.
 - 3.2 Corrections, if any, shall be made by crossing out, initialing, dating and re writing.
 - 3.3 All duties and other levies payable by the supplier under the contract shall be included in the unit price.
 - 3.4 Applicable taxes shall be quoted separately for all items.
 - 3.5 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.
 - 3.6 The Prices should be quoted in Indian Rupees only in the prescribed format enclosed at Annexure II.
4. Each bidder shall submit only one quotation.

5. Quotation shall remain valid for a period not less than **55** days after the last date of quotation submission.

6. Evaluation of Quotations,

The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which

6.1 are properly signed ; and

6.2 confirm to the terms and conditions, and specifications.

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

8. 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.

8.1 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.

8.2 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.

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

Delivery and Installation - 90% of total cost

Satisfactory Acceptance - 10% of total cost

10. All supplied items are under warranty of **24** months from the date of successful acceptance of items.

11. You are requested to provide your offer latest by **14:30** hours on **29-Apr-2016** .

12. Detailed specifications of the items are at Annexure I.

13. Training Clause (if any) **The company should provide training of the specified equipment at the time of installation without any additional cost**

14. Testing/Installation Clause (if any) **Vendor has to install the equipment in the lab space provided at his own cost and test the equipment.**

15. **Information brochures/ Product catalogue is mandatory and accompanied with the quotation clearly indicating the model quoted for.**

16. The vendor has to provide the detailed list of institutions/companies (in India) where he has supplied the items along with the list, year of installation and contact person details.

17. Each bidder will submit bid under two bid system as follow:-

(a) First Envelop will contain:

- i. Technical bid confirming specification, as per Annexure-I
- ii. Information Brochure's/ Product catalogue clearly indicating the model quoted for
- iii. Detailed list of institutions/companies (in India) where you have supplied these items along with the list and year of installation and contract person on details

(b) Second Envelop will Contain:

Financial bid indicating items wise price for items mentioned in the technical bid on the format at Annexure-II.

The Vendor will submit the quotation in above envelops duly sealed. On first Envelop the vendor will mention Technical bid and on second envelop the vendor will mention price bid. Both these sealed envelop will be put in one closed envelop super scribing clearly the reference of NIQ and the date of opening of bid. The first envelope will be opened first After Evaluation of Technical bid, the second Envelop i.e. price bid will be opened only of those vendors who are meeting the technical specification.

18. Sealed quotation to be submitted/ delivered at the address mentioned below,

**The Chairperson,
TEQIP-II,
Dr. S.S. Bhatnagar University Institute of Chemical Engineering and Technology,
Panjab University,
Chandigarh – 160 014**

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

(Authorized Signatory)

Name & Designation

Annexure I

S.No.	Item Name	Specifications
1	BERNOULLI'S THEOREM APPARATUS	<p>It should have convergent and divergent sections. Pressure tapings should have provided at different locations in convergent and divergent section. Present set-up should be self-contained water re-circulating unit, provided with a sump tank, centrifugal pump etc..</p> <p>UTILITIES REQUIRED :</p> <ul style="list-style-type: none"> ☑ Electricity supply: Single Phase, 220 V AC, 50 Hz, 5-15 amp combined socket with earth connection. Earth voltage should be less than 5 volts. ☑ Water Supply: Initial fill ☑ Floor Drain. ☑ Floor Area: 1.5 x 0.75 m. <p>TECHNICAL DETAILS :</p> <ul style="list-style-type: none"> → Test Section : Material Acrylic (One → Piezometer : Material P.U. Tubes (7 → Water : ½ HP Pump, Crompton → Flow : Using Measuring Tank → Sump Tank : Capacity 70 Ltrs. → Inlet Tank : Capacity 20 Ltrs. → Stop Watch : Electronic. → Control Panel Comprises of: Standard make On/Off Switch, Mains Indicator, etc. → Tanks should be made of Stainless Steel. → An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. should be provided along with the Apparatus. The whole set-up should be well designed and arranged on a rigid structure painted with industrial PU Paint.
2	DISCHARGE THROUGH VENTURIMETER, ORIFICE METER & ROTAMETER (With Data Logging Facility)	<p>The apparatus should consist of three pipelines emerging out from a common manifold. One pipe line containing a Venturimeter, second containing an Orifice and third pipe line containing a Rotameter. The pressure tapings from the Venturimeter and Orificemeter should be taken to differential pressure transmitter to measure pressure difference. The Venturimeter, Orificemeter and Rotameter should be connected in parallel and any one of them can be put in operation by operating valves provided at the downstream.</p> <p>Present set-up should be self-contained water re-circulating unit, provided with a sump tank and a centrifugal pump.</p> <p>UTILITIES REQUIRED :</p>

		<p>☑ Electricity supply,, Single Phase, 220 V AC, 50 Hz, 5-15 amp combined socket with earth connection.</p> <p>☑ Water Supply (Initial Fill).</p> <p>☑ Floor Drainrequired.</p> <p>☑ Floor Area Required: 1.5 m x 0.75 m.</p> <p>☑ Computer System: i-3 processor with DVD Drive, Windows 7/8, MS-Office pre-loaded. One USB slot required in PC for Data Acquisition Card.</p> <p>TECHNICAL DETAILS :</p> <p>→ Venturimeter : Material Clear Acrylic compatible</p> <p>→ Orificemeter : Orifice plate made of Stainless Steel Acrylic compatible to 1ø Dia. Pipe</p> <p>→ Rotameter : Compatible Range. Eureka make.</p> <p>→ Water Circulation : ½ HP Pump, Crompton make.</p> <p>→ Flow Measurement : By Flow Sensor</p> <p>→ Pressure Measurement : By Pressure Sensor</p> <p>→ Sump Tank : Capacity 50 Ltrs.</p> <p>→ Control Panel Comprises of: Standard make On/Off Switch, Mains Indicator, etc.</p> <p>→ Tanks should be made of Stainless Steel.</p> <p>→ An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. should be provided along with the Apparatus. The whole set-up should be well designed and arranged on a rigid structure painted with industrial PU Paint.</p>
<p>3</p>	<p>REYNOLD'S APPARATUS</p>	<p>The apparatus should consist of a glass tube with one end having bell mouth entrance; connected to a constant head water tank, at the other end. A valve should be provided to vary the flow rate. The tank should be sufficient for the capacity to store water. A capillary tube should introduced centrally in the bell mouth for feeding dye from a small container placed at the top of tank, through polythene tubing. By varying the rate of flow, the Reynold's number is changed.</p> <p>UTILITIES REQUIRED :</p> <p>☑ Electricity supply: Single Phase, 220 V AC, 50 Hz, 5-15 amp combined socket with earth connection. Earth voltage should be less than 5 volts.</p> <p>☑ Water Supply (Initial Fill).</p> <p>☑ Floor Drainrequired.</p> <p>☑ Floor Area Required: 1.5 m x 0.75 m</p> <p>☑ Chemical Required: Dye (KMnO₄) - 10 gm</p> <p>TECHNICAL DETAILS :</p> <p>→ Tube: Material Borosilicate Glass (ID 14 mm approx., Lengthš 600 mm)</p> <p>→ Dye vessel: Material Stainless Steel, Capacity 1 Ltrs. (approx.)</p> <p>→ Capillary Tube: Material Copper/Stainless Steel.</p> <p>→ Constant Head Water Tank: Capacity 40Ltrs.</p> <p>→ Water Circulation: ½ HP Pump, Champion/Standard make.</p> <p>→ Flow Measurement : Using Measuring</p>

		<p>Cylinder with Electronic stop watch</p> <ul style="list-style-type: none"> → Sump Tank : Capacity 60 Ltrs. → Control Panel Comprises of: Standard make On/Off Switch, Mains Indicator, etc. → Tanks should be made of Stainless Steel. → An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the Apparatus. The whole set-up should be well designed and arranged on a rigid structure painted with industrial PU paint.
4	CAVITATION APPARATUS (With Data Logging Facility)	<p>The set-up should consist of a test section made of Acrylic having conversion and diversion section. Pressure tapings at appropriate position should be provided. This test section should have one control valve at upstream side to regulate the water flow rate. Two pressure sensors should be connected to these taping which give the pressure readout at the time of flow passing through this test section.</p> <p>The real time data acquisition should be done by interfacing the set-up with computer using software. Software should allow the user to have control on data logging, printing the stored data, preparing spread sheets in Excel etc.</p> <p>UTILITIES REQUIRED :</p> <ul style="list-style-type: none"> ☑ Electricity supply: Single Phase, 220 V AC, 50 Hz, 5-15 amp combined socket with earth connection. Earth voltage should be less than 5 volts. ☑ Water Supply: Initial Fill. ☑ Floor Drain Required. ☑ Floor Area Required: 1.5 m x 1.0 m. ☑ Computer System: i-3 processor with DVD Drive, Windows 7/8, MS-Office pre-loaded. One USB slot required in PC for Data Acquisition Card. <p>TECHNICAL DETAILS :</p> <ul style="list-style-type: none"> → Test Section: Material Acrylic → Pressure measurement: By pressure sensor and vacuum sensor-leach → Water Circulation: By Pump, Crompton/Standard make. → Flow Measurement: By flow sensor → Sump Tank: Capacity 60 liters → Control Panel Comprises of : Standard make On/Off Switch, Mains Indicator, etc. → Tank should be made of Stainless Steel. → An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. should be provided along with the Apparatus. The whole set-up should be well designed and arranged on a rigid structure painted with industrial PU Paint.
5	COMPUTER CONTROLLED CENTRIFUGAL PUMP TEST RIG (Variable	<p>The present Centrifugal Pump Test Rig should be self- contained unit operated on closed circuit basis containing a sump tank. The set-up should consist of a Centrifugal pump coupled with a DC Motor. DC Motor should be controlled by computer signal to vary the RPM of motor.</p> <p>The set-up should have a facility to interface the system with</p>

	<p>Speed)</p>	<p>computer which enables to log the experimental data using computer. The software package should provide a comprehensive educational software environment within which the investigations can be performed. Software should allow the user to have control on data logging, printing the stored data, preparing spread sheets in Excel etc.</p> <p>UTILITIES REQUIRED :</p> <ul style="list-style-type: none"> ☒ Electricity supply: Single phase, 220V AC, 50 Hz, 5-15 amp combined socket with earth connection. Earth voltage should be less than 5 volts. ☒ Water Supply. ☒ Floor Area: 2.0 m x 1.0 m ☒ Floor Drain required. ☒ Computer System: i-3 processor with DVD Drive, Windows 7, MS-Office pre-loaded. One USB slot required in PC for Data Acquisition Card. <p>TECHNICAL DETAILS :</p> <ul style="list-style-type: none"> ➔ Pump : Centrifugal Type, Kirloskar Make. ➔ Medium Flow : Clear Water ➔ Drive : Variable Speed controlled through ➔ Flow Measurement : By Using Flow Sensor. ➔ Pressure Measurement : By Using Pressure Sensor, Vacuum ➔ RPM Measurement : By Using Proximity Sensor. ➔ Sump Tank : Material Stainless Steel, suitable c ➔ An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. should be provided along with the Apparatus. The whole set-up should be well designed and arranged on a rigid structure painted with industrial PU Paint.
<p>6</p>	<p>COMPUTER CONTROLLED RECIPROCATING PUMP TEST RIG (Variable Speed)</p>	<p>The Reciprocating Pump Test Rig should be self-contained unit operated on closed circuit basis containing a sump tank. The set-up should consist of a Double acting, Single Cylinder Reciprocating Pump coupled with a DC Motor.</p> <p>The software package should provide a comprehensive educational software environment within which the investigations can be performed. Software should allow the user to have control on data logging, printing the stored data, preparing spread sheets in Excel etc.</p> <p>UTILITIES REQUIRED :</p> <ul style="list-style-type: none"> ➤ Electricity supply: Single phase, 220V AC, 50 Hz, 5-15 amp combined socket with earth connection. Earth voltage should be less than 5 volts. ➤ Water Supply. ➤ Floor Drain. ➤ Floor Area Required: 1.5 m x 0.75 m ➤ Computer System: i-3 processor with DVD Drive, Windows 7/8, MS-Office pre-loaded. One USB slot required in PC for Data

		<p>Acquisition Card.</p> <p>TECHNICAL DETAILS :</p> <ul style="list-style-type: none">→ P u m p : Double acting, Single Cylinder. Capacity 1 HP→ Medium Flow: Clear Water→ D r i v e : Variable Speed controlled through computer signal.→ Flow Measurement: By Using Flow Sensor.→ Pressure Measurement: By Using Pressure Sensor & Vacuum Sensor.→ RPM Measurement: By Using Proximity Sensor.→ Sump Tank: Material Stainless Steel, suitable capacity.→ An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. should be provided along with the Apparatus. The whole set-up should be well designed and arranged on a rigid structure painted with industrial PU Paint.
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Annexure-II

FORMAT FOR QUOTATION SUBMISSION

(In letterhead of the supplier with seal)

Date: _____

To:

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 and warranty/ guaranty commitments)	Total Price (A)		Sales tax and other taxes payable	
					In figures	In words	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: _____