



भारतीय प्रौद्योगिकी
संस्थान जम्मू
INDIAN INSTITUTE OF
TECHNOLOGY JAMMU

विद्याधनं सर्वधनं प्रधानम्

Tender for Procurement Of Scientific Equipment's for Chemical Engineering Department

Tender Enquiry No: IITJMU/CH/SP-70/2020-21

Dated: 10/03/2021

**IIT Jammu
Jagti, PO Nagrota,
NH-44, Jammu - 181 221 J&K, India
procurement@iitjammu.ac.in,**

Notice Inviting Quotation (E-Procurement Mode)

Notice Inviting Limited Tender for procurement of Scientific Equipment's for Chemical Engineering Department.

Indian Institute of Technology Jammu invites tenders from the interested vendors for procurement of above mentioned item.

Vendors are requested to send their bid for supply of the above item as per details technical specification given and Price Bid as per BOQ. **Hard copies in spiral binding of all the documents submitted in the online technical bid is to be submitted through courier/speed post at the address mentioned below: Tender Box, 104-South Block IIT Jammu Jagti, PO Nagrota, NH-44, Jammu -181221 J&K, India it should reach before the date of opening of the technical bids. The envelope should be clearly marked "technical bid for purchase of "Air Conditioning Training Module" and this may not contain any price information.** The Important information related to tender are as follows:

SCHEDULE	
Date of Issue/Publishing	10/03/2021 (17:30 Hrs)
Document Download/Sale Start Date	10/03/2021 (17:30 Hrs)
Last Date and Time for receipt of queries	22/03/2021 (14:00 Hrs)
Document Download/Sale End Date	31/03/2021 (14:00 Hrs)
Last Date and Time for Uploading of Bids	31/03/2021 (14:00 Hrs)
Date & Time of Opening of Technical Bids	1/04/2021 (14:00 Hrs)
Date of Opening of Commercial Bids	will be informed later
EMD	NA, the bidder has to give Bid Security Declaration as per format specified at Annexure "V"
Performance Security	3% of the contract value valid till warranty period
Warranty	1 Year
No. of Covers (1/2/3/4)	02
Bid Validity days	90 days
Email Address (for Technical Clarifications)	procurement@iitjammu.ac.in ravi.arun@iitjammu.ac.in ankit.tyagi@iitjammu.ac.in ashutosh.yadav@iitjammu.ac.in dharitri.rath@iitjammu.ac.in

2. Instructions to Bidders

Instructions for Online Bid Submission

Department of Expenditure has issued the directive to publish the tender document on the Central Public Procurement Portal (URL:<http://eprocure.gov.in/eprocure/app>). The bidders are required to submit soft copies of their bids electronically on the CPP Portal using valid Digital Signature Certificates. Below mentioned instructions are meant to guide the bidders for registration on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal. For more information, bidders may visit the CPP Portal <http://eprocure.gov.in/eprocure/app>. Tender document can also be downloaded from IIT Jammu Website (www.iitjammu.ac.in/)

2.1 Registration Process

- a) Bidders to enroll on the e-Procurement module of the portal <http://eprocure.gov.in/eprocure/app> by clicking on the link “Click here to Enroll”. Enrolment on the CPP Portal is free of charge.
- b) The bidders to choose a unique username and assign a password for their accounts. Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- c) Bidders to register upon enrolment their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India with their profile.
- d) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSCs to others which may lead to misuse. Foreign bidders are advised to refer “DSC details for Foreign Bidders” for Digital Signature requirements on the portal.
- e) Bidder then logs in to the site through the secured login by entering their user ID / password and the password of the DSC / eToken.

2.2 Tender Documents Search

- a) Various built in options are available in the CPP Portal to facilitate bidders to search active tenders by several parameters. These parameters include Tender ID, organization, location, date, value, etc.
- b) There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords etc. to search for a tender published on the CPP Portal.
- c) Once the bidders have selected the tenders they are interested in; they may download the required documents / tender schedules. These tenders can be moved to the respective ‘My Tenders’ folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
- d) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

2.3 Bid Preparation

- a) Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- b) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid.
- c) Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- d) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF formats. Bid documents may be scanned with 100 dpi with black and white option.

- e) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use “My Space” area available to them to upload such documents. These documents may be directly submitted from the “My Space” area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process

2.4 Bid Submission

- a) Bidder to log into the site well in advance for bid submission so that he/she upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- b) The bidder to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- c) Bidder to select the payment option as “on-line” to pay the tender fee/ EMD wherever applicable and enter details of the instrument.
- d) A standard BOQ format has been provided with the tender document to be filled by all the bidders. Bidders to note that they should necessarily submit their financial bids in the pre-scribed format and no other format is acceptable.
- e) The server time (which is displayed on the bidders’ dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- f) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data, which cannot be viewed by unauthorized persons until the time of bid opening.
- g) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- h) Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- i) Kindly add scanned PDF of all relevant documents in a single PDF file of compliance sheet.

2.5 Assistance to Bidders

- a) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
- b) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is 1800 233 7315.

2.6 General Instructions to the Bidders

1. The tenders will be received online through portal <https://eprocure.gov.in/eprocure/app>. In the Technical Bids, the bidders are required to upload all the documents in .pdf format.
2. Possession of Valid Class II/III Digital Signature Certificate (DSC) in the form of smart card Token in the company’s name is a prerequisite for registration and participating in the bid submission activities through <https://eprocure.gov.in/eprocure/app>. Digital Signature Certificates can be obtained from the authorized certifying agencies, details of which are available in the web site <https://eprocure.gov.in/eprocure/app> under the link ‘Information about DSC’. Bidders are advised to follow the instructions provided in the ‘Instructions to the Bidders for the e-Submission of the bids online through the Central Public Procurement Portal for e-Procurement at <https://eprocure.gov.in/eprocure>

Online Bid Submission:

The Online bids (complete in all respect) must be uploaded online in **two** Envelops as explained below: -

Envelope – 1 (Following documents to be provided as single PDF file)				
S.No	Content	Submitted (Yes / No)	Supporting Page Number of bid	File Types
1.	Index / Table of Content			.PDF
2.	MSME / NSIC Certificate			.PDF
3.	Copy of GST Certificate and PAN.			.PDF
4.	Technical supporting documents in support of all claims made at Annexure-I			.PDF
5.	Non Blacklisting of Supplier as per Annexure – II			.PDF
6.	Reference Purchase Order copy. List of Govt. Organization/ Dept. & User List as per Annexure-III			.PDF
7.	Manufacturer’s Authorization Letter as per Annexure-IV			.PDF
8.	Bid Security Declaration as per Annexure-V			.PDF
9.	Training Requirement Annexure “VII”			.PDF
10.	Declaration of Local Content (Annexure-X)			.PDF
11.	Unpriced bid with details terms and conditions, Country of Origin, HSN Code along-with quotation number, date and model quoted. (It should not contain any price information The price should be submitted in BoQ only i.e. in .xls format)			.PDF
12.	The tenderer shall submit the copy of the tender document and addenda thereto, if any, with each page should be signed and stamped to confirm the acceptance of the entire term & conditions of the tender.			.PDF
13.	The tenderer viz. the Indian Agents and / or the foreign firms should furnish a certificate that the rates quoted by the tenderer are not more than those quoted to any other Institution in India or aboard during the last one year, with supporting documents.			.PDF
14.	Financial statements with net profit, duly audited / certified by Chartered Accountant (CA) of the last three financial years along with the copies of Income Tax Return (ITR) must be enclosed with the technical bid			.PDF
15.	(For Goods/ Services Contracts) Certificate - Bidder Not from/ from Country sharing Land border with India & Registration of Bidder with Competent Authority (Annexure-VIII)			.PDF

16.	(For Works Contracts, including Turnkey Contracts) Certificate – Bidder Not from/ from Country sharing Land border with India, Registration of Bidder with Competent Authority & not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority (Annexure-IX)			.PDF
Envelope – 2				
Sl. No.	TYPES	Content	File Type	
1.	Financial Bid	Price bid as per BOQ format only. <i>(Note: -Comparison of prices will be done ONLY on the bids submitted for the Main Equipment and anything asked as ‘Optional’ in the specs is not to be included for overall comparison)</i>	.XLS	

FINANCIAL BID (PRICE-BID): In case, if any cell is left blank and no rate is quoted against any of the item(s) by the Bidder, rate of such item(s) shall be treated as “0” (Zero) and considered included in the cost of the bid and no separate claim whatsoever will be entertained on this account. Online submission of the bid will not be permitted on the portal after expiry of submission time and the Bidder shall not be permitted to submit the same by any other mode.

**Institute of Technology Jammu Jagti,
PO Nagrota, NH-44 Jammu-
181221**

3. Invitation for Tender Offers for Procurement of Scientific Equipment's for Chemical Engineering Department.

Indian Institute of Technology Jammu invites online Bids (Technical bid and Commercial bid) from eligible and experienced OEM (Original Equipment Manufacturer) OR OEM Authorized Dealer for Procurement, of Melt-Spinning-cum-injection-casting unit (warranty period as stated at "Schedule") on site comprehensive warranty from the date of receipt of the material as per terms & conditions specified in the tender document, which is available on CPP Portal <http://eprocure.gov.in/eprocure/app>

3.1. TECHNICAL SPECIFICATION:

A. FLUID MECHANICS AND MECHANICAL OPERATIONS LAB EQUIPMENT'S

Pitot Tube Separator	<ul style="list-style-type: none"> • Material: Pitot tube with copper based material fitted with Vernier scale • Test Section: Compatible to 1-2" Dia. Pipe • Water Circulation: HP Pump • Flow Measurement: Using Measuring Tank with Piezometer (Capacity 20-25 Liters.) • Sump Tank: Capacity ~ 50 Liters. • Stop Watch: Electronic. • Pressure measurement: Using differential pressure manometer. • Control Panel: Standard ON/OFF Switch, etc. • Tanks: Stainless Steel body • Instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the Apparatus. • The whole set-up is well designed and arranged on a rigid structure.
Rotameter	<ul style="list-style-type: none"> • Rotameter: Glass Tube Rotameter of Compatible Range. • Water Circulation: ½ HP Pump (Crompton/Standard make) • Flow Measurement: Using Measuring Tank with piezometer (Capacity 25 litres) • Sump Tank: Capacity 50 liters. • Stop Watch: Electronic. • Control Panel Comprises of: Standard make On/Off Switches, Mains Indicator, etc. • Tanks will be made up of Stainless Steel.

	<ul style="list-style-type: none"> • An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the Apparatus. • The whole set-up is well designed and arranged on a rigid structure
Agitated Vessel	<ul style="list-style-type: none"> • Tank: Material Stainless Steel. Dia. 300mm, Depth 400mm (approx.) • Stirrer: SS Impeller with SS Shaft coupled to Standard make FHP Variable Speed Motor and Drive. • Agitator: Stainless Steel shaft & impellers (i.e. one propeller & one turbine) • Baffles: Material Stainless Steel, 4 Nos. 2” width. (Detachable). • Sampling point: 4 Nos. at random locations. • Control Panel Comprises of : <ul style="list-style-type: none"> a. Digital RPM Indicator: Non-Contact type with Proximity sensor. b. Digital Voltmeter: 0-300 Volts Ammeter: 0-5 Amps. With Standard make on off switch, Mains Indicator etc. • An instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the Apparatus. • The whole set-up is well designed and arranged on a rigid structure
Centrifugal Pump Test System	<ul style="list-style-type: none"> • Capacity 1 HP, Speed 2800 RPM (max.), Head 12 m (max.) • Medium Flow: Clear Water. • Drive: 1 HP DC motor. • Speed Control: Thyristor controlled. • Sump Tank: Capacity ~110 Ltrs. Approx. • Measuring Tank: Capacity 70 Ltrs. approx. with Piezometer • Stop Watch: Electronic. • Pressure Gauge: Bourdon type. • Control Panel Comprises of: <ul style="list-style-type: none"> a. Energy measurement: Electronic Energy meter. b. RPM measurement: Digital RPM Indicator with Proximity Sensor. Standard make On/Off Switch, Mains Indicator, etc. • Tanks will be made of Stainless Steel. • Instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the Apparatus. • The whole set-up is well designed and arranged on a rigid structure.

<p>Sieve Shaker</p>	<ul style="list-style-type: none"> • Sieve assembly: Compatible to sieves of 20-cmdia. (for 6-7 sieves) • Drive: By ½ HP motor • Control Panel comprises of: Standard make on off switch, Mains Indicator etc. • Special arrangement for setting time for shaking. • An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the apparatus. • The whole set-up is well designed and arranged on a rigid structure. • Optional items as applicable • An instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the Apparatus. • The whole set-up is well designed and arranged on a rigid structure. • Optional items as applicable
<p>Cyclone separator</p>	<ul style="list-style-type: none"> • Cyclone Separator: Material Stainless Steel, Dia 100mm (approx.) • Solid Discharge Silo. : Material Stainless Steel, suitable capacity with discharge control valve. • Blower: ID Fan Blower with 1 HP provided motor • Air flow measurement: Pitot with manometer. • Solids Collector: Transparent PVC container fixed with Cyclone. • Fine Dust Collector: Bag of Nylon cloth fixed on exit of air • Control Panel comprises of: Standard make on off switch, Mains Indicator etc.

B. PROCESS INSTRUMENTATION DYNAMICS AND CONTROLS LAB EQUIPMENT'S

Equipment Specifications

1. Name of the equipment: Control Valve Characteristics	
Item	Specifications
Control valve (Linear)	Type: Pneumatic; Input: 1–20 psig, Air to open, Characteristics: Linear
Control valve (equal %)	Type: Pneumatic; Input: 1–20 psig, Air to close, Characteristics: Equal %
Control valve (quick opening)	Type: Pneumatic; Input: 3–15 psig, Air to open, Characteristics: Quick opening
Rotameter	20-800 LPH (2 Nos)
Overhead tank	SS304 (make), cylindrical
Receiving tank	SS304 (make)
Pressure indication	Tube with graduated scale at control valve inlet
Pump	Fractional horse power
Pressure gauge	Range 0-5 kg/cm ²
Air regulator	Range 0-5 kg/cm ²
Air Compressor	Mini (As per the requirement of equipment)
Experimental error	< 5 %
Cables and all other required accessories for smooth functioning of the equipment need to be provided.	
The whole set-up is well designed, painted, and arranged on a rigid structure having wheels.	
2. Name of the equipment: DCS Control Trainer	
Item	Specifications
Type of control	SCADA
Control unit	Hybrid controller, Make Honeywell with Hybrid Control Designer software
Communication	Ethernet
Control panel	Standalone industrial control panel with, Rotary switches for simulated AI, Pushbuttons for simulated DI, Indicators for DI, Indicators for DO, Power supply (24V DC) for powering transmitters, Relays of 24V DC for DO application, Connectors for

	each field input and output connection
Experimental error	< 5 %
Cables and all other required accessories for smooth functioning of the equipment need to be provided.	
The whole set-up is well designed, painted, and arranged on a rigid structure having wheels.	

3. Name of the equipment: Interacting & Non interacting Tank	
Item	Specifications
Process tank	Material stainless (SS 304) , Circular, graduated level scale in mm.
Tank Capacity	2 to 5 ltr.
Rotameter	5-150 LPH
Supply Tank	Material stainless steel (SS 304) capacity 20-25 ltr.
Overhead Tank	Material stainless steel (SS 304) capacity 5-10 ltr.
Water circulation pump	Fractional-horsepower motor pump, standard make, type submersible
Piping	SS
Cables and all other required accessories for smooth functioning of the equipment need to be provided.	
The whole set-up is well designed, painted, and arranged on a rigid structure having wheels.	
4. Name of the equipment: Level Trainer	
Item	Specifications
Type of control	SCADA
Control unit	Digital indicating controller with Ethernet communication
Level transmitter	Type Electronic, two wire, Range 0–250 mm, Output 4–20mA
Rotameter	5-150 LPH
Pump	Fractional Horse Power, submersible
Process tank	Transparent, Acrylic, with 0-100% graduated scale
Supply tank	Make (SS304)
Air filter regulator	Range 0-5 kg/cm ²
Pressure gauge	Range 0-5 kg/cm ² and Range 0-10 kg/cm ²

Air Compressor	Mini (Pressure 2 bar, 50 LPH)
Experimental error	< 5 %
Cables and all other required accessories for smooth functioning of the equipment need to be provided.	
The whole set-up is well designed, painted, and arranged on a rigid structure having wheels.	
5. Name of the equipment: Multi Variable Control trainer	
Item	Specifications
DAQ device	National Instruments
Communication	USB type
Level transmitter	Type Electronic, two wire, Range 0–250 mm, Output 4–20mA
Pump	Positive Displacement Pump with adjustable strokes
VFD	Programmable with single phase input, output- 3 phase
Pump	Fractional Horse Power, submersible
Process tank	Transparent, Acrylic, with 0-100% graduated scale
Supply tank	Make (SS304)
Experimental error	< 5 %
Cables and all other required accessories for smooth functioning of the equipment need to be provided.	
The whole set-up is well designed, painted, and arranged on a rigid structure having wheels.	
6. Name of the equipment: Multi Process Trainer	
Item	Specifications
Type of control	SCADA
DAQ device	NI based
Communication	USB type
Control unit	Digital indicating controller with Ethernet communication
Differential Pressure Transmitter	Type Capacitance, 2 wire, Range 0–200 mm, Output 4–20 mA
Flow transmitter	Type two wire, Range 4 LPM
Level transmitter	Type Electronic, two wire, Range 0–250 mm, Output 4–20mA
Power supply	Model S-15-24, Output 24 VDC, 0.7 A
Control valve	Type Pneumatic

Pump	Fractional Horse Power, submersible
Rotameter	10-200 LPH
Process tank	Transparent, Acrylic, with 0-100% graduated scale
Supply Tank	Make (SS 304)
Experimental error	< 5 %
Mini compressor	As per requirement of the equipment (2 bar Pressure and 50 LPH)
Cables and all other required accessories for smooth functioning of the equipment need to be provided.	
The whole set-up is well designed, painted, and arranged on a rigid structure having wheels.	
7. Name of the equipment: Temperature Control Trainer	
Item	Specifications
Type of control	SCADA
Control unit	Digital indicating controller with Ethernet communication
Temperature sensor	Type RTD, PT100
Heating control	Proportional power controller (SSR), Capacity 20 A.
Heater	Type Electrical 2 coil, Capacity 3 kW
Rotameter	5-100 LPH
Process tank	Make (SS304), insulated
Experimental error	< 5 %
Cables and all other required accessories for smooth functioning of the equipment need to be provided.	
The whole set-up is well designed, painted, and arranged on a rigid structure having wheels.	

C. HEAT TRANSFER AND THERMODYNAMICS LAB EQUIPMENT'S

Name of the equipment	Specifications
Double Effect Evaporator setup	<ol style="list-style-type: none"> 1) Evaporators: Shell and tube type, Stainless Steel 304, Shell dia. approx. 70 mm, Length 500 mm, Tube Inner dia. approx 10 mm, Outer dia. approx. 13 mm, Length approx. 500 mm 2) Feed Tank: Stainless Steel 304, Capacity approx. 25 liters 3) Flow Measurement: Peristaltic Pump, which can be remove from setup whenever required 4) Steam Generator: Stainless Steel 304, having Level Indicator, pressure Gauge, Safety Valve, Drain System, Insulated and Cladded 5) Piping: Stainless Steel 304 and PVC 6) Condensor: Shell and tube type, Stainless Steel 304 7) Bottom Product Tank: Stainless Steel 304, Capacity approx. 15 liters 8) Water Supply Tank: Stainless Steel 304, Capacity approx. 45 liters 9) Vacuum Pump: Oil free vacuum pump, which can be remove from setup whenever required 10) Pump: FHP Pump 11) Heater: Nichrome Wire Heater. 12) Digital Temperature Control: PID controller, approx. 0-250 °C 13) Digital Temperature Indicator: approx. 0-250 °C, switches 14) Temperature sensors: RTD PT-100 types, at various position (approx. 10) 15) Air Compressor: 0.5 HP, 2CFM for compressed air supply 16) Instruction manual: An instruction manual consisting of experimental procedures, block diagram, sample calculation, etc. 17) It should be possible for this setup to use as single effect evaporator whenever required 18) The experimental error < 5 %. 19) Cable and accessories need to be provided. 20) The whole set-up is well designed, painted, and arranged on a rigid structure having wheels.

Vapour liquid equilibrium setup	<ol style="list-style-type: none"> 1) Distillation column still: Stainless Steel 304, 1.5 liters, well Insulated 2) Heater: Nichrome Wire Heater. 3) Condensor: shell and heat exchanger, material copper–nickel alloys, with refluxed tank 4) Cooling Water Tank with circulation system: Stainless Steel 304 Grade, 20 liters, coupled with FHP motor, 5) Rotameter and flow control valves: Liquid flow meter, 0-20 LPH, valves to control the flow 6) Handheld Refractrometer: Range of measurement 0-2 7) Temperature sensor and Indicator: Calibrated RTD PT-100 type with temperature transmitter, digital display with 0-250 °C, able to note down the temperature at multiple places at distillation column with accuracy ± 5 °C 8) Digital Voltmeter: 0-300 V 9) Electrical Dimmerstat: for variable power input, 0-240 V AC, 2A, Single phase 10) Instruction manual: An instruction manual consisting of experimental procedures, block diagram, sample calculation, etc. 11) The experimental error < 5 %. 12) Cable and accessories need to be provided. 13) The whole set-up is well designed, painted, and arranged on a rigid structure having wheels
Heat transfer in agitated vessel setup	<ol style="list-style-type: none"> 1) System: can handle Steam and water 2) Vessel: Stainless Steel 304, with 4-5 baffles, diameter : Depth :: 5:7 (Dia approx. 250 mm) 3) Jacket: Width approx. 28 mm, well insulated and cladded 4) Coils: Helical in shape, Copper, Outer diameter approx.16 mm, and Inner diameter approx.13 mm. 5) Agitator: Stainless Steel 304 impeller with shaft, attached with motor (variable speed with controller) and Drive. 6) Condensate Measurement: Measuring Cylinder (plastic and glass with marking) and stopwatches 7) Water Flow Measurement: Liquid flow meter, 0-20 LPH, valves to control the flow 8) Steam Generator: Stainless Steel 304, having Level Indicator, pressure Gauge, Safety Valve, Drain System, Insulated and Cladded 9) Heaters: Nichrome Wire Heaters 10) Digital Temperature Control: PID controller, 0-250 °C 11) Digital Temperature Indicator: 0-250 °C, switches

	<p>12) Temperature sensors: RTD PT-100 types, at various position (approx. 5)</p> <p>13) RPM Indicator: Digital display</p> <p>14) Instruction manual: An instruction manual consisting of experimental procedures, block diagram, sample calculation, etc.</p> <p>15) The experimental error < 5 %.</p> <p>16) Cable and all necessary accessories need to be provided.</p> <p>17) The whole set-up is well designed, painted, and arranged on a rigid structure having wheels.</p>
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D. FLUID FLOW AND MECHANICAL OPERATIONS EQUIPMENT'S

Item Name	Specifications
Jaw/ Roll crushers (primary crushing)	Jaw Crusher <ul style="list-style-type: none"> • Size 100 x 150mm. • Feed Hopper: Suitable capacity. • Feed Size : 50mm (approx.) • Product Discharge Size : (5-15) mm (approx.) • Drive : Electric motor, 3 HP, Single phase, • Control Panel Comprises of : <ul style="list-style-type: none"> • Energy measurement: Electronic Energy meter. • Starter: 3 HP, Single Phase. • MCB: For overload protection. • An ENGLISH instruction manual consisting of experimental Procedures, block diagram etc. will be provided along with the Apparatus. • The whole set-up is well designed and arranged on a rigid structure painted with industrial PU Paint
	Roll Crusher <ul style="list-style-type: none"> • Rolls : Material Chilled Steel • Dia. 200mm, Width 100mm. (approx.) • Drive : 2 HP motor coupled with Reduction • Gear Box to give 48-70 RPM • Feed Hopper: Suitable capacity. • Max feed Size: 6-8 mm. • Product Size: 1-2 mm. • Control Panel Comprises of : <ul style="list-style-type: none"> • Energy measurement: Electronic energy meter. • Starter : 2 HP, Single Phase, • MCB: For overload protection. • The set-up is fitted with required guards and product collection tray. • An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the Apparatus. <p>The whole set-up is well designed and arranged on a rigid structure painted with industrial PU Paint.</p>
Rotary Vacuum Filter	<ul style="list-style-type: none"> • Filter Drum: Material Stainless Steel, Dia. 250 mm, Length 350 mm. • Mesh : Material Stainless Steel • Filter : Canvas Cloth • No. of Zones: 6 Nos. • Drive for Drum : FHP motor coupled to a Reduction Gear Box • Trough : Material Stainless Steel, Compatible capacity.

	<ul style="list-style-type: none"> • Trough Agitator : Material Stainless Steel, driven by FHP motor with Reduction Gearbox. • Slurry Tank : Stainless Steel, capacity 75 Ltrs. • Slurry Pump : Gear Pump with ½ HP motor • Slurry Tank Agitator : Stainless Steel Impeller with SS Shaft coupled to FHP motor and Reduction Gear Box • Filtrate Receiver : Material Stainless Steel, Capacity 10 Ltrs. (2 Nos.)with water level gauge • Vacuum Pump : Liquid Ring type coupled to a 1 HP Motor • Piping : GI and PVC size ½ • Control Panel comprises of : Standard make on off switches, Mains Indicator etc. • An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the apparatus. • The whole set-up is well designed and arranged on a rigid structure painted with industrial PU Paint.
Plate and Frame Filter	<ul style="list-style-type: none"> • No. of frame : 6 • No. of Plates : 7 • Size: 200 mm x 200 mm. • Material : Acrylic • Filter Medium : Filter Cloth • Filtrate collection tray: Material Stainless Steel, Suitable size. • Filtration rate measurement: Using measuring tank. Material Stainless Steel • Slurry Feed tank: Material Stainless Steel, Capacity 40 Ltrs. • Slurry Tank Agitator : Stainless Steel Impeller with SS Shaft coupled to FHP Motor and Reduction Gear Box • Slurry Feed Pump: Gear Pump with FHP motor. • Piping system: GI and PVC. • Pressure Measurement: By Bourdon type pressure gauge-2Nos. • Overhead water tank: Material Stainless Steel, Capacity 25 Ltrs. • Control Panel comprises of: Standard make on off switch, Mains Indicator etc. • Screw Jack arrangement for tightening and removing of frames easily. • An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the apparatus. • The whole set-up is well designed and arranged on a rigid structure painted with industrial PU Paint.
Flow through packed column	<ul style="list-style-type: none"> • Packed Column: Material Borosilicate Glass and Stainless Steel. ID 48 mm (approx.), • Length 750 mm (approx.)

<p>Packed Bed</p>	<ul style="list-style-type: none"> • Packing : Material Borosilicate Glass Rasching rings Size 8-10 mm (approx.) • Water tank : Material Stainless Steel, • Capacity 30 Ltrs. • Water Circulation: FHP Pump, Crompton/Sharp make. • Flow Measurement: Rotameters- 2 Nos. (one each for air and water) • Pressure Drop Measurement : By Manometer • Pressure gauge : 0-2 kg/cm² • Pressure regulator : 0-2 kg/cm² • An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the apparatus. • The whole set-up is well designed and arranged on a rigid structure painted with industrial PU Paint.
<p>Fluidization Characteristics Fluidized Bed</p>	<ul style="list-style-type: none"> • Column : Material Borosilicate Glass with both end made of Stainless Steel Dia. 48 mm (approx.), Height 750 mm (approx.) • Packing : Glass Beads • Water tank: Material Stainless Steel, Capacity 30 Ltrs. • Water Circulation: FHP Pump, Crompton/Sharp make. • Water Flow Measurement : By Rotameter • Pressure Drop Measurement : Manometer • An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the apparatus. • The whole set-up is well designed and arranged on a rigid structure painted with industrial PU Paint.

4. GENERAL TERMS & CONDITIONS

- 4.1 Due date:** The tender has to be submitted online on or before the due date. The offers received after the due date and time will not be considered.
- 4.2 Deleted**
- 4.3 Opening of the tender:** The online bid will be opened by a committee duly constituted for this purpose. Online bids (complete in all respect) received will be opened as mentioned at “Annexure: Schedule” in presence of bidder’s representative if available. Only one representative will be allowed to participate in the tender opening. The technical bid will be opened online first and it will be examined by a technical committee (as per specification and requirement). The financial offer/bid will be opened only for the offer/bid which technically meets all requirements as per the specification, and will be opened subsequently for further evaluation.
- 4.4 Acceptance/ Rejection of bids:** The Institute reserves the right to reject any bid not fulfilling the eligibility criteria. Submission of incomplete bid/ incomplete bid format would lead to rejection of bids. All documents required to be submitted should be the part of the bid. If any document is not submitted, the bid will be treated as incomplete and this would lead to rejection. No communication in this regard will be entertained.
- 4.5 Eligibility Criteria:**
- (i) Tenderer should be the manufacturer / authorized dealer. Letter of Authorization from original equipment manufacturer (OEM) specific to the tender should be enclosed.**
 - (ii) An undertaking from the OEM is required stating that they would facilitate the tenderer on a regular basis with technology/product updates and extend support for the warranty as well. (Ref. Annexure-II)**
 - (iii) Non-compliance of tender terms, non-submission of required documents, lack of clarity of the specifications, contradiction between tenderer specification and supporting documents etc. may lead to rejection of the bid.**
 - (iv) In the tender, either the Indian agent on behalf of the Principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender.**
 - (v) If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product.**
- 4.6 Performance Security:** The supplier shall require to submit the performance security in the form of irrevocable bank guarantee issued by any commercial bank for an amount which is stated at the “Schedule” of the tender document within 21 days from the date of receipt of the purchase order/LC and should be kept valid for a period of 60 days beyond the date of completion of warranty period.
- 4.7 Force Majeure:** The Supplier shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, it’s delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- (i) For purposes of this Clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the Purchaser either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.**
 - (ii) If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such conditions 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.

4.8 Risk Purchase Clause: In event of failure of supply of the item/equipment within the stipulated delivery schedule, the purchaser has all the right to purchase the item/equipment from the other source on the total risk of the supplier under risk purchase clause.

4.9 Packing Instructions: Each package will be marked on three sides with proper paint/indelible ink, the following:

- (i) Item Nomenclature
- (ii) Order/Contract No.
- (iii) Country of Origin of Goods
- (iv) Supplier's Name and Address
- (v) Consignee details
- (vi) Packing list reference number

4.10 Delivery and Documents:

Delivery of the goods should be made within a maximum of 60 days from the date of placement of purchase order. Within 24 hours of shipment, the supplier shall notify the purchaser and the insurance company by cable/telex/fax/e mail the full details of the shipment including contract number, railway receipt number/ AAP etc. and date, description of goods, quantity, name of the consignee, invoice etc. The supplier shall mail the following documents to the purchaser with a copy to the insurance company:

- (i) 4 Copies of the Supplier invoice showing contract number, goods' description, quantity
- (ii) unit price, total amount;
- (iii) Insurance Certificate if applicable;
- (iv) Manufacturer's/Supplier's warranty certificate;
- (v) Inspection Certificate issued by the nominated inspection agency, if any
- (vi) Supplier's factory inspection report; and
- (vii) Certificate of Origin (if possible by the beneficiary);
- (viii) Two copies of the packing list identifying the contents of each package.
- (ix) The above documents should be received by the Purchaser before arrival of the Goods (except where the Goods have been delivered directly to the Consignee with all documents) and, if not received, the Supplier will be responsible for any consequent expenses.

4.11 Liquidated Damages (L.D):

If a supplier fails to execute the order in time as per the terms and conditions stipulated therein, it will be open to the purchaser to recover liquidated damages for delay in delivery and installation from the supplier at the rate 0.5% of the value of the order per week subject to a maximum of 10% of the total order value. The L.D charges can be increased in case of gross violation of the Purchase Order terms as decided by the Director of the Institute.

4.12 Prices: The price should be quoted in BoQ format only. The offer/bid should be exclusive of taxes and duties, which will be paid by the purchaser as applicable. However, the percentage of taxes & duties shall be clearly indicated. The price should be quoted without custom duty and excise duty, since IIT Jammu is exempted from payment of Excise Duty and is eligible for concessional rate of custom duty. Necessary certificate will be issued on demand.

4.13 Progress of Supply: Wherever applicable, supplier shall regularly intimate progress of supply, in writing, to the Purchaser as under:

- (i) Quantity offered for inspection and date;
- (ii) Quantity accepted/rejected by inspecting agency and date;
- (iii) Quantity dispatched/delivered to consignees and date;

- (iv) Quantity where incidental services have been satisfactorily completed with date;
- (v) Quantity where rectification/repair/replacement effected/completed on receipt of any communication from consignee/Purchaser with date;
- (vi) Date of completion of entire Contract including incidental services, if any; and
- (vii) Date of receipt of entire payments under the Contract (In case of stage-wise inspection, details required may also be specified).

4.14 Resolution of Disputes: The dispute resolution mechanism would be as follows:

- (i) In case of Dispute or difference arising between the Purchaser and a domestic supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996, the rules there under and any statutory modifications or re-enactments thereof shall apply to the arbitration proceedings. The dispute shall be referred to the Director, Indian Institute of Technology (IIT) Jammu and if he is unable or unwilling to act, the sole arbitration of some other person appointed by him willing to act as such Arbitrator. The award of the arbitrator so appointed shall be final, conclusive and binding on all parties to this order.
- (ii) In the case of a dispute between the purchaser and a Foreign Supplier, the dispute shall be settled by arbitration in accordance with provision of sub-clause (i) above. But if this is not acceptable to the supplier then the dispute shall be settled in accordance with provisions of UNCITRAL (United Nations Commission on International Trade Law) Arbitration Rules.
- (iii) The venue of the arbitration shall be the place from where the order is issued.

4.15 The place of jurisdiction would be Jammu (J&K)

4.16 Right to Use Defective Goods

If after delivery, acceptance and installation and within the guarantee and warranty period, the operation or use of the goods proves to be unsatisfactory, the Purchaser shall have the right to continue to operate or use such goods until rectifications of defects, errors or omissions by repair or by partial or complete replacement is made without interfering with the Purchaser's operation.

4.17 Transfer and Subletting: The supplier shall not sublet, transfer, assign or otherwise part with the acceptance to the tender or any part thereof, either directly or indirectly, without the prior written permission of the Purchaser.

4.18 Supplier Integrity

The Supplier is responsible for and obliged to conduct all contracted activities in accordance with the Contract using state of the art methods and economic principles and exercising all means available to achieve the performance specified in the contract.

4.19 Installation & Demonstration

The supplier is required to do the installation and demonstration of the equipment within two weeks of the arrival of materials at the IIT Jammu, site of installation, otherwise the penalty clause will be the same as per the supply of materials.

In case of any damage to equipment and supplies during the carriage of supplies from the origin of equipment to the installation site, the supplier has to replace it with new equipment/supplies immediately at his own risk. Supplier will settle his claim with the insurance company as per his convenience. IIT Jammu will not be liable to any type of losses in any form.

4.20 Insurance (if applicable): For delivery of goods at the purchaser's premises (IIT JAMMU), the insurance shall be obtained by the supplier from "warehouse to warehouse" (final destinations) on "All Risks" basis including War Risks and Strikes. The insurance shall be valid for a period of not less than 3 months after

installation and commissioning.

4.21 Warranty:

(i) Warranty period shall be (as stated at “Schedule “of this tender) from date of installation of Goods and acceptance at IIT Jammu. The Supplier shall, in addition, comply with the performance and/or consumption guarantees specified under the contract. If for reasons attributable to the Supplier, these guarantees are not attained in whole or in part, the Supplier shall at its discretion make such changes, modifications, and/or additions to the Goods or any part thereof as may be necessary in order to attain the contractual guarantees specified in the Contract at its own cost and expense and to carry out further performance tests. The warranty should be comprehensive on site. (ii) The Purchaser shall promptly notify the Supplier in writing of any claims arising under this warranty. Upon receipt of such notice, the Supplier shall arrange to repair or replace the defective goods or parts within 3 days free of cost in IIT Jammu. The Supplier shall take over the replaced parts/goods at the time of their replacement. No claim whatsoever shall lie on the Purchaser for the replaced parts/goods thereafter. The period for correction of defects in the warranty period is 03 days. If the supplier having been notified fails to remedy the defects within 03 days, the purchaser may proceed to take such remedial action as may be necessary, at the supplier’s risk and expenses and without prejudice to any other rights, which the purchaser may have against the supplier under the contract.

(iii) The warranty period should be clearly mentioned. The maintenance charges (AMC) under different schemes after the expiry of the warranty should also be mentioned. The comprehensive warranty will commence from the date of the satisfactory installation/commissioning of the equipment against the defect of any manufacturing, workmanship and poor quality of the components.

4.22 Governing Language

The contract shall be written in English language. English language version of the Contract shall govern its interpretation. All correspondence and other documents pertaining to the Contract, which are exchanged by the parties, shall be written in the same language.

4.23 Applicable Law

The Contract shall be interpreted in accordance with the laws of the Union of India and all disputes shall be subject to place of jurisdiction.

4.24 Notices

(i) Any notice given by one party to the other pursuant to this contract/order shall be sent to the other party in writing or by cable, telex, FAX or e mail and confirmed in writing to the other party’s address.

(ii) A notice shall be effective when delivered or on the notice’s effective date, whichever is later.

4.25 Taxes

Suppliers shall be entirely responsible for all taxes, duties, license fees, octroy, road permits, etc., incurred until delivery of the contracted Goods to the Purchaser. However, GST in respect of the transaction between the Purchaser and the Supplier shall be payable extra, if so stipulated in the order.

4.26 Duties

IIT Jammu is exempted from paying custom duty under notification No.51/96 (partially or full) and necessary “Custom Duty Exemption Certificate” can be issued after providing following information and Custom Duty Exemption Certificate will be issued.

IIT Jammu is exempted from paying Excise Duty and necessary Excise Duty Exemption Certificate will be provided for which following information are required.

(i) Quotation with details of Basic Price, Rate, Tax & Amount on which ED is applicable.

(ii) Supply Order Copy

(iii) Performa-Invoice Copy.

4.27 Payment:

- (i) For Indigenous supplies, 100% payment shall be made by the Purchaser against delivery, inspection, successful installation, commissioning and acceptance of the equipment at IIT Jammu in good condition and to the entire satisfaction of the Purchaser and on production of unconditional performance bank guarantee as specified in Clause 4.8 of tender terms and conditions.
- (ii) GST Deduction at source as per Order/ notification of the Govt.
- (iii) GST No of IIT Jammu is 01AABTI4921M1ZT
- (iv) HSN/SAC No of the items must be clearly mentioned in the quotation along with GST No.
- (v) As per Notification No. 45/2007- Central Tax (Rate) dated 14.11.2017 and 47/2017-Integrated Tax (Rate) dated 14.11.2017, issued by Ministry of Finance, IIT Jammu will avail 5% GST rate, on the items, as mentioned in the Notification.

4.28 Manuals and Drawings:

- (i) Before the goods and equipment are taken over by the Purchaser, the Supplier shall supply operation and maintenance manuals. These shall be in such details as will enable the Purchaser to operate, maintain, adjust and repair all parts of the works as stated in the specifications.
- (ii) The Manuals shall be in the ruling language (English) in such form and numbers as stated in the contract.
- (iii) Unless and otherwise agreed, the goods equipment shall not be considered to be completed for the purposes of taking over until such manuals and drawing have been supplied to the Purchaser.

4.29 Application Specialist: The Tenderer should mention in the Techno-Commercial bid the availability and names of Application Specialist and Service Engineers in the nearest regional office. (Ref. to Annexure-III)

4.30 Site Preparation: The supplier shall inform to the Institute about the site preparation, if any, needed for the installation of equipment, immediately after the receipt of the purchase order. The supplier must provide complete details regarding space and all the other infrastructural requirements needed for the equipment, which the Institute should arrange before the arrival of the equipment to ensure its timely installation and smooth operation thereafter. The supplier may visit the Institute and see the site where the equipment is to be installed and may offer his advice and render assistance to the Institute in the preparation of the site and other pre- installation requirements.

4.31 Spare Parts

The Supplier may be required to provide any or all of the following materials, notifications, and Information pertaining to spare parts manufactured or distributed by the Supplier. Such spare parts as the Purchaser may elect to purchase from the Supplier, providing that this election shall not relieve the Supplier of any warranty obligations under the Contract; and In the event of termination of production of the spare parts; Advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed requirements; and following suctermination, furnishing at no cost to the Purchaser, the blueprints, drawings and specifications of the spare parts, if requested. Supplier shall carry sufficient inventories to assure ex-stock supply of consumable spares. Other spare parts and components shall be supplied as promptly as possible but in any case within six months of placement of order.

4.32 Defective Equipment: If any of the equipment supplied by the Supplier is found to be substandard, refurbished, un-merchantable or not in accordance with the description/specification or otherwise faulty, the committee will have the right to reject the equipment or its part. The prices of such equipment shall be refunded by the Supplier with 18% interest if such payments for such equipment have already been made. All damaged or unapproved goods shall be returned at sup- pliers cost and risk and the incidental expenses incurred thereon shall be recovered from the sup- plier. Defective part in equipment, if found before installation and/or during warranty period, shall be replaced within 7 days on receipt of the intimation from this office at the cost and risk of sup- plier including all other charges. In case supplier fails to replace above

item as per above terms & conditions, IIT Jammu may consider "Banning" the supplier.

4.33 Termination for Default

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

a. If the Supplier fails to deliver any or all of the Goods within the period(s) specified in the order, or within any extension thereof granted by the Purchaser; or

b. If the Supplier fails to perform any other obligation(s) under the Contract.

c. If the Supplier, in the judgment of the Purchaser has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

(ii) For the purpose of this Clause:

a. **“Corrupt practice”** means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.

b. **“Fraudulent practice”** means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Tenderer (prior to or after bid submission) designed to establish bid prices at artificial non- competitive levels and to deprive the Borrower of the benefits of free and open competition;”

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

4.34 Shifting: Once our new Academic Block will be ready, the supplier has to shift and reinstall the instrument free of cost (if required).

4.35 Downtime: During the warranty period, not more than 1% downtime will be permissible. For every day exceeding permissible downtime, penalty of 1/365 of the 1% contract value will be imposed. Downtime will be counted from the date and time of the filing of complaint with in the business hours. Supplier should clearly mention about their service set up in India (preferably in Northern part of India) for prompt service support. The manufacturer and/or their Indian representative must have at least three qualified and factory trained service engineer in India to be able to attend to service at IIT Jammu within 48 hours on submitting a complaint. Training certificates from the manufacturer have to be provided with the tender. During the warranty period, only factory trained and certified engineers are acceptable to attend the service.

In case the Equipment / System remains non-operational for more than 5 days then warranty period will be extended for the equivalent period for which Equipment /System remained non- operational. Warranty extension in such case shall be done without prejudice to any other Term & condition of the contract.

IIT Jammu would like to enter in service agreement through which IIT Jammu will receive re- placement of defective spares/part (if any, that are not covered under warranty) immediately so as to minimize the down time. Order, if any, required to be placed for such spares/parts will be done by IIT Jammu in due course of time.

4.36 Training of Personnel (if applicable): The supplier shall be required to undertake to provide the technical training to the personnel involved in the use of the equipment at the Institute premises, immediately after completing the installation of the equipment if applicable.

4.37 Compliancy certificate: This certificate must be provided indicating conformity to the technical specifications. (Annexure-I)

4.38 Genuine Pricing: Vendor is to ensure that quoted price is not more than the price offered to any other customer in India to whom this particular item has been sold. Copy of the latest price list for the quoted item, applicable in India, must be enclosed with the offer (particularly to IIT/Institutes and other

Government Organization).

4.39 Comparison of Bids: Item wise evaluation of shall be done, IIT Jammu reserves the right to award item-wise contract. L1 will be decided on the basis of item wise as per the Price Bid. Cost of all consumables and accessories should be included in the final bid price.

1. To evaluate a Price Bid, the Purchaser shall only use all the factors, methodologies and criteria defined below. No other criteria or methodology will be used. The price bids shall be evaluated on the basis of final landing cost which shall be arrived as under:

i) The price of the goods quoted Ex-works.

ii) GST which will be payable on the goods if the contract is awarded.

iii) The charges for installation, commissioning, training charges, inland transportation, insurance, packing and forwarding charges and other local services required for delivering the goods at the desired destination as specified in the price schedule form.

4.40 Award of Contract

IIT Jammu shall award the contract to the eligible bidder whose technical bid has been accepted and determined as the lowest evaluated commercial bid based on the criteria mentioned above. However, IIT Jammu reserves the right and has sole discretion to reject the lowest evaluated bid.

In case more than one bidder happens to quote the same lowest price, IIT Jammu reserves the right to decide the criteria and further process for awarding the contract, decision of IIT Jammu shall be final for awarding the contract.

4.41 As per Ministry of Finance, Deptt. of Expenditure, Public Procurement Division Order (Public Procurement No.1) issued from file No.6/18/2019-PPD dated 23rd July, 2020 regarding Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs) 2017, it is directed that any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with the Competent Authority i.e. the Deptt. for Promotion of Industry and Internal Trade (DPIIT). *The said order will not apply to bidders from those countries (even sharing a land border with India) to which the Government of India has extended lines of credit or in which the Government of India is engaged in development projects (updated lists of the countries are given in the Ministry of External Affairs)*

“Bidder” (including the term ‘tenderer’, ‘consultant’ or ‘service provider’ in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participated in a procurement process.

“Bidders from a country which shares a land border with India” for the purpose of this Order means:

- i. An entity incorporated, established or registered in such a country; or
- ii. A subsidiary of an entity incorporated, established or registered in such a country; or
- ii. An entity substantially controlled through entities incorporated, established or registered in such a country; or
- v. An entity whose *beneficial owner* is situated in such a country; or
- v. An Indian (or other) agent of such an entity; or
- i. A natural person who is the citizen of such a country; or

- ii. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above

The *beneficial owner* for the purpose of above will be as under: -

1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person (s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercise control through other means.

Explanation-

- a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent of share or capital or profit of the company;
 - b. "Control" shall include the right to appoint majority of the directors or to control the management of policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
2. In case of a partnership firm, the beneficial owner is the natural person (s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
 3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person (s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
 4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
 5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

An agent is a person employed to do any act for another, or to represent another in dealings with the third person.

For Works contracts, including Turnkey contracts, the successful bidder shall not be allowed to sub- contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.

A certificate shall be submitted by bidders in the tender documents regarding their compliance with the said order. If the certificate submitted by a bidder whose bid is accepted is found to be false, this would be a ground for immediate termination and further legal action in accordance with law. Annexure VIII (For Goods/ Services contracts)/ *Annexure IX (For Works contracts, including Turnkey contracts)*

4.42 It is mandatory for bidders to quote items having local content more than 20%. Refer revised Public Procurement (Preference to Make in India), Order 2017 P-45021/2/2017-B.E-II dated 04.06.2020 issued by DPIIT, Ministry of Commerce and Industry, Govt. of India. (Submit duly filled Annexure X for the same)

COMPLIANCE SHEET

A. FLUID MECHANICS AND MECHANICAL OPERATIONS LAB EQUIPMENT'S

Item	Specification Description	Comply (Yes/No)	Bid supporting pg. no.
Pitot Tube Separator	<ul style="list-style-type: none"> • Material: Pitot tube with copper based material fitted with Vernier scale • Test Section: Compatible to 1-2” Dia. Pipe • Water Circulation: HP Pump • Flow Measurement: Using Measuring Tank with Piezometer (Capacity 20-25 Liters.) • Sump Tank: Capacity ~ 50 Liters. • Stop Watch: Electronic. • Pressure measurement: Using differential pressure manometer. • Control Panel: Standard ON/OFF Switch, etc. • Tanks: Stainless Steel body • Instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the Apparatus. • The whole set-up is well designed and arranged on a rigid structure. 		
Rotameter	<ul style="list-style-type: none"> • Rotameter: Glass Tube Rotameter of Compatible Range. • Water Circulation: ½ HP Pump (Crompton/Standard make) • Flow Measurement: Using Measuring Tank with piezometer (Capacity 25 litres) • Sump Tank: Capacity 50 liters. • Stop Watch: Electronic. 		

	<ul style="list-style-type: none"> • Control Panel Comprises of: Standard make On/Off Switches, Mains Indicator, etc. • Tanks will be made up 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 is well designed and arranged on a rigid structure 		
Agitated Vessel	<ul style="list-style-type: none"> • Tank: Material Stainless Steel. Dia. 300mm, Depth 400mm (approx.) • Stirrer: SS Impeller with SS Shaft coupled to Standard make FHP Variable Speed Motor and Drive. • Agitator: Stainless Steel shaft & impellers (i.e. one propeller & one turbine) • Baffles: Material Stainless Steel, 4 Nos. 2" width. (Detachable). • Sampling point: 4 Nos. at random locations. • Control Panel Comprises of : <ul style="list-style-type: none"> c. Digital RPM Indicator: Non-Contact type with Proximity sensor. d. Digital Voltmeter: 0-300 Volts Ammeter: 0-5 Amps. With Standard make on off switch, Mains Indicator etc. • An instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the Apparatus. • The whole set-up is well designed and arranged on a rigid structure 		

<p>Centrifugal Pump Test System</p>	<ul style="list-style-type: none"> • Capacity 1 HP, Speed 2800 RPM (max.), Head 12 m (max.) • Medium Flow: Clear Water. • Drive: 1 HP DC motor. • Speed Control: Thyristor controlled. • Sump Tank: Capacity ~110 Ltrs. Approx. • Measuring Tank: Capacity 70 Ltrs. approx. with Piezometer • Stop Watch: Electronic. • Pressure Gauge: Bourdon type. • Control Panel Comprises of: <ul style="list-style-type: none"> c. Energy measurement: Electronic Energy meter. d. RPM measurement: Digital RPM Indicator with Proximity Sensor. Standard make On/Off Switch, Mains Indicator, etc. • Tanks will be made of Stainless Steel. • Instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the Apparatus. • The whole set-up is well designed and arranged on a rigid structure. 		
<p>Sieve Shaker</p>	<ul style="list-style-type: none"> • Sieve assembly: Compatible to sieves of 20-cm dia. (for 6-7 sieves) • Drive: By ½ HP motor • Control Panel comprises of: Standard make on off switch, Mains Indicator etc. • Special arrangement for setting time for shaking. • An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the apparatus. 		

	<ul style="list-style-type: none"> • The whole set-up is well designed and arranged on a rigid structure. • Optional items as applicable • An instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the Apparatus. • The whole set-up is well designed and arranged on a rigid structure. • Optional items as applicable 		
<p>Cyclone separator</p>	<ul style="list-style-type: none"> • Cyclone Separator: Material Stainless Steel, Dia 100mm (approx.) • Solid Discharge Silo. : Material Stainless Steel, suitable capacity with discharge control valve. • Blower: ID Fan Blower with 1 HP provided motor • Air flow measurement: Pitot with manometer. • Solids Collector: Transparent PVC container fixed with Cyclone. • Fine Dust Collector: Bag of Nylon cloth fixed on exit of air • Control Panel comprises of: Standard make on off switch, Mains Indicator etc. 		

B. PROCESS INSTRUMENTATION DYNAMICS AND CONTROLS LAB EQUIPMENT'S

Item & Specification Description		Comply Yes/No	Bid supporting pg. no.
1. Name of the equipment: Control Valve Characteristics			
Item	Specifications		
Control valve (Linear)	Type: Pneumatic; Input: 1–20 psig, Air to open, Characteristics: Linear		
Control valve (equal %)	Type: Pneumatic; Input: 1–20 psig, Air to close, Characteristics: Equal %		
Control valve (quick opening)	Type: Pneumatic; Input: 3–15 psig, Air to open, Characteristics: Quick opening		
Rotameter	20-800 LPH (2 Nos)		
Overhead tank	SS304 (make), cylindrical		
Receiving tank	SS304 (make)		
Pressure indication	Tube with graduated scale at control valve inlet		
Pump	Fractional horse power		
Pressure gauge	Range 0-5 kg/cm ²		
Air regulator	Range 0-5 kg/cm ²		
Air Compressor	Mini (As per the requirement of equipment)		
Experimental error	< 5 %		
<p>Cables and all other required accessories for smooth functioning of the equipment need to be provided.</p> <p>The whole set-up is well designed, painted, and arranged on a rigid structure having wheels.</p>			
2. Name of the equipment: DCS Control Trainer			
Item	Specifications		
Type of control	SCADA		
Control unit	Hybrid controller, Make Honeywell with Hybrid Control Designer software		
Communication	Ethernet		
Control panel	Standalone industrial control panel		

	with, Rotary switches for simulated AI, Pushbuttons for simulated DI, Indicators for DI, Indicators for DO, Power supply (24V DC) for powering transmitters, Relays of 24V DC for DO application, Connectors for each field input and output connection		
Experimental error	< 5 %		
<p>Cables and all other required accessories for smooth functioning of the equipment need to be provided.</p> <p>The whole set-up is well designed, painted, and arranged on a rigid structure having wheels.</p>			
3. Name of the equipment: Interacting & Non interacting Tank			
Item	Specifications		
Process tank	Material stainless (SS 304) , Circular, graduated level scale in mm.		
Tank Capacity	2 to 5 ltr.		
Rotameter	5-150 LPH		
Supply Tank	Material stainless steel (SS 304) capacity 20-25 ltr.		
Overhead Tank	Material stainless steel (SS 304) capacity 5-10 ltr.		
Water circulation pump	Fractional-horsepower motor pump, standard make, type submersible		
Piping	SS		
<p>Cables and all other required accessories for smooth functioning of the equipment need to be provided.</p> <p>The whole set-up is well designed, painted, and arranged on a rigid structure having wheels.</p>			
4. Name of the equipment: Level Trainer			
Item	Specifications		
Type of control	SCADA		
Control unit	Digital indicating controller with		

	Ethernet communication		
Level transmitter	Type Electronic, two wire, Range 0–250 mm, Output 4–20mA		
Rotameter	5-150 LPH		
Pump	Fractional Horse Power, submersible		
Process tank	Transparent, Acrylic, with 0-100% graduated scale		
Supply tank	Make (SS304)		
Air filter regulator	Range 0-5 kg/cm ²		
Pressure gauge	Range 0-5 kg/cm ² and Range 0-10 kg/cm ²		
Air Compressor	Mini (Pressure 2 bar, 50 LPH)		
Experimental error	< 5 %		
Cables and all other required accessories for smooth functioning of the equipment need to be provided.			
The whole set-up is well designed, painted, and arranged on a rigid structure having wheels.			
5. Name of the equipment: Multi Variable Control trainer			
Item	Specifications		
DAQ device	National Instruments		
Communication	USB type		
Level transmitter	Type Electronic, two wire, Range 0–250 mm, Output 4–20mA		
Pump	Positive Displacement Pump with adjustable strokes		
VFD	Programmable with single phase input, output- 3 phase		
Pump	Fractional Horse Power, submersible		
Process tank	Transparent, Acrylic, with 0-100% graduated scale		
Supply tank	Make (SS304)		
Experimental error	< 5 %		

Cables and all other required accessories for smooth functioning of the equipment need to be provided.
The whole set-up is well designed, painted, and arranged on a rigid structure having wheels.

6. Name of the equipment: Multi Process Trainer			
Item	Specifications		
Type of control	SCADA		
DAQ device	NI based		
Communication	USB type		
Control unit	Digital indicating controller with Ethernet communication		
Differential Pressure Transmitter	Type Capacitance, 2 wire, Range 0–200 mm, Output 4–20 mA		
Flow transmitter	Type two wire, Range 4 LPM		
Level transmitter	Type Electronic, two wire, Range 0–250 mm, Output 4–20mA		
Power supply	Model S-15-24, Output 24 VDC, 0.7 A		
Control valve	Type Pneumatic		
Pump	Fractional Horse Power, submersible		
Rotameter	10-200 LPH		
Process tank	Transparent, Acrylic, with 0-100% graduated scale		
Supply Tank	Make (SS 304)		
Experimental error	< 5 %		
Mini compressor	As per requirement of the equipment (2 bar Pressure and 50 LPH)		

Cables and all other required accessories for smooth functioning of the equipment need to be provided.
The whole set-up is well designed, painted, and arranged on a rigid structure having wheels.

7. Name of the equipment: Temperature Control Trainer			
Item	Specifications		
Type of control	SCADA		
Control unit	Digital indicating controller with Ethernet communication		
Temperature sensor	Type RTD, PT100		
Heating control	Proportional power controller (SSR), Capacity 20 A.		
Heater	Type Electrical 2 coil, Capacity 3 kW		
Rotameter	5-100 LPH		
Process tank	Make (SS304), insulated		
Experimental error	< 5 %		
<p>Cables and all other required accessories for smooth functioning of the equipment need to be provided.</p> <p>The whole set-up is well designed, painted, and arranged on a rigid structure having wheels.</p>			

C. HEAT TRANSFER AND THERMODYNAMICS LAB EQUIPMENT'S

Name of the equipment	Specifications	Compliance (Yes/No)	Bid supporting pg. no.
Double Effect Evaporator setup	<ol style="list-style-type: none"> 1) Evaporators: Shell and tube type, Stainless Steel 304, Shell dia. approx. 70 mm, Length 500 mm, Tube Inner dia. approx 10 mm, Outer dia. approx. 13 mm, Length approx. 500 mm 2) Feed Tank: Stainless Steel 304, Capacity approx. 25 liters 3) Flow Measurement: Peristaltic Pump, which can be remove from setup whenever required 4) Steam Generator: Stainless Steel 304, having Level Indicator, pressure Gauge, Safety Valve, Drain System, Insulated and Cladded 5) Piping: Stainless Steel 304 and PVC 6) Condensor: Shell and tube type, Stainless Steel 304 7) Bottom Product Tank: Stainless Steel 304, Capacity approx. 15 liters 8) Water Supply Tank: Stainless Steel 304, Capacity approx. 45 liters 9) Vacuum Pump: Oil free vacuum pump, which can be remove from setup whenever required 10) Pump: FHP Pump 11) Heater: Nichrome Wire Heater. 12) Digital Temperature Control: PID controller, approx. 0-250 °C 13) Digital Temperature Indicator: approx. 0-250 °C, switches 14) Temperature sensors: RTD PT-100 types, at various position (approx. 10) 15) Air Compressor: 0.5 HP, 2CFM for compressed air supply 		

	<p>16) Instruction manual: An instruction manual consisting of experimental procedures, block diagram, sample calculation, etc.</p> <p>17) It should be possible for this setup to use as single effect evaporator whenever required</p> <p>18) The experimental error < 5 %.</p> <p>19) Cable and accessories need to be provided.</p> <p>20) The whole set-up is well designed, painted, and arranged on a rigid structure having wheels.</p>		
<p>Vapour liquid equilibrium setup</p>	<p>1) Distillation column still: Stainless Steel 304, 1.5 liters, well Insulated</p> <p>2) Heater: Nichrome Wire Heater.</p> <p>3) Condensor: shell and heat exchanger, material copper–nickel alloys, with refluxed tank</p> <p>4) Cooling Water Tank with circulation system: Stainless Steel 304 Grade, 20 liters, coupled with FHP motor,</p> <p>5) Rotameter and flow control valves: Liquid flow meter, 0-20 LPH, valves to control the flow</p> <p>6) Handheld Refractrometer: Range of measurement 0-2</p> <p>7) Temperature sensor and Indicator: Calibrated RTD PT-100 type with temperature transmitter, digital display with 0-250 °C, able to note down the temperature at multiple places at distillation column with accuracy ±5 °C</p> <p>8) Digital Voltmeter: 0-300 V</p> <p>9) Electrical Dimmerstat: for variable power input, 0-240 V AC, 2A, Single phase</p> <p>10) Instruction manual: An instruction manual consisting of experimental</p>		

	<p>procedures, block diagram, sample calculation, etc.</p> <p>11) The experimental error < 5 %.</p> <p>12) Cable and accessories need to be provided.</p> <p>13) The whole set-up is well designed, painted, and arranged on a rigid structure having wheels.</p>		
<p>Heat transfer in agitated vessel setup</p>	<p>1) System: can handle Steam and water</p> <p>2) Vessel: Stainless Steel 304, with 4-5 baffles, diameter : Depth :: 5:7 (Dia approx. 250 mm)</p> <p>3) Jacket: Width approx. 28 mm, well insulated and cladded</p> <p>4) Coils: Helical in shape, Copper, Outer diameter approx.16 mm, and Inner diameter approx.13 mm.</p> <p>5) Agitator: Stainless Steel 304 impeller with shaft, attached with motor (variable speed with controller) and Drive.</p> <p>6) Condensate Measurement: Measuring Cylinder (plastic and glass with marking) and stopwatches</p> <p>7) Water Flow Measurement: Liquid flow meter, 0-20 LPH, valves to control the flow</p> <p>8) Steam Generator: Stainless Steel 304, having Level Indicator, pressure Gauge, Safety Valve, Drain System, Insulated and Cladded</p> <p>9) Heaters: Nichrome Wire Heaters</p> <p>10) Digital Temperature Control: PID controller, 0-250 °C</p> <p>11) Digital Temperature Indicator: 0-250 °C, switches</p> <p>12) Temperature sensors: RTD PT-100 types, at various position (approx. 5)</p> <p>13) RPM Indicator: Digital display</p> <p>14) Instruction manual: An instruction manual consisting of experimental</p>		

	<p>procedures, block diagram, sample calculation, etc.</p> <p>15) The experimental error < 5 %.</p> <p>16) Cable and all necessary accessories need to be provided.</p> <p>17) The whole set-up is well designed, painted, and arranged on a rigid structure having wheels</p>		
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D. FLUID FLOW AND MECHANICAL OPERATIONS EQUIPMENT'S

Item Name	Specifications	Compliance (Yes/No)	Bid supporting pg. no.
Jaw/ Roll crushers (primary crushing)	Jaw Crusher <ul style="list-style-type: none"> • Size 100 x 150mm. • Feed Hopper: Suitable capacity. • Feed Size : 50mm (approx.) • Product Discharge Size : (5-15) mm (approx.) • Drive : Electric motor, 3 HP, Single phase, • Control Panel Comprises of : <ul style="list-style-type: none"> • Energy measurement: Electronic Energy meter. • Starter: 3 HP, Single Phase. • MCB: For overload protection. • An ENGLISH instruction manual consisting of experimental Procedures, block diagram etc. will be provided along with the Apparatus. • The whole set-up is well designed and arranged on a rigid structure painted with industrial PU Paint 		
	Roll Crusher <ul style="list-style-type: none"> • Rolls : Material Chilled Steel • Dia. 200mm, Width 100mm. (approx.) • Drive : 2 HP motor coupled with Reduction • Gear Box to give 48-70 RPM • Feed Hopper: Suitable capacity. • Max feed Size: 6-8 mm. • Product Size: 1-2 mm. • Control Panel Comprises of : <ul style="list-style-type: none"> • Energy measurement: Electronic energy meter. 		

	<ul style="list-style-type: none"> • Starter : 2 HP, Single Phase, • MCB: For overload protection. • The set-up is fitted with required guards and product collection tray. • An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the Apparatus. <p>The whole set-up is well designed and arranged on a rigid structure painted with industrial PU Paint.</p>		
Rotary Vacuum Filter	<ul style="list-style-type: none"> • Filter Drum: Material Stainless Steel, Dia. 250 mm, Length 350 mm. • Mesh : Material Stainless Steel • Filter : Canvas Cloth • No. of Zones: 6 Nos. • Drive for Drum : FHP motor coupled to a Reduction Gear Box • Trough : Material Stainless Steel, Compatible capacity. • Trough Agitator : Material Stainless Steel, driven by FHP motor with Reduction Gearbox. • Slurry Tank : Stainless Steel, capacity 75 Ltrs. • Slurry Pump : Gear Pump with ½ HP motor • Slurry Tank Agitator : Stainless Steel Impeller with SS Shaft coupled to FHP motor and Reduction Gear Box • Filtrate Receiver : Material Stainless Steel, Capacity 10 Ltrs. (2 Nos.)with water level gauge 		

	<ul style="list-style-type: none"> • Vacuum Pump : Liquid Ring type coupled to a 1 HP Motor • Piping : GI and PVC size ½ • Control Panel comprises of : Standard make on off switches, Mains Indicator etc. • An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the apparatus. • The whole set-up is well designed and arranged on a rigid structure painted with industrial PU Paint. 		
<p>Plate and Frame Filter</p>	<ul style="list-style-type: none"> • No. of frame : 6 • No. of Plates : 7 • Size: 200 mm x 200 mm. • Material : Acrylic • Filter Medium : Filter Cloth • Filtrate collection tray: Material Stainless Steel, Suitable size. • Filtration rate measurement: Using measuring tank. Material Stainless Steel • Slurry Feed tank: Material Stainless Steel, Capacity 40 Ltrs. • Slurry Tank Agitator : Stainless Steel Impeller with SS Shaft coupled to FHP Motor and Reduction Gear Box • Slurry Feed Pump: Gear Pump with FHP motor. • Piping system: GI and PVC. • Pressure Measurement: By Bourdon type pressure gauge-2Nos. • Overhead water tank: Material Stainless Steel, Capacity 25 Ltrs. 		

	<ul style="list-style-type: none"> • Control Panel comprises of: Standard make on off switch, Mains Indicator etc. • Screw Jack arrangement for tightening and removing of frames easily. • An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the apparatus. • The whole set-up is well designed and arranged on a rigid structure painted with industrial PU Paint. 		
<p>Flow through packed column</p> <p>Packed Bed</p>	<ul style="list-style-type: none"> • Packed Column: Material Borosilicate Glass and Stainless Steel. ID 48 mm (approx.), • Length 750 mm (approx.) • Packing : Material Borosilicate Glass Rasching rings Size 8-10 mm (approx.) • Water tank : Material Stainless Steel, • Capacity 30 Ltrs. • Water Circulation: FHP Pump, Crompton/Sharp make. • Flow Measurement: Rotameters- 2 Nos. (one each for air and water) • Pressure Drop Measurement : By Manometer • Pressure gauge : 0-2 kg/cm² • Pressure regulator : 0-2 kg/cm² • An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the apparatus. • The whole set-up is well designed and arranged on a rigid structure painted with industrial PU Paint. 		

<p>Fluidization Characteristics Fluidized Bed</p>	<ul style="list-style-type: none"> • Column : Material Borosilicate Glass with both end made of Stainless Steel Dia. 48 mm (approx.), Height 750 mm (approx.) • Packing : Glass Beads • Water tank: Material Stainless Steel, Capacity 30 Ltrs. • Water Circulation: FHP Pump, Crompton/Sharp make. • Water Flow Measurement : By Rotameter • Pressure Drop Measurement : Manometer • An ENGLISH instruction manual consisting of experimental procedures, block diagram etc. will be provided along with the apparatus. • The whole set-up is well designed and arranged on a rigid structure painted with industrial PU Paint. 		
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Signature of Tenderer
Name: _____
Designation: _____
Organization Name: _____
Contact No.: _____

<< **Organization Letter Head** >>**DECLARATION SHEET**

We, _____ hereby certify that all the information and data furnished by our organization with regard to these tender specifications are true and complete to the best of our knowledge. I have gone through the specifications, conditions and stipulations in details and agree to comply with the requirements and intent of specification.

This is certified that our organization has been authorized (Copy attached) by the OEM to participate in Tender. We further certify that our organization meets all the conditions of eligibility criteria laid down in this tender document. Moreover, OEM has agreed to support on regular basis with technology / product updates and extend support for the warranty.

We, further specifically certify that our organization has not been Black Listed/De Listed or put to any Holiday by any Institutional Agency/ Govt. Department/ Public Sector Undertaking in the last three years.

The prices quoted in the financial bids are subsidized due to academic discount given to IIT Jammu.

NAME & ADDRESS OF THE Vendor/ Manufacturer / Agent	
Phone	
Fax	
E-mail	
Contact Person Name	
Mobile Number	
GST number	
PAN Number	

(Signature of the Tenderer)

Name:

Seal of the Company

ANNEXURE-III

List of Organizations for whom the Tenderer has undertaken such work (with supporting document)		
Name of the organization	Name of Contact Person	Contact No.

Name of application specialist / Service Engineer who have the technical competency to handle and support the quoted product during the warranty period.		
Name of the organization	Name of Contact Person	Contact No.

Signature of Tenderer

Name: _____

Designation: _____

Organization Name: _____

Contact No.: _____

ANNEXURE- IV

MANUFACTURERS' AUTHORIZATION FORM

[The Tenderer shall require the Manufacturer to fill in this Form in accordance with the Instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer]

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

Tender No.: [insert number from Invitation for Bids]

To: [insert complete name and address 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 Tenderer] 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 4.23 of the Terms and 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 Tenderer]

Dated on day of , [insert date of signing]

Bid Security Declaration Form

Date: _____

Tender No. _____

To (insert complete name and address of the purchaser)

I/We. The undersigned, declare that:

I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.

I/We accept that I/We may be disqualified from bidding for any contract with you for a period of one year from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We

a) have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or

b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity (i) fail or reuse to execute the contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signature of Tenderer

Name: _____

Designation: _____

Organization Name: _____

Contact No.: _____

Covering Letter

(Required on the Letter head of the Bank)

To
Indian Institute of Technology Jammu
Jagti, PO Nagrota, NH-44, Jammu -181221 (INDIA)

Dear Sir / Madam,

Guarantee Number
Date of Issue
Guarantee Amount
Date of Expiry
Date of Claim
Applicant Name:

We confirm having issued/ extended the captioned Bank Guarantee in your favor on behalf of our above named constituent and the same signed by the officers of the bank.

Yours faithfully,

Authorized Signatory

Name
Email id

(Signed and Stamped)

Format of Bank Guarantee

(To be typed on Non-judicial stamp paper of the value of Indian Rupees of One Hundred)

(TO BE ESTABLISHED THROUGH ANY OF THE NATIONAL BANKS (WHETHER SITUATED AT JAMMU OR OUTSTATION) WITH A CLAUSE TO ENFORCE THE SAME ON THEIR LOCAL BRANCH AT JAMMU OR ANY SCHEDULED BANK (OTHER THAN NATIONALISED BANK) SITUATED AT JAMMU. BONDS ISSUED BY CO-OPERATIVE BANKS ARE NOT ACCEPTED.)

To,

Indian Institute of Technology Jammu,
Jammu-181221

India

LETTER OF GUARANTEE

WHEREAS Indian Institute of Technology Jammu, Jammu (Buyer) have invited Tenders vide Tender No.....dt..... for purchase of against PO Number Dated: and whereas the said tender document requires that any eligible successful tenderer (seller) wishing to supply the equipment /machinery etc. in response thereto shall establish an irrevocable Performance Guarantee Bond in favor of “Indian Institute of Technology Jammu,” in the form of Bank Guarantee for Rs and valid till warranty period + 60 days grace period from the date of issue of Performance Bank Guarantee may be submitted within 21 (Twenty-One) days from the date of acceptance as a successful tenderer.

NOW THIS BANK HEREBY GUARANTEES that in the event of the said tenderer

(seller) failing to abide by any of the conditions referred in tender document / purchase order / performance of the equipment / machinery, etc. this bank shall pay to Indian Institute of Technology, Jammu on demand and without protest or demur Rs (Rupees.....).

This bank further agrees that the decision of Indian Institute of Technology, Jammu (Buyer) as to whether the said Tenderer (Seller) has committed a breach of any of the conditions referred in tender document / purchase order shall be final and binding.

We, (name of the bank & branch) hereby further agree that the guarantee herein contained shall not be affected by any change in the constitution of the Tenderer (Seller) and/ or Indian Institute of Technology Jammu, Jammu(Buyer).

Notwithstanding anything contained herein:

1. Our liability under this Bank Guarantee shall not exceed Rs. (Indian Rupees only).
2. This Bank Guarantee shall be valid up to(date) and
3. We are liable to pay the guaranteed amount or any part thereof under this bank guarantee only and only if Institute serve upon us a written claim or demand on or before(date).

This Bank further agrees that the claims if any, against this Bank Guarantee shall be enforceable at our branch office at situated at (Address of local branch).

Yours truly,

Signature and seal of the guarantor: Name of

Bank:

Address:

Date:

Instruction to Bank:

Bank should note that on expiry of Guarantee Period, the Original Guarantee will not be returned to the Bank. Bank is requested to take appropriate necessary action on or after expiry of bond period.

SSMS to be sent to our bank for BG issuance as per following details:

BANK NAME: HDFC BANK

IFSC CODE: HDFC0000413

SWIFT CODE: HDFCIMDBXXX

Training Requirement

1.	Product Description	Scientific Equipment's for Chemical Engineering Department.
2.	Attendees	Faculty/ Students / Staff
3.	No. of Days	1-2 Days

UN-PRICED BID FORMAT

Sl. No.	Item Description	Qty	Units	Ex-Works, Ex-Warehouse, Ex-show room off the shelf price In Figures To be entered by the Bidder in Rs. P	GST IN %	Packing & forwarding up to station of dispatch, if any Rs. P	charges for inland transportation, insurance up to Lab/Institute	Installation, commissioning and training charges, if any	TOTAL AMOUNT Without Taxes		TOTAL AMOUNT With Taxes		TOTAL AMOUNT In Words
									Rs.	P	Rs.	P	
A.	FLUID MECHANICS AND MECHANICAL OPERATIONS LAB EQUIPMENT'S												
i.	Pitot Tube Separator	1	Nos										
ii.	Rotameter	1	Nos										
iii.	Agitated Vessel	1	Nos										
iv.	Centrifugal Pump Test System	1	Nos										
v.	Sieve Shaker	1	Nos										

vi.	Cyclone separator		Nos								
B.	PROCESS INSTRUMENTATION DYNAMICS AND CONTROLS LAB EQUIPMENTS										
i.	Control Valve Characteristics	1	Nos								
ii.	DCS Control Trainer	1	Nos								
iii.	Interacting & Non interacting Tank	1	Nos								
iv.	Level Trainer	1	Nos								
v.	Multi Variable Control trainer	1	Nos								
vi.	Multi Process Trainer	1	Nos								
vii.	Temperature Control Trainer	1	Nos								
C.	HEAT TRANSFER AND THERMODYNAMICS LAB EQUIPMENT'S		Nos								

i.	Double Effect Evaporator setup	1	Nos								
ii.	Vapour liquid equilibrium setup	1	Nos								
iii.	Heat transfer in agitated vessel setup	1	Nos								
D.	FLUID FLOW AND MECHANICAL OPERATIONS EQUIPMENT'S										
i.	Jaw/Rollcrushers (primary crushing)	1	Nos								
ii.	Rotary Vacuum Filter	1	Nos								
iii.	Plate and Frame Filter	1									
iv.	Flow through packed column Packed Bed	1	Nos								
v.	Fluidization Characteristics Fluidized Bed	1	Nos								

<On Organization Letter Head>

(ANNEXURE-VIII)

(For Goods/ Services Contract

No. _____

Dated: _____

CERTIFICATE

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and hereby certify that the organization is not from such a country.

OR (whichever is applicable)

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and hereby certify that the organization is from _____ (*Name of Country*) and has been registered with the Competent Authority. I also certify that the organization fulfills all the requirements in this regard and is eligible to be considered.

(Copy/ evidence of valid registration by the Competent Authority is to be attached)

Signature of Bidder/ Agent Name: _____

Designation: _____

Organization Name: _____

Contact No. : _____

<On Organization Letter Head>

(ANNEXURE-IX)

(For Works Contracts, including Turnkey contracts)

No. _____

Dated: _____

CERTIFICATE

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries and hereby certify that the organization is not from such a country and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority.

OR (whichever is applicable)

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries and hereby certify that the organization is from _____ (*Name of Country*) and has been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I also certify that the organization fulfills all the requirements in this regard and is eligible to be considered.

(Copy/ evidence of valid registration by the Competent Authority is to be attached)

Signature of Bidder/ Agent Name: _____

Designation: _____

Organization Name: _____

Contact No. : _

(ANNEXURE-X)

DECLARATION OF LOCAL CONTENT

(To be given on Company Letter Head – For tender value below Rs.10 Crores)
(To be given by Statutory Auditor/ Cost Auditor/ Cost Accountant/ CA for tender value above Rs.10 Crores)

To,
The Director,
Indian Institute of Technology Jammu-181221

Subject: - Declaration of Local Content Tender Reference No: _____

Name of Tender/ Work: _____

1. Country of Origin of Goods being offered: _____
2. We hereby declare that items offered has _____% local content

“*Local Content*” means the amount of value added in India which shall, be the total value of the item being offered minus the value of the imported content in the item (including all customs duties) as a proportion of the total value, in percent.

“*False declaration will be in breach of Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151(iii) of the General Financial Rules along with such other actions as may be permissible under law.”

Yours faithfully,

(Signature of the bidder, with Official Seal)