



Institute of Engineering & Technology, Lucknow, Sitapur Road, Lucknow,  
Uttar Pradesh - 226021

### INVITATION LETTER

IET/TEQIP-III/2019/228-b

Package Code: TEQIP-III/2019/UP/IET/238

Current Date: 05-Jul-2019

Package Name: IET-TEQIP-ME-LAB-2

Method: Shopping Goods

Sub: INVITATION LETTER FOR IET-TEQIP-ME-LAB-2

Dear Sir,

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

Sr. No	Item Name	Quantity	Place of Delivery	Installation Requirement (if any)
1	RAC DISPLAY BOARD	1	Institute of Engineering and Technology, Lucknow	
2	VAPOUR ABSORPTION TEST RIG	1	Institute of Engineering and Technology, Lucknow	
3	WINDOW AC TEST RIG	1	Institute of Engineering and Technology, Lucknow	
4	AIR CONDITIONING TEST RIG	1	Institute of Engineering and Technology, Lucknow	
5	DOMESTIC REFRIGERATOR TEST RIG	1	Institute of Engineering and Technology, Lucknow	
6	SPLIT AC TEST RIG	1	Institute of Engineering and Technology, Lucknow	
7	CASCADE REFRIGERATION SYSTEM (-40OC)	1	Institute of Engineering and Technology, Lucknow	

2. Government of India has received a credit from the International Development Association (IDA) towards the cost of the **Technical Education Quality Improvement Programme [TEQIP]-Phase III** Project and intends to apply part of the proceeds of this credit to eligible payments under the contract for which this invitation for quotations is issued.
3. **Quotation**
  - 3.1 The contract shall be for the full quantity as described above.
  - 3.2 Corrections, if any, shall be made by crossing out, initialling, dating and re writing.
  - 3.3 All duties and other levies payable by the supplier under the contract shall be included in the unit Price.
  - 3.4 Applicable taxes shall be quoted separately for all items.
  - 3.5 The prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
  - 3.6 The Prices should be quoted in Indian Rupees only.
4. Each bidder shall submit only one quotation.
5. Quotation shall remain valid for a period not less than 60days after the last date of quotation submission.
6. Evaluation of Quotations: The Purchaser will evaluate and compare the quotations determined to be Substantially responsive i.e. which
  - 6.1 are properly signed; and
  - 6.2 Confirm to the terms and conditions, and specifications.
7. The Quotations would be evaluated for all items together.
8. Award of contract The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.
  - 8.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of Contract.
  - 8.2 The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be Incorporated in the purchase order.

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

**Satisfactory Delivery & Installation and Acceptance - 100% of total cost**

10. Liquidated Damages will be applied as per the below:  
Liquidated Damages Per Day Min % : 0.50  
Liquidated Damages Max % : 10
11. All supplied items are under warranty of 36 months from the date of successful acceptance of items and AMC/Others is .
12. You are requested to provide your offer latest by 14:00 hours on 22-Jul-2019.
13. Detailed specifications of the items are at Annexure I.
14. Training Clause (if any) YES
15. Testing/Installation Clause (if any) YES
16. Performance Security shall be applicable: 5%
17. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.
18. Sealed quotation to be submitted/ delivered at the address mentioned below, **TEQIP-III  
Institute of Engineering & Technology, Lucknow, Sitapur Road, Lucknow, Uttar  
Pradesh - 226021**
19. We look forward to receiving your quotation and thank you for your interest in this project.



(Authorized Signatory)

Name & Designation

**COORDINATOR  
TEQIP PHASE-III  
Institute of Engineering &  
Technology, Lucknow-21**

**Annexure I**

Sr. No	Item Name	Specifications
1	RAC DISPLAY BOARD	<ul style="list-style-type: none"><li>➤ SYSTEM COMPONENTS: Shell &amp; Tube Condenser, Fan Motor, Drier/ filter / accumulator, Evaporator, Duct with acoustic insulation, PUF insulation, Air Damper, AC Supply air grills, HP / LP Cut-out, Air Filter, Condenser fan blades, Natural convection condenser, Forced convection condenser coils, No-frost Coil, Capillary tube, Duct with thermal insulation, Glass wool insulation, Solenoid valve, Impellers.</li><li>➤ CONTROLS AND INDICATIONS: Thermostat, Pressure gauge, heating thermostat, Sling Psychomotor, Humidistat, Water Pressure Switch, Hand valve, Temperature indicator cum controller.</li><li>➤ ELECTRICAL ACCESSORIES: Selector Switch, Start / Run Capacitor, Resistor / Fuse / Timer, De-frost heater.</li><li>➤ CUT-SECTIONS: Automobile compressor, Rotary compressor hermetically sealed reciprocating compressor.</li><li>➤ TOOLS &amp; TACKLES: Tube bender &amp; cutter, Flare Fittings, charging line, Spring bender Flaring bar &amp; yoke, Swedging punch set, Swedging &amp; flaring tools.</li></ul>
2	VAPOUR ABSORPTION TEST RIG	<ul style="list-style-type: none"><li>➤ Gross volume 41 litres.</li><li>➤ Refrigerant water, ammonia, hydrogen.</li><li>➤ Generator electrically heated.</li><li>➤ Condenser natural convection type.</li><li>➤ Evaporator natural convection type.</li><li>➤ Material of construction: manufactured from 1.2 mm thick CRCA.</li><li>➤ Supply 230 volts, 50 Hz, 1 phase.</li><li>➤ Energy consumption 1.07 kwh per 24 hrs.</li><li>➤ Temperature indicator digital indicator at the salient points.</li></ul>
3	WINDOW AC TEST RIG	<ul style="list-style-type: none"><li>➤ Capacity: 0.75 TR at rated test conditions</li><li>➤ Compressor: Rotary type; Hermetically sealed.</li><li>➤ Condenser: Forced convection air cooled</li><li>➤ Condenser fan: Axial flow type.</li><li>➤ Evaporator: Forced convection</li><li>➤ Evaporator fan: Axial flow type.</li><li>➤ Drier/filter: Molecular sieve type.</li><li>➤ Expansion device: Capillary Tube</li><li>➤ Accumulator: Copper / M.S. shell suction line accumulator provided.</li><li>➤ Refrigerant: R-22</li><li>➤ Sling Psychrometer: For air temperatures &amp; Digital Indicator for refrigerant temperatures.</li><li>➤ Velocity: By inclined tube manometer</li><li>➤ Pressure gauges: At suction &amp; discharge</li><li>➤ Supply: 220-240 Volts, 50 Hz, 1 phase</li></ul>

4	AIR CONDITIONING TEST RIG	<ul style="list-style-type: none"> <li>➤ Input power: 1.2 Kw</li> <li>➤ Rated current: 8.0 Amps</li> <li>➤ Energy meter: Provided for compressor</li> <li>➤ Panel: manufactured from 1.2 mm thick CRCA</li> <li>➤ Outer finish: Powder coating</li> <li>➤ Size: 650 x 600 x 1165 mm (L X D X H)</li> </ul>
		<ul style="list-style-type: none"> <li>➤ Refrigeration system: <ul style="list-style-type: none"> <li>• Capacity: 0.30 TR @ rate tested condition.</li> <li>• Compressor: Hermetically sealed. Make: Emersion climate Tech. / Tecumseh Products India Ltd. / Danfoss Ltd. / or any equivalent make.</li> <li>• Condenser: Forced convection air cooled.</li> <li>• Condenser fan: Axial Flow.</li> <li>• Drier/Filter: Provided.</li> <li>• Expansion Device: Capillary Tube.</li> <li>• Evaporator: Forced convection air cooled.</li> <li>• Evaporator fan: Axial flow type.</li> <li>• Dehumidifier or Reheater: 1000 Watts; Finned type.</li> <li>• Humidifier: Provided</li> <li>• Refrigerant: R134a</li> </ul> </li> <li>➤ Controls &amp; Indications: <ul style="list-style-type: none"> <li>• HP/LP cut-out: Alco/ or Danfoss/ Castle or equivalent make.</li> <li>• Temperature: 6-channel facility with digital display.</li> <li>• Pressure: 2nos. Dial type pressure gauges.</li> <li>• Refrigerant flow: Glass tube rotameter provided.</li> <li>• Air Temperature: DBT and WBT measurement by sling psychrometer.</li> <li>• Air flow measurement: By inclined tube manometer.</li> </ul> </li> <li>➤ Electrical System: <ul style="list-style-type: none"> <li>• Supply: 220-240 Volts, 50 Hz, 1 phase.</li> <li>• Input power: 1.2 kW.</li> <li>• Rated current: 5.5 Amps.</li> <li>• Indicating lamps: Provided for condenser and heater.</li> <li>• Energy-meters: Range 0-20 A; Provided for compressor.</li> </ul> </li> <li>➤ Construction: <ul style="list-style-type: none"> <li>• Material: Manufactured form 1.2 mm thick CRCA.</li> <li>• Outer finish: Powder coating.</li> <li>• Size: 900 x 600 x 1480 (L X B X H).</li> </ul> </li> </ul>
5	DOMESTIC REFRIGERATOR TEST RIG	<ul style="list-style-type: none"> <li>➤ Compressor: Hermetically sealed compressor, Make Emersion Copeland/equivalent.</li> <li>➤ Refrigeration: Freon R 134</li> <li>➤ Condenser: Coiled Tube Heat Exchanger acts as a condenser.</li> <li>➤ Expansion device: Capillary type.</li> <li>➤ Evaporator coil: Coiled Tube Heat Exchanger copper coil.</li> <li>➤ Energy Meter: One each for power measurement of compressor &amp; heater.</li> <li>➤ Pressure Gauge: 2 Nos. for H.P., L.P. measurement</li> <li>➤ HP/LP cut-out: 1 No. to suit compressor.</li> <li>➤ Service valve needle type: 2 No.</li> </ul>



6	SPLIT AC TEST RIG	<ul style="list-style-type: none"> <li>➤ MS Plate: The unit shall be assembled on MS heavy duty sheet.</li> <li>➤ Voltage: Single Phase 220 Volts 50Hz. AC Supply</li> <li>➤ Manual: Operation and maintenances manual should be provided.</li> <li>➤ Compressor: Hermetically sealed compressor. Capacity 1 Ton, make Emerson Copland.</li> <li>➤ Condenser: Air cooled compatible to 1 Ton compressor</li> <li>➤ Condenser cooling fan: Compatible capacity with permanent lubricated motor.</li> <li>➤ Pressure Gauges: 2 Nos.</li> <li>➤ Evaporator: made of copper tube and aluminium fins fitted with compatible capacity fan.</li> <li>➤ Safety Control: over load and over current protection for compressor with Time delay circuit.</li> <li>➤ Expansion Device: Capillary Tube compatible capacity.</li> <li>➤ Temperature Sensor: RTD PT-100 Type.</li> </ul>
7	CASCADE REFRIGERATION SYSTEM (-40OC)	<ul style="list-style-type: none"> <li>➤ Compressor: Hermetically sealed type Emerson Copland Make 1/2 T. Capacity. 2 Nos.</li> <li>➤ Air cooled condenser: Copper Coils with fins &amp; cooling fan.</li> <li>➤ Expansion device: i) Capillary Tube ii) expansion valve</li> <li>➤ Evaporator: Copper Coil immersed in water. The evaporator is installed from outside to prevent heat loss.</li> <li>➤ Refrigerant: R404a for high pressure system and R23 for low pressure system</li> <li>➤ Rota meter: 0-50 LPH for measuring flow of Refrigerant R404a</li> <li>➤ Energy meter: One each for power supply to the Measurement of Compressor 1st and Compressor 2nd and Heater.</li> <li>➤ Dimmer stat: To control power supply to heater. (FAN regulator)</li> <li>➤ Pressure gauge: One each for the measurement of high &amp; low pressure of Compressor 1st and Compressor 2nd</li> <li>➤ Electric heater: Immersion type 500 watt</li> <li>➤ Digital temperature indicator: Multi-span MS-1208(8 channel)</li> <li>➤ HP &amp; LP cut out: Danfoss make</li> <li>➤ Service valve: Needle type for charging gas.</li> <li>➤ Filter dryer: 2 No.</li> <li>➤ Switches: For various controls</li> </ul>

**FORMAT FOR QUOTATION SUBMISSION**  
(In letterhead of the supplier with seal)

Date: \_\_\_\_\_  
To: \_\_\_\_\_

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

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

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

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

Signature of Supplier

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Contact No. \_\_\_\_\_

Gross Total Cost (A+B): Rs. \_\_\_\_\_ (Amount in figures)