**SHORT TERM TENDER ENQUIRY**

**BIT/PUR/LTE/POLY/21-22//IC/000276 DATE: 31/08/2021**

To,

**M/s.**

Dear Sir,

Subject : Request for Quotation for Procurement of THERMAL CONDUCTIVITY OF INSULATING POWDER, etc.

You are requested to submit most competitive rates(s) for the following item(s) as per details given below (Quotations may be sent by e-mail, hand or by post):

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| Last date and time for submissions of complete Quotations by Email to: dr.purchase@bitmesra.ac.in, purchase3@bitmesra.ac.in, or sealed quotations can be submitted to the under mentioned address. | **15.09.2021 15:00 Hrs.**(If all LTE Vendors submit the quotation prior to the submission date, the quotations will be opened prior to last date of submission.) |
| Date /time for opening of quotation  | **15.09.2021, 16:00 Hrs.** |

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| Sr.No. | Item Description | **QTY** |
| 1 | THERMAL CONDUCTIVITY OF INSULATING POWDER : Inner sphere dia -100mm.Outer sphere dia-200mmHeater-Nichrome wire sandwithched between mica sheets.Control Panel compromising ofVoltmeter : 0 - 100 / 200 voltsAmmeter : 0 - 2 ADimmerstat : 0 - 2 ADigital Temperature Indicator, 0 -300-0C with 10 least count using chromel alumelthermocouples. Provided with cold junction compensation | **01** |
| 2 | HEAT TRANSFER FROM A PIN FIN : Fin - 12.5 mm (approx.) 15 cm. Long (approx.). One each of mild steel, Aluminum and brass.Duct size - 15 cm x 10 cm x 100cms longBlower of suitable capacity with 1 H.P. single phase motor.Heater - Nichrome wire type bank heater of suitable capacityControl panel comprising of :a) Voltmeter - 0- 100/200 volts.b) Ammeter -0 - 2 amp.c) Dimmerstat for heater 0 -230 volts 2 amp.d) Temperature indicator -O - 3000C with10oC least count. Using chromel alumel thermocouples, provided with cold junction compensation. Orifice meter on blower outlet with water manometer. | **01** |
| 3 | HEAT TRANSFER IN FORCED CONVECTION : 1) Dia & length of test section - 28 (Approx.) x 40 cms.2) No. of thermocouples - 6 Nos.3) Nichrome heater of suitable capacity4) Blower 1 H.P. with motor with 12" of WGP.5) Orifice & U tube manometer.6) Control Panel comprising ofi) Dimmer stat 240 V, 2 amp,. A, C.ii) Voltmeter 0 -100/200 V., A.C.iii) Ammeter 0 - 100 / 200 V., A.C,iv) Digital Temperature indicator 0 to 3000C with 10C least count using chromel allumel thermocouples, provided with cold junction compensation. | **01** |
| 4 | HEAT TRANSFER IN NATURAL CONVECTION : 1) Enclosure size - 25cm x 25cm x 90 cm.2) Tube size (Test cylinder) 38mm (O.D.) x 50 cm. Long3) Nichrome heater (Cartridge type)4) Control Panel Comprising of:i) Voltmeter - 100/200 V.A.C.ii) Ammeter -0 - 2 A.A.C.iii) Dimmer stat -0 - 2A. 240Viv) Digital Temperature Indicator 0 -3000oC least count Chromel - Allumel Thermocouples providing with cold junction compensation | **01** |
| 5 | EMISSIVITY MEASUREMENT APPARATUS: Test plate & Reference plate size - 160mm dia.Enclosure size -58 cm x 35 cm with one side of Perspex sheet.Heater-200v, 400 watt, Nichrome wire type. Sandwiched between mica sheets.Control panel comprising of - Voltmeter -0-100/200 v , Ammeter - 0-2AD.P.D.T. Selector switches for voltmeter & ammeter.Digital Temperature indicator 0-3000oC with 10C least count. Using chromel alumel thermocouples provided with cold junction compensation.Dimmer stats for test plate and black plate -0-240 v, 2 amp. | **01** |
| 6 | HEAT TRANSFER THROUGH COMPOSITE WALLS : 1) Slab size :Cast Iron - 300 mm x 25mm thick.Press Wood - 300 mm x 12 mm thickBakelite - 300 mm x 19 mm thick2) Nichrome heater of suitable capacity Control Panel comprising of -i) Voltmeter 0 - 100/200 voltsii) Ammeter 0-2 amps.iii) Dimmer stat 0-230V, 2amps.3) Digital temperature indicator 0-2000oC with 0.10oC least count using chromel alumel thermocouples provided with cold junction compensation.4) Wooden cabinet of suitable size to accommodate the slab assembly with hand screw press. | **01** |
| 7 | STEFAN BOLTZMANN APPARATUS: Hemisphere dia-200 mm(approx.)Jacket dis-250 mm (approx)Test disc size - 20 mm dia x 1.5 mm thickness.Water tank of sufficient capacity with a 1.5 kw immersion heaterControl Panel comprises of :-i) Supply for heaterii) Digital temperature indicator 0-2000oC with 0.10oC least count using chormal alumel thermocouples, provided with cold junction compensation.iii) Built in timer for temperature readings at 5 seconds interval | **01** |
| 8 | P.F. & C.F. HEAT EXCHANGER : 1) Length of Heat Exchange 1.6 m Outer late material G.I.2) ID. - 27.5mm O.D. - 33.8mm3) Inner tube material - Copper O.D, 12.7mm4) Thermometers - 0 to 500oC - 2nos. 10 to 1000oC - 2nos.5) Geyser - Instantaneous type. 3 kw capacity - 1 no.6) Measuring flask - 1000 mm with stop clock. | **01** |
| 9 | CRITICAL HEAT FLUX APPARATUS : 1) Cylindrical glass Vessel diameter 200mm approx.2) Cylindrical glass Vessel height 125mm approx.3) Bulk Heater - Nichrome Coil.4) Test Heater - Nichrome Wire.5) Thermometer - 10 to 1100C. | **01** |
| 10 | DROP & FILM APPARATUS : 1) Steam generator of suitable capacity.2) Copper tubes with - i) Natural finish. ii) Polished surface finish.3) Temperature Indicator 0 - 2000oC with chromel alumel thermocouples. | **01** |

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| Sealed Quotation may be submitted superscribed with reference number as appended hereunder:-Quotation for Supply of ---- Ref.No. -------- **BIT/PUR/LTE/POLY/21-22//IC/000276** To,Purchase Department Birla Institute of Technology From : M/s----------------------------------------Mesra , Ranchi , Jharkhand Address : ----------------------------------------835215 Contact No. ------------------------------------- Email ID--------------------------------------- |

1. All entries in the quotation should be typed or computer printed without any ambiguity and should be free from correction etc. Hand written offers will be rejected.
2. Late and delayed tenders will not be considered. In case any unscheduled holiday occurs on prescribed closing date the next working day shall be the prescribed date of closing.
3. The quotation should be submitted with descriptive literature & drawing. The make of the items offered should be clearly specified.
4. Material should be confirming to our specification. The deviations if any should be clearly indicated in the quotations.
5. Successful bidder has to furnish the OEM test certificates along with the materials (if applicable).
6. Rate /Price: The offered price shall be on **FOR BIT Mesra on Door Delivery basis**.
7. If offered Price Term is other than the FOR-Destination term, approximate Freight & forwarding charges along with the applicable Insurance charges may be mentioned.
8. Details of GST / PAN No. should be furnished along with quotations.
9. Purchaser will not pay separately for transit insurance/taxes (if any) and the supplier will be responsible until the stores arrive in good condition at the destination.
10. Warranty: Period of warranty should be clearly mentioned and also the parts covered under it. Warranty will be applicable from the date of successful installation.
11. Service Facility: Supplier must mention about the service set up in India & confirm effective after sales service.
12. BIT Mesra is not bound to accept the lowest or any quotation for whatsoever reason and reserve its right to accept or reject in whole or in part any or all the quotations received without assigning any reason.
13. Applicable taxes shall be quoted separately for all items and levies payable by the supplier under the contract shall be included in the unit price.
14. Each bidder shall submit only one quotation and sealed quotation to be submitted / delivered at the address. (Alternatively it can be email at dr.purchase@bitmesra.ac.in, purchase3@bitmesra.ac.in, or deliver by hand.
15. Training clause (if any) to be mentioned.
16. Delivery period should be mentioned clearly in the quotation.
17. Conditional tenders will not be considered.
18. Authorized dealership certificate should be submitted in case principal manufacturing company is not quoting directly.

 Sd/-

 Deputy Registrar (Purchase & MM).

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