



GOVERNMENT COLLEGE UNIVERSITY FAISALABAD

TENDER DOCUMENT No. 740/13/2022

SUPPLY OF LAB EQUIPMENT FOR DEPARTMENT OF MECHANICAL ENGINEERING & TECHNOLOGY, GCUF

Sealed Tenders are invited from the well-reputed firms / suppliers, who are registered with Sales Tax and Income Tax Department as Active Tax Payer for the Supply of Lab Equipment for department of Mechanical Engineering & Technology, GCUF.

GENERAL TERMS & CONDITIONS

1. Tender Opening Date & Procedure:

1. Tender Opening Date & Procedure:

- 1.1 The procurement shall be completed in accordance with Punjab Procurement Rules 2014, on **Single Stage – Two Envelope** Bidding Procedure. (Technical & Financial proposal separately).
- 1.2 Bids in complete conformity with Tender Documents will be dropped in Tender Box placed at Directorate of Procurement of the GCUF, not later than cut-off date & time at **11:00 Hrs on 06.03.2023.**
- 1.3 Technical bid shall be opened first on the same day at **11:30 Hours** at the office of Director Procurement & Inventory Control (in CPC Meeting) in the presence of the authorized representatives of the responding firms/companies, who cares to participate. The representatives of the responding firms/companies must have an authorization letter from the firm on their letterheads to participate.
- 1.4 Financial bids of the technically accepted firms will be opened. However, the financial bids of the technically disqualified bidders will be returned unopened.

Note:

- *Tender Number must be mentioned on envelope.*
- *Both Technical and financial proposal shall be written in the letter head of the company /firm along with other prescribed documents.*
- *All pages of the bid must be properly counter signed.*

2. Tender Fee & Bid Security

- 2.1 The Technical Bid must be accompanied by Tender Fee of Rs:**1,000/-** (Non-Refundable) in shape of Call Deposit Receipt (CDR) in original.
- 2.2 The Financial Bid must be accompanied by 2% of Estimated Price i.e; Rs.1,685,000/- (refundable) in shape of Call Deposit Receipt (CDR) in original.
- 2.3 CDRs must be in favor of Treasurer, Government College University, Faisalabad

3. Bid Validity

- 3.1 All bids and prices shall be valid for 180 days from the opening date of tender.
- 3.2 Withdrawal / modification of the original offer within the validity period shall entitle the University to forfeit Bid Security.
- 3.3 All prices should be quoted on the letter head of the bidder in Pak Rupees inclusive of all applicable Government taxes, transportation, commissioning, installation, affixation & testing cost etc;
- 3.4 The earnest money to the successful bidder will be released after delivery/installation/affixation of required equipment.
- 3.5 The warranty period of Lab Equipment shall be as manufacturer's warranty.

4. Supporting Documents: -

Bid of a supplier/firm will be considered if following supporting documents are annexed.

- 4.1 The bidder must provide company profile, name and address of the company with financial status and chief executives (or any other authorized persons).
- 4.2 The firm must provide record of relevant experience of 03 years in relevant line of business. Supply / Work Orders must be attached.
- 4.3 Copy of National Tax Registration certificate and proof of filer.
- 4.4 Copy of Sales Tax Registration certificate and proof of filer.
- 4.5 Copy of Professional Tax Certificate.
- 4.5 An affidavit on Rs. 100/- stamp paper that currently firm is not blacklisted or debarred by any Government/Semi-Government department to participate in bidding.
- 4.6 Tender Fee (Non-Refundable) and 2% of Estimated Price (refundable) in shape of Call Deposit Receipt (CDR) in original and must be issued from Payees Account only.

5. Failures and Terminations:

No bid of a supplier / firm will be considered if:-

- 5.1 Bid received without Bid Security / Call Deposit.
- 5.2 Bids received with cheque.
- 5.3 Bid received later than the date and time fixed for tender.
- 5.4 Bid is conditional, ambiguous or incomplete.
- 5.5 Bid from a firm which is black listed at any level.
- 5.6 Any supplementary or revised offer after opening of the tender.
- 5.7 The supplier fails to deliver the consignment within specified delivery period strictly in accordance with the terms and conditions as laid down in the Purchase Order.
- 5.8 If any punitive situation warranted, then University is authorized to forfeit the bid Security and the firm may also be black listed.

6. Mode of Delivery:-

- 6.1 The delivery shall only be accepted at GCUF premises with loading /unloading.
- 6.2 Upon the successful supply, fixation, placing, installation, demonstration and inspection carried out by the end user department, the said bidder shall submit all necessary documents for payment of bill directly to DP&IC along with delivery challan/Certificate duly signed & stamped by the authorized person of department within stipulated period.
- 6.3 If the bidder is authorized for any exemption of taxes (Sales Tax/Income Tax), shall claim it in the financial proposal and submit relevant documents along with bill for payment.

7 Other special conditions

- 7.1 Any overwriting/crossing etc. in the bid should be properly counter signed by the person signing the bid. All pages of the bid must be properly countersigned.
- 7.2 The decision of the Central Purchase Committee will be binding on all concerned and will in no case be challenged on any forum court/law.
- 7.3 The warranty period for the supplied items shall be declared one year on final inspection of the Committee and end user. However, this warranty period may be extended if deemed necessary due to unavoidable circumstances.
- 7.4 In case the successful bidder fails to supply the goods strictly in accordance with the terms and conditions laid down in the supply order/bidding documents or fail to provide the required maintenance in a satisfactory manner, the security deposited by him shall be forfeited and requisite store equipment, etc will be purchased and professional service hired at his risk and expenses.
- 7.5 LDC (Late delivery Charges) penalty shall be imposed @2% per month of delay upto maximum of 10% of total price.
- 7.6 In case any material is found not in conformity with specifications provided in the tender, either on account of inferior quality, defective workmanship, faulty design, faulty packing or is short supplied, or wrongly supplied, the supplier will replace the same upon free of charges or pay the full cost of replacement besides LD charges.
- 7.7 No partial/advance payment shall be made against partial supply.
- 7.8 All bids & bidders will be governed by PPRA Rules 2014 as and when amended.
- 7.9 The University may reject all bids/proposals at any time prior to the acceptance of a bid or proposal as per PPRA Punjab rule 35, however upon bidder request the ground of rejection will be communicated to the concerned but no justification will be given as per PPRA rule 35 (2).

Director

Procurement & Inventory Control

AllamaIqbal Road Faisalabad, Phone: 041-9201468

ISSUED TO:

M/S-----



Appendix "A"

TENDER DOCUMENT No. 740/13/2022

SUPPLY OF LAB EQUIPMENT FOR DEPARTMENT OF MECHANICAL ENGINEERING & TECHNOLOGY, GCUF

Sr. No	Name of Item with Specifications	A/M	Qty.	Per Unit Price Including Taxes (Rs.)	Total Price (Rs.)
1.	Simple Refrigeration Laboratory Unit Specification: Annexure attached	No.	01		
2.	Heat Conduction Study Unit (Radial and Linear) Specification: Annexure attached	No.	01		
3.	Free and Forced Convection Apparatus Specification: Annexure attached	No.	01		
	Total Price Inclusive Taxes (Rs.)				

No _____ Amount _____

Name of Bidder _____
CNIC No _____

Bank _____ Branch _____ City _____

Name of the Firm & Address _____ Ph No _____

N.T.No. _____ Sales Tax No. _____

Issued By:

Director
Procurement & Inventory Control
Allama Iqbal Road Faisalabad, Phone: 041-9201468

SUPPLY OF LAB EQUIPMENT FOR DEPARTMENT OF MECHANICAL ENGINEERING & TECHNOLOGY, GCUF

Simple Refrigeration Laboratory Unit

TECHNICAL SPECIFICATIONS

- Touch LCD with GUI Interface for better monitoring and accurate measurement of Plant variables.
- Fundamentals of refrigeration in a simplified model.
- Typical compression refrigeration system with piston compressor, thermostatic expansion valve, evaporator and condenser (each in the shape of a pipe coil).
- Pressure switch to protect the compressor
- Sight glass to monitor the aggregate state of the refrigerant.
- Refrigerant R134a, CFC-free.
- Manufacturer DAQ Software for monitoring and control.

Technical Data:

- Compressor:
 - Power consumption: 100W TO 150W at 5/40°C.
 - Refrigeration capacity: 250 to 300W at 5/40°C.
- Tank: 4x 1500mL.
- Measuring ranges:
- Pressure:
 - 1x -1 to 12.5bar.
 - 1x -1 to 25bar.
- Temperature:
 - 1x -50 to 40°C.
 - 1x -40 to 80°C.
 - 2x -10 to 50°C.
- 230V, 50Hz, 1 phase.
- Touch LCD with GUI Interface for better monitoring and accurate measurement of Plant variables.
- DAQ Software for monitoring and control.
 - Graphical visualization.
 - Security mechanism for login.
 - USB Connected
 - Compatible with Windows 7,8.1,10.
- Digital Instrumentation
- Capability to modify according to end user.
- Can be used in Research Purposes.

Experiments:

- Study of Fundamentals of a compression refrigeration circuit and key components of a refrigeration system compressor, evaporator, condenser, expansion element
- Study of Relationship between the pressure and boiling point of a liquid
- Study of operation of a refrigeration system / heat pump
- Study of developing a basic understanding of the thermodynamic cycle and simple energy balance



SUPPLY OF LAB EQUIPMENT FOR DEPARTMENT OF MECHANICAL ENGINEERING & TECHNOLOGY, GCUF

Heat Conduction Study Unit (Linear & Radial)

TECHNICAL SPECIFICATIONS

Specifications:

- Touch LCD with GUI Interface for better monitoring and accurate measurement of Plant variables.
- Experimental setup consisting of experimental unit and display and control unit
- Linear heat conduction: 3 measuring objects, heating and cooling element, 9 temperature measuring points
- Radial heat conduction: brass disc with heating and cooling element, 6 temperature measuring points
- Cooling by means of tap water
- Electrical heating element
- Table Top stand-alone Unit.
- DAQ Software for monitoring and control.

Technical Data:

- Linear heat conduction
 - 3 measuring objects, insulated
 - 1x DxL: 25x30mm, steel
 - 1x DxL: 15x30mm, brass
 - 1x DxL: 25x30mm, brass
 - Heater: 150W
- Radial heat conduction
 - Disc DxL: 110x4mm
 - heater in the center of the disc: 150W
 - cooling coil on the outer edge of the disc
- Measuring ranges:
 - Temperature: 0 to 100°C
 - Power: 0 to 200W
- 230V, 50Hz, 1 phase 230V, 60Hz, 1 phase; 230V, 60Hz, 3 phases
- Touch LCD with GUI Interface for better monitoring and accurate measurement of Plant variables.
- DAQ Software for monitoring and control.
 - Graphical visualization.
 - Security mechanism for login.
 - USB Connected
 - Compatible with Windows 7,8.1,10.
- Digital Instrumentation
- Capability to modify according to end user.
- Can be used in Research Purposes.

Experiments:

- Linear heat conduction (plane wall)
- determination of temperature profiles for different materials
- determination of the temperature profile in case of a disturbance
- determination of the thermal conductivity λ
- Radial heat conduction
- determination of the temperature profile
- determination of the thermal conductivity λ



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SUPPLY OF LAB EQUIPMENT FOR DEPARTMENT OF MECHANICAL ENGINEERING & TECHNOLOGY, GCUF

Free and Forced Convection Apparatus

TECHNICAL SPECIFICATIONS

Specifications:

- Includes three of the most common heat transfer surfaces: flat plate, pinned and finned
- Continuously adjustable heating power and fan power.
- Thermocouples and a sensitive anemometer measure temperatures and air velocity – shown on a LCD/LED display
- Table Top stand-alone Unit.
- Manufacturer DAQ Software for monitoring and control.

Technical Data:

- Air duct:
 - Flow cross-section: 120x120mm.
 - Height: approx. 1000mm.
- Heating elements, temperature limitation: 90°C.
- Pinned Heat Exchanger:
 - Number of tubes: 20.
 - Heating power: 40W.
- Finned Heat Exchanger:
 - Heating power: 40W.
 - Fins: 8
- Flat Surface Heat Exchanger:
 - Heating power: 40W.
 - Size: 100*100mm Approx.
- Measuring ranges:
 - Air velocity: 0 to 10m/s.
 - Temperature: 4x 0 to 325°C.
 - Heating power: 0 to 50W.
- 230V, 50Hz, 1 phase
- 230V, 60Hz, 1 phase; 230V, 60Hz, 3 phases
- DAQ Software for monitoring and control.
 - Graphical visualization.
 - USB Connected
 - Compatible with Windows 7,8.1,10.
- Digital Instrumentation
- **Installation and Training included.**

Experiments:

- Comparing free and forced convection for Pinned Surface.
- Comparing free and forced convection for Finned Surface.
- Comparing free and forced convection for Flat Surface.
- Comparison of free convection from vertical and horizontal (finned) surfaces
- Comparison of heat transfer surface efficiency
- Comparing the coefficient of heat transfer and Nusselt Number for forced and free convection
- Temperature distribution along finned and pinned surfaces