



GHANI KHAN CHOUDHURY INSTITUTE OF ENGINEERING AND TECHNOLOGY
(A CFTI, Estd. by Ministry of HRD, Govt. of India)
P.O. Narayanpur, Dist. Malda, 732141, West Bengal, India

Subject: Tender Enquiry for Supply, Installation, Testing and Commissioning of Lab equipment for the Department of Electrical Engineering

e-TENDER NOTICE

1. Ghani Khan Choudhury Institute of Engineering and Technology (GKCIET) invites online Tenders through CPP Portal <https://eprocure.gov.in/eprocure/app> from reputed Manufacturers/ Authorized Dealers /Bidders for procurement different item (please see BoQ for items details).
2. All interested vendors are requested to send their quotation in Two Bid System for supply of the above item as per detailed Technical Specification, General Terms and Conditions and other details included in **Annexure 1 to Annexure 11**. Particulars of the tender are as follows;

Sl. No.	Particulars	Details
1	Tender Reference No. & Date	GKCIET/E-Tender/2019/04
2	Type of Tender	Open e-Tender
3	Publish Date & Time	Refer to CPPP system generated Tender ID and Critical date sheet.
4	Document Download Start Date & Time	
5	Document Download end Date & Time	
6	Bid Submission Start Date & time	
7	Pre-Bid Conference Date, Time and Venue	
8	Bid Submission End Date & Time	
9	Date for Opening of Bid	
10	Estimated Cost:	Rs. 25,00,000/-
11	EMD (refundable but non-interest bearing)	Rs. 50,000/-
12	Tender Fee (non-refundable)	Rs 1000/- (Rupees one thousand only)
13	Price Bid and item details	As per BoQ uploaded at CPP Portal Note: Price Bid should be submitted in given BoQ format only. No any other format shall be accepted.

IMPORTANT NOTES:

- i. Tender Documents can be downloaded from the Central Public Procurement (CPP) Portal www.eprocure.gov.in/eprocure/app or from GKCIET website <http://www.gkciet.ac.in>. However, the bidding process (submission and finalization) will be done in online mode at CPP Portal. The bidders may submit their bid only through uploading in the CPP Portal <https://eprocure.gov.in/eprocure/app>. No bids received by post or by hand or by FAX/E-mail, any other modes would be considered for evaluation.
- ii. GKCIET will assess the ability of the agencies to render the requisite services based on its past record, profile and on such other criteria and only those found fit will be considered.
- iii. GKCIET reserves the right to accept / reject any or all the tenders in part /full without assigning any reason thereof, revise the requirement of service at the time of placing the order, modify, relax or waive any of the conditions stipulated in the tender specification, wherever deemed necessary and award contracts to one or more bidders for the items covered by the tender.
- iv. Any corrigendum, if issued any for the tender, shall form part of the Tender Document. Any amendment will be notified on GKCIET website (<http://www.gkciet.ac.in>.) and CPPP portal. Bidders/Tenderers are requested to visit GKCIET and CPPP website regularly. Corrigendum/amendments to the tender without fail and submit the offer accordingly. GKCIET will not be responsible for ignorance of corrigendum.

Instruction for Online Bid Submission

1. The bidders are required to submit soft copies of their bids electronically on the CPPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPPP Portal.
2. More information useful for submitting online bids on the CPPP Portal may be obtained at: <https://eprocure.gov.in/eprocure/app>
3. **REGISTRATION:** Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) as per CPPP portal guideline.
4. **SEARCHING FOR TENDER DOCUMENTS:** There are various search options built in the CPPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. 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 CPPP Portal.

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 CPPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.

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.

5. **SUBMISSION OF BIDS**

- a) Bidder should log into the site well in advance for bid submission so that they can 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 has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- c) Bidder has to select the payment option as "offline" to pay the EMD as applicable and enter details of the instrument.
- d) Bidder should prepare the EMD/Bid Security as per the instructions specified in the tender document and attach a scanned copy of the same in the technical bid of the tender document. The original instrument should be posted/couriered/handed over to the tender issuing authority. In case the original instrument is not received before the date of opening of the bid, the uploaded bid shall be rejected, whenever applicable.
- e) Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.
- f) 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.

- g) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128-bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid opener's public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- h) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- i) Upon the successful and timely submission of bids (i.e. after Clicking "Freeze Bid Submission" in the portal), 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
- j) Kindly add scanned PDF of all relevant documents in a single PDF file of compliance sheet.
- k) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.
- l) The bidder may please note that there is no facility of extension of the bid submission date for what so ever reason unless it is required by the purchaser. Therefore, they should ensure that the bid is uploaded well in advance without waiting for the last date and time as there could be issues like server not responding, internet speed slow, and document not getting uploaded and so on. GKCIET, Malda shall not be responsible for any of these factors.

6. 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 CPPP Portal in general may be directed to the 24x7 CPPP Portal Helpdesk.
- c) Tenderer are advised to follow the instructions provided in the 'Instructions to the Tenderer for the e- submission of the bids online through the Central Public Procurement Portal for e Procurement at <https://etender.gov.in/eprocure/app>.

7. Instructions:

- a) The offer must be submitted in Two Bid - Two Envelope only though uploading in the CPP Portal, before the last date & time for bid submission.
- b) Quotation document (s) and all enclosures must contain the signature of the competent authority of the firm.
- c) In case, the firm quoting for above mentioned items is the Authorized Dealer / Distributor of the manufacturer. Copy of authorization certificate should be enclosed with the quotation. Offers submitted without proper authorization shall be rejected summarily.
- d) The Bank/RTGS detail must be submitted along with the quotations /Tenders on the letter head. A Scan copy of the cancelled cheque can also be attached for verification of IFSC code (if

required).

- e) Bidders must submit their digitally signed bids. The covers will contain the following documents:

A. Cover 1

- i. Proof of establishment of Firms/shop/business/ manufacturing unit etc. and Dealership Certificate from the principals etc.
- ii. Proof of registration with any other central government organization (if any)
- iii. Photocopies of purchase orders received from any central govt. organization to the firm (if any).
- iv. Latest GST/Sales Tax Clearance certificate along with copy of Registration certificate under Sales Tax
- v. Blacklisting certificate if they are blacklisted from any Govt. Organization
- vi. Proof of turnover by way of Audited Balance Sheet/Auditor's certificate, if required
- vii. Photocopy of PAN card issued in the name of the bidder's firm
- viii. EMD Details (original instrument shall be sent to Tender issuing authority)
- ix. Manufacturers Authorization Certificate
- x. Copy of Income Tax return copies (last three years)
- xi. Bidder Specifications Compilation Sheet
- xii. Details specification of the quoted item, where bidder submit "No" i.e. not same as per our specification
- xiii. Similar Purchase Order copies executed in National Importance Institutions like, IITs, NITs, IISERs, NISER, Central Universities etc.
- xiv. Bidder's details
- xv. Terms and conditions for AMC for different quoted


B. Cover2

- i. Price Bid. (Separate in second Envelop in BoQ Ms-Excel format.)

8. List of Enclosure:

- i. Annexure 1: General Terms and Conditions
- ii. Annexure 2: Technical Specification
- iii. Annexure 3: Bidder Information Form
- iv. Annexure 4: Price Schedule
- v. Annexure 5: Format for Acceptance of Terms & Conditions of The Tender
- vi. Annexure 6: Mandate Form for Electronic Fund Transfer/RTGS Transfer
- vii. Annexure 7: Vendor Master Form
- viii. Annexure 8: Manufacturers' Authorization Form
- ix. Annexure 9: Letter of Guarantee
- x. Annexure 10: Compliance Report
- xi. Annexure 11: Check List

Date: ... 20/12/2019
Place: Malda


(Assistant Registrar)
GKCIET, Malda

Annexure 1

GENERAL TERMS AND CONDITIONS

The offer must comprise of the following failing which it will be treated as non-responsible hence rejected:

1. Total price (with taxes) include basic price, all taxes, other charges (in any). Comparison will be made on total price (inclusive all).
2. The basic price must not be higher than price of the principal, if any additional accessories required, as per enquiry, it must be included within total price.
3. EMD (Refundable) not less than Rs. 2% of Estimated Cost of in favor of The Account Officer, GKCIET, Malda to be submitted in the form of Demand Draft (DD) from any Nationalized/ Scheduled Commercial Bank pledged in favor of "GKCIET, Malda" payable at Malda and it should be valid for a period of 45 days beyond the bid validity period. Bids received without EMD, Bank mandate form and other essential documents will be rejected. EMD should be send in sealed envelope. In any phase of tender process, if it found that EMD price is not appropriate will be rejected.
4. Original Demand Draft for EMD shall to send to **the Controller, Stores & Purchase Section, 1st Floor, GKCIET, P.O. Narayanpur, Dist. Malda, West Bengal, Pin 732141**, before the end date of Bid Submission and soft copy of the same instruments to be uploaded along with bid on CPPP in EMD details. Instrument received other than uploaded on CPPP shall not be accepted and such bid will be rejected on the basis of non-submission of EMD.
5. NSIC/SSI/MSME Units are exempted for submitting the EMD/Bid Security as per Govt. of India order.
6. Documentary proof to be enclosed with clearly mentioning the Category for EMD exemption.
7. EMD Exemption applicable to NSIC/SSI/MSME Units who are actual manufactures of the Quoted Stores and not for the Quoting or Offering Stores Manufactured by other OEM. Traders/Distributors/Reseller/Authorized Agents will not be considered for availing benefits of EMD exemption under PP Policy 2012 for MESS as per MSE guidelines issued by MoMSME.
8. Conditional tender bids will not be accepted.
9. Price Bid must be submitted in prescribed **BoQ in MS-Excel** format only, no other format will be accepted.
10. BoQ is in INR only, bidder shall quote in INR only. No request shall be entertained to add any other currency after the floating of the tender under any circumstance.
11. Bidders shall fill all the boxes in meant for the Bidders. No Box should be left blank. As the comparative statement will be generated by system. As system generates the comparative statement on the basis of the final landing cost. In case, any box left blank by Bidder such as taxes etc. system presumed that all break up prices included in the final landing cost.
12. The bidder shall complete the BOQ as provided in the bidding documents. The BoQ must be completed without any alterations to its format and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested in BoQ.
13. **Pre-installation Requirement:** The bidder should mention pre-installation requirements for the equipment like ambient temperature, humidity, weather specification, power specifications, etc., when items are provided full performance satisfactions, should be demonstrated. However, the supply of foundation bolts, anchor bolts, electrical insulation, vibration insulation, etc. including foundation will be in the scope of supplier.
14. **Taxes:** The percentage of taxes must be either inclusive/extra in exact figure should be mentioned clearly by the supplier. Institute will not provide any GST Exemption Certificate.
15. Bidder has to provide tentative schedule for supply, installation, commissioning along with their bid.

16. The quoted price (final offer) must be F.O.R. i.e. GKCIET, Narayanpur, Malda, West Bengal-732141 including packing & Forwarding, Freight, and Insurance etc.
17. The quoted amount (the final/total price of the items) shall include supply of item, delivery to actual site, installation, testing, commissioning, demonstration, training, supply of spare parts, third-party inspection (if any), all kind of taxes, equipment foundation for installation etc. The comparison shall be made based on the final/total price of the items (basic price + all others prices+ all taxes).
18. The quotations must be neatly typed or computer printed. Hand written offer will be rejected. Quotations must carry the numbers of GST No. invariably on the top.
19. **Specification and Make:** Quotation should be given for the exact specification and make as shown in the enquiry against Sl. No. of the item. All makes shall be reputed/standard unless otherwise specified in the Annexure 2 “Technical Specification”. In the view of the supplier, if there is any other alternative item which can serve out purpose, quotation may also be given for the same separately along with previous client list, order copy of similar equipment supplied to any IITs / any other Govt. Organization including detail of price and all charges must be attached. There is scope to quote of optional items, if required, which will be included within the total price of the particular item in the BoQ in “any other charges” column. Evolution will be made on Total cost (inclusive all).
20. The supplier must have submitted the catalogue of the product, warranty/guarantee certificate, operator manual (2 copies), testing certificate, calibration certificate etc. along with the technical bid. The supplier must also provide a list of premier institutions (Like IITs/ NITs or Internationally reputed Universities, etc.) to which similar product has been supplied with product details. A compliance certificate to be provided item wise as per the specification.
21. **Delivery:**
 - i) The supply shall be delivered at GKCIET, P.O. Narayanpur, Dist. Malda, West Bengal – 732141 and the supplier shall be responsible for damage during the transit of goods. In case of receipt of materials in damaged condition the suppliers will have to arrange the replacement of goods free of cost. All expenses in this regard will be borne by the supplier.
 - ii) On arrival of shipment/consignment, the supplier is required to arrange custom clearance and transportation of the consignment up to GKCIET, Malda premises. The Tenderer/ bidder will do all types of clearance work and **formalities to deliver/provide the equipment at the site of installation. The expenses incurred will be reimbursed on actual basis not exceeding the quoted amount.** Institute will provide all types of documentary support including Customs Duty exemption certificate. The custom duty, demurrage (in case of delay in release of custom duty to the custom department by GKCIET, Malda) and government taxes/levies (if any) will be paid extra by the buyer after as per term of payment. This may be included in your quotation as a separate item. Entry Tax will be reimbursed on production of proof of payment.
 - iii) The Successful bidders are requested to deliver the goods in actual site before 3.00 PM on any working day (Monday to Friday).
 - iv) All the communications with respect to the delivery of items shall be addressed to:

The Controller (Store & Purchase)
Ghani Khan Choudhury Institute of Engineering and Technology
P.O. Narayanpur, Dist. Malda, West Bengal (India) Pin 732 141.
22. The date of delivery should be strictly adhered to failing which the purchase order is liable to be cancelled. Penalty may be imposed as per P.O. terms & conditions. Goods should be securely, safely and adequately packed & dispatched at the risk of supplier and packing costs quoting this order reference should be kept in all package. Local firms are requested to deliver the goods in our stores before 3.00 PM on any working day.

23. **Offer Validity Period:** The validity period of the offer should be clearly specified. It should be at least for 180 days from the last date of submission of the quotations.

24. **Performance Security (refundable but non-interest bearing):** The firm has to submit Performance Security of **10%** of the total order value in favor of **The Account Officer, GKCIET, Malda** to be submitted in the form of Demand Draft (DD) from any Nationalized/ Scheduled Commercial Bank pledged in favor of "**GKCIET, Malda**" payable to be submitted on or before installation of equipment. Performance Security must valid for **14 (thirty-eight) months or 2 months beyond the maximum warranty periods of the items**, whichever is later, to cover the warranty.

25. **Guarantee/Warranty Period:**

- (i) Except otherwise specified in the invitation to tender or Technical Specification (Annexure 2), the contractor hereby declares that the goods/stores/articles/equipment sold/supplies to the purchaser/consignee under this contract shall be of best quality and workmanship and new in all respects and shall be strictly in accordance with the specification and particulars mentioned/contained in the contract. The contractor hereby guarantees/warrantee that the said goods/stores/articles would continue to conform to the description and quality aforesaid for a period of **12** months from the date of receipt of goods/articles/equipment in good condition at site by the consignees in case of supply contract and **12** months from the date of installation and satisfactory taking over of the goods/stores/articles/equipment at site by consignee where installation and commission is involved and notwithstanding the fact that the purchase /inspection authority has inspected and/or approved the said goods/stores/articles equipment or such if during the **12 months** the said goods/stores/articles/equipment be discovered not to conform to the description and quality aforesaid or not giving satisfactory performance or have deteriorated and the decision of the purchase /consignee in that behalf shall be final and binding on the contractor/seller and the purchaser shall be entitled to call upon the contractor/seller to rectify the goods/stores/articles/equipment or such specified period as may be allowed by the purchaser in his discretion on application made thereof by the contractor/seller, and in such an event, the above period shall apply to the goods/stores/articles/equipment rectified from the date of rectification mentioned in the warranty thereof, otherwise the contractor/seller shall pay the purchaser such compensation as may arise by reason of the breach of warranty therein contained.
- (ii) Guarantee that they will supply the spare parts, if and when required on agreed basis for an agreed price. The agreed basis could be and including but without limitation an agreed discount on the catalogue price or an agreed percentage of profit on landed cost.
- (iii) Warranty to the effect that before going out of production for the spare parts they will give adequate advance notice to the purchaser of the equipment so that the later may undertake the balance of lifetime requirements.

Note: In case of any discrepancy in the period of guarantee/ warranty mentioned anywhere else in this Tender document, the stipulations as mentioned in the **Annexure 2 (Technical Specification)** would prevail.

26. **Liquidated Damages:** As time is the essence of this order, the date of delivery should be strictly adhered to, otherwise the delivery in full or in part may not be accepted and penalty for late delivery will be imposed @ 0.5% per week (07 days) to be calculated on day basis, subject to a maximum of 10% of the total value of supply order & beyond 10% subject to approval of **the Director GKCIET, Malda**. In case of delay in installation the same rate of penalty shall be leviable. In case of cancellation of order no compensation will be paid towards progress of order/procurement.

27. For any queries contact with as mention below on any working day (Monday to Friday) between 11.00 AM to 3:00 PM at:

The office of the Controller (Store & Purchase)

**Administrative Building, GKCIET
P.O. Narayanpur, Dist. Malda, West Bengal
Pin-732141
e-mail: controller@gkciet.ac.in**

28. Premises for enquiry of the status of the tender without prior permission may lead to rejection of the bid.
29. GKCIET, Malda reserves the right to accept or reject or cancel any or all enquiries or quotations at any stage without assigning any reason thereof.
30. At any time prior to the pre-deadline for submission of bids, the Purchaser may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the tender documents by amendment. The same would also be hosted on the website of the Purchaser and all prospective bidders are expected to surf the website before submitting their bids to take cognizance of the amendments.
31. For any dispute, the place of jurisdiction shall be Malda, W.B, India only.
32. **Annual Maintenance Contract (AMC) of Equipment:** After the warranty/Guarantee term is over, the firm has to provide AMC for the items at least for **1 years** (extendable type) unless otherwise specified in the invitation to tender or **Technical Specification (Annexure 2)** of this document.

Note: In case of any discrepancy in the period of and/or AMC mentioned anywhere else in this Tender document, the stipulations as mentioned in the **Annexure 2 (Technical Specification)** would prevail.

Annexure 2

TECHNICAL SPECIFICATION

Requisition for Laboratory equipment for Electrical Engineering Department

Sl. No	Name of the equipment	Item code as per BOQ	Specifications	Qty.
01	Calibration of ammeter and Wattmeter	1.01	1-10 amp 2nos of Amp meter 1KW 2nos of watt mater lamp load arrangement panel mounted	1set
02.	Demonstration of three phase transformer connections. Voltage and current relationship, phase shifts between the primary and secondary side	2.01	3 Phase transformer for Vector group testing Dy1,Dy11,YY0,Dz0,Dz6 connection	1set
03.	Demonstration of components of LT switch	3.01	1-10KW LT switchgear Panel mounted setup for hands on practice of switchgear connection	1Nos
04.	Frequency meter, Phase Sequence meter ,power factor meter	4.01	Frequency meter Standard Phase Sequence meter standard power factor meter standard	1Nos Each
05.	Measurement of capacitance by Schering Bridge	5.01	kit type	1set
06.	Measurement of speed of DC series motor as a function	6.01	DC series motor drum Controller setup with loading arrangement	1set

	of load torque			
07.	V/F control of 3 phase induction motor	7.01	Stander test setup with micro controller	1set
08.	parallel operation of two three phase Transformers	8.01	standard test setup	1set
09.	determination of X_d , X_q of a salient pole 3 phase synchronous machine	9.01	panel mounted standard test setup	1set
10.	Parallel operation of two three phase Alternator	10.01	panel mounted standard test setup	1set
11.	Different parameter calculation by power circle diagram	11.01	Power cycle diagram kit	1set
12.	study of different type of cable	12.01	A demonstration board with single core, 3 core stranded, non stranded ACSR, Al, Cu, Conductors used for transmission and distribution line	1set
13.	Study of the characteristics of on- delay relay and off-delay relay	13.01	On and of delay relay setup CT secondary 1amp current setting 0.5to 2amp voltage 230volt 50Hz	1set
14.	Test to find out characteristics of (a) under voltage relay (b) earth fault relay	14.01	Under voltage relay setup	1set
15.	Study of the characteristics of an SCR	15.01	SCR Trainer kit (circuit must be contained in two voltage source 30 volt DC, series resistor of suitable range)	1set

16.	Study of the characteristics of a TRIAC	16.01	TRIAC Trainer kit(circuit must be contained in two voltage source 30 volt DC, series resistor of suitable range	1set
17.	Study of different triggering circuits of an SCR	17.01	Complete setup for SCR Triggering circuit Trainer kit (to perform Forward voltage triggering. gate triggering dv/dt triggering temperature triggering v) light triggering)	1set
18.	Study of firing circuits suitable for triggering SCR in a single phase full controlled bridge	18.01	Complete setup for SCR Triggering circuit in a single phase full control bridge Trainer kit	1set
19.	Study of the operation of a single phase full controlled bridge converter with R and R-L load	19.01	Complete setup for SCR Triggering circuit in a single phase full control bridge with R and R L load Trainer kit	1set
20.	Study of performance of single phase half controlled symmetrical and asymmetrical bridge converters	20.01	Complete setup for Study of performance of single phase half controlled symmetrical and asymmetrical bridge converters-Trainer kit	1set
21.	single phase Universal motor control using DIAC, TRIAC	21.01	standard test setup	1set
22.	Study of performance of step down chopper with R and R-L load, motor speed	22.01	Complete setup for Study of performance of step down chopper with R and R-L load.	1set

	control			
23.	Tuning of P, PI and PID controller for first order plant with dead time using Z-N method. Process parameters (time constant and delay/lag) will be provided. The gain of the controller to be computed by using Z-N method. Steady state and transient performance of the closed loop plant to be noted with and without steady disturbances. The theoretical phase margin and gain margin to be calculated manually for each gain setting	23.01	Tuning of P, PI and PID controller for first order plant with dead time using Z-N method. Process parameters (time constant and delay/lag) will be provided. The gain of the controller to be computed by using Z-N method. Steady state and transient performance of the closed loop plant to be noted with and without steady disturbances. The theoretical phase margin and gain margin to be calculated manually for each gain setting	1set
24	To plot the characteristics of UJT	24.01	Kit to calculate Intrinsic Standoff ratio using UJT	1Set
25	To measure Low resistance by Kelvin's Double Bridge	25.01	Kit type standard experimental set up	1Set
26	To measure power factor of single phase and three phase load by PF meter and verify	26.01	Panel mounted 2Nos Wattmeters 10kW, 230V, 50 Hz 1A-10A, Ammeter, Voltmeter,	1Set

	the same through I, V and P measurement		load box	
27	To measure current & voltages by low range ammeter & voltmeter respectively using CT and PT	27.01	Ring type CT 1KVA, 1:100 PT of 1kVA, 1:10, 1-10A load box	1Set
28	To Mount and wire up the main board by batten/conduit wiring and connect Energy Meter, MCB, ELCB, RCCB etc. as per IE rule	28.01	Standard mounting arrangement in grooved wood board, House Energy Meter, MCB-16A, Standard ELCB, MCCB and RCCB for house hold	1Set
29	To test a battery for its charged and discharged condition and to make connections for charging and obtain its capacity	29.01	Charging circuit for 100Ah battery with panel mounted ammeters and voltmeters	1Set
30	To start a 3-phase Slip-ring induction motor by rotor resistance starter and determine the effect of the rotor resistance on the torque-speed curves of an induction motor	30.01	Panel mounted starter(Star Delta) for 8 HP 3 phase Induction motor	1Set
31	To measure temperature by pt-100, thermistor and thermocouple	31.01	Kit arrangement to measurement temperature by pt-100 , thermister (maximum Temperature 35 Degree) and thermocouple	1Set

	along with simple resistance bridge			
32	To plot characteristics of potentiometer and observe the loading effect on output of potentiometer	32.01	Kit to display potentiometer characteristics 230 V, 50 Hz	1Set
33	To study the principle of operation and connection of pilot devices like – Push Button Switch, Limit Switch, Selector switch, Pressure switch, Float switch	33.01	Standard switches mounted on card board	1Set
34	To study open loop control of any physical control system and study of closed loop control of the same system using P, PI and PID controller	34.01	Linear system simulator, 230V, 50 Hz	1Set
35	To study the position control system using servomotor	35.01	230V, 50Hz AC Servo motor based position control hardware	1Set
36	To demonstrate various system faults by D.C. network analyser	36.01	Kit type DC network analyser, 230 V, 50 Hz	1Set

37	To study active and reactive power flow through transmission lines	37.01	Kit type Transmission line power flow study with panel mounted kW and kVAr meter	1Set
38	To measure Solar Radiation with the help of Pyranometer	38.01	Kit for the measurement of solar radiation	1Set
39	To study different kinds of insulators (Insulators are required to be available in laboratory)	39.01	Demonstration board displaying available types of insulators (A,E,B,F,H,C class)	1Set
40	To study PILC, PVC, FRLS and XLPE cables. (Cables are required to be available in laboratory)	40.01	Demonstration board displaying all types of cables	1Set
41	To demonstrate the photo voltaic system used in street lighting – PV module, CCU, Battery, CFL	41.01	0.5kW PV system with battery support	1Set
42	To identify the terminals of Thyristor and plot V-I characteristics of Thyristor	42.01	Kit Type Thyristor characteristics demonstrator	1Set
43	To study fully controlled full wave rectifier using SCR	43.01	Kit Type Fully controlled Bridge rectifier	1Set
44	To study DC chopper circuit using SCR	44.01	Kit type meter mounted DC chopper demonstrator 1 MHz Oscilloscope	1Set

45	To study series inverter using SCR	45.01	Series Inverter using SCR Kit	1Set
46	To perform speed control of DC series motor using SCR	46.01	Kit type DC Series motor (1.5 HP) speed control	1Set
47	To perform speed control of 3-phase Induction motor using PWM inverter. Interpret speed-torque characteristics. Use variable voltage variable frequency drive.	47.01	Kit type 3 phase PWM Inverter based speed control of Induction motor	1Set
48	To study the operation and circuit diagram of Uninterrupted Power Supply unit	48.01	12.5 kVA UPS demonstration kit	1Set
49	Operation of a stepper motor with a fixed number of steps and to determine the angular displacement per step by measuring the total angular rotation	49.01	Kit Type	1Set
50	To determine Illumination of a surface for a Drawing Room by	50.01	Luxmeter (0-1000)	1Set

	means of lux meter			
51	To determine candle power of a lamp in comparison to standard C.P. of lamp by optical bench method	51.01	Optical meter test bench	1Set
52	To study of the principle of Induction Heating using an induction heater	52.01	Induction heating study kit	1Set
53	To make & test the control circuit for dynamic braking operation of induction motor using contactor control	53.01	Kit type demonstration of Induction motor dynamic braking	1Set
54	To make & test the working of single phase preventer using contactor control.	54.01	Kit type single phasing preventer circuit	1Set
55	To make & test the control circuit operation of automatic star-delta starter of induction motor using PLC.	55.01	PLC unit (Seimens)to demonstrate star delta starter operation	1Set
56	Digital Storage Oscilloscope	56.01	200MHz	1Nos
57	Multimeter	57.01	10A, 230 V	20Nos

58	Universal Programmer	58.01	Standard	1Set
59	Pic microcontrollers	59.01	Standard	10Nos
60	Arduino microcontrollers	60.01	Standard	10Nos
61	Relays	61.01	One way , two way type	50Nos
62	Solar Panels	62.01	10 V, 1 A	10Nos
63	DC Motors	63.01	5v, 10 V	50Nos
64	Demonstration Kit of Network theorem for Thevenin's Nortorn's maximum Power Transfer and Super Position Theorem	64.01	Trainer kit	1Set
65	To measure active and reactive power in three phase balanced load by two wattmeter method and observe the effect of Power Factor variation on Wattmeter reading.	65.01	Panel mounted 2 Wattmeters 10kW,230V , 50 Hz, 1A-10A, Ammeter, Voltmeter, load box	1Set

66	To measure an inductance by Maxwell's bridge	66.01	Kit type with panel mounted ammeters and voltmeters	1Set
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Annexure 3

BIDDER INFORMATION FORM

[The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted. This should be done of the letter head of the firm]

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

ICB No.: [insert number of bidding process]

Alternative No.: [insert identification No if this is a Bid for an alternative]

Page _____ of _____ pages

01.	Bidder's Name <i>[insert Bidder's legal name]</i>
02.	In case of JV, legal name of each party: <i>[insert legal name of each party in JV]</i>
03.	Bidder's actual or intended Country of Registration: <i>[insert actual or intended Country of Registration]</i>
04.	Bidder's Year of Registration: <i>[insert Bidder's year of registration]</i>
05.	Bidder's Legal Address in Country of Registration: <i>[insert Bidder's legal address in country of registration]</i>
06.	Bidder's Authorized Representative Information Name: <i>[insert Authorized Representative's name]</i> Address: <i>[insert Authorized Representative's Address]</i> Telephone/Fax numbers: <i>[insert Authorized Representative's telephone/fax numbers]</i> Email Address: <i>[insert Authorized Representative's email address]</i>
07.	Attached are copies of original documents of: <i>[check the box(es) of the attached original documents]</i> <ul style="list-style-type: none"> ➤ Articles of Incorporation or Registration of firm named in Sl. No.1 above (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITB 4.3. ➤ In case of Government-owned entity, enterprise or institution from India, in accordance with ITB 4.5 documents establishing: <ul style="list-style-type: none"> • Legal and financial autonomy • Operation under commercial law • Establishing that the Bidder is not dependent agency of Borrower, Sub-Borrower or Purchaser in accordance with ITB sub clause 4.5 ➤ Included are the organizational chart, a list of Board of Directors, the beneficial ownership, Group companies and holding chart.

Signature of Bidder with stamp _____

Name _____

Business Address _____

Annexure 4

PRICE SCHEDULE

Sl. No.	Item Description	Item Code / Make	Quantity	Units	Basic Rate Rs. P	Excise Duty Amount in INR Rs. P	GST Amount in INR Rs. P	Any Other Taxes in	Any Other Charges Rs.	Total Amount Without Taxes	Total Amount With Taxes	Total Amount In Words
1.												
2.												
3.												
4.												
5.												
6.												
7.												

Annexure 5

FORMAT FOR ACCEPTANCE OF TERMS & CONDITIONS OF THE TENDER

(To be given on Company Letter Head)

Date:

To

Sub: Acceptance of Terms & Conditions of Tender

Tender Reference No: _____

Name of Tender / Work: _____

Dear Sir,

I/ We have downloaded / obtained the tender document(s) for the above mentioned 'Tender/Work' from the web site(s) namely: as per your above tender notice given in the above mentioned website(s).

I / We hereby certify that I / we have read the entire terms and conditions of the tender documents from Page No. _____ to _____ (including all documents like annexure(s), schedule(s), etc.), which form part of the contract agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein.

The corrigendum(s) issued from time to time by your department/organization too have also been taken into consideration, while submitting this acceptance letter.

I / We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.

I / We do hereby declare that our Firm has not been blacklisted/ debarred by any Govt. Department/Public sector undertaking.

I / We certify that all information furnished by the our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organization shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

Yours Faithfully,

(Signature of the Bidder with Official Seal)
(Name and Designation)
(Name of the Firm)

Annexure 6

MANDATE FORM FOR ELECTRONIC FUND TRANSFER/RTGS TRANSFER

Date: / /

To
The Assistant Registrar (Fin)
Ghani Khan Choudhury Institute of Engineering and Technology
P.O. Narayanpur, Dist. Malda, West Bengal
Pin - 732141

Sub: Authorization for release of payment / dues from Ghani Khan Choudhury Institute of Engineering and Technology, Malda through Electronic Fund Transfer/RTGS Transfer

1. Name of the Party/Firm/Company/Institute:
2. Address of the Party:

City

e-mail ID: Mob No:

3. Permanent Account Number
4. Particulars of Bank:

Bank Name:		Branch Name:	
Branch Place:		Branch City:	
PIN Code:		Branch Code:	
MICR No.:			
Digit number appearing on the MICR Bank of the Cheque supplied by the Bank, please attach a Xerox copy of a cheque of your bank for ensuring accuracy of the bank name, branch name and code number)			
IFS Code:(11 digit alpha numeric code)			
Account Type	Savings	Current	Cash Credit
Account Number:			

DECLARATION

I hereby declare that the particulars given above are correct and complete. If any transaction delayed and not effected for reasons of incomplete or incorrect information I shall not hold Assistant Registrar (Fin), Ghani Khan Choudhury Institute of Engineering and Technology, Malda responsible. I also undertake to advise any change in the particulars of my account to facilitate updating of records for purpose of credit of amount through NEFT/RTGS Transfer.

Place: _____

Date: _____

Signature & Seal of the Authorized Signatory of the Party

Certified that particulars furnished above are correct as per our records

Bankers Stamp:

Date:

Signature of the Authorized Official from the Bank

***N.B:** Please fill in the information in CAPITAL LETTERS, computer typed; please TICK wherever it is applicable*

Annexure 7

VENDOR MASTER FORM

(To facilitate registration under PFMS and fund transfer through RTGS, NEFT/ INTRA BANK Transfer-One time information required)

Sl No.	Information required	Data furnished
1	Name of the supplier company /firm	
2	CIN Number (in case of company)	
3	Complete contact address with PIN number	
4	Landline phone number	
5	Mobile number of contact person/ Finance Executive (for SMS on payment details)	
6	e-Mail ID (for receiving payment details)	
7	PAN Number	
8	GST Registration Number (with copy of GST registration certificate)	
9	TAN Number	
10	Bank account number (with a copy of cancelled cheque or Xerox copy of cheque leaf)	
11	Name of the Bank	
12	Name of the Bank Branch	
13	IFSC Code of Bank	
14	MICR Code of Bank	
15	Bank Account details where LC is to be opened in case of foreign suppliers	

I / We hereby declare that the particulars given above are correct and complete. If the transaction is delayed or credit is not affected at all for reason of incomplete or incorrect information, the Ghani Khan Choudhury Institute of Engineering and Technology, Malda will not be responsible.

Authorized signatory with date and seal

Annexure 8

MANUFACTURERS' AUTHORIZATION FORM

[The Bidder 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 Bidder]* 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 3.1 of the General Conditions of Contract, 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 Bidder]*

Dated on _____ day of _____, _____ *[insert date of signing]*

Annexure 9
LETTER OF GUARANTEE

WHEREAS Ghani Khan Choudhury Institute of Engineering and Technology, Malda (Buyer) have invited Tenders vide Tender No..... Dt.for purchase of
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 favour of “**Assistant Registrar Ghani Khan Choudhury Institute of Engineering and Technology, Malda,**” in the form of DD for Rs and valid tillfrom the date of issue of Performance DD may be submitted within **30 (Thirty) days** from the date of acceptance as a successful bidder.

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 Ghani Khan Choudhury Institute of Engineering and Technology, Malda on demand and without protest or demur Rs (Rupees.....).

This bank further agrees that the decision of Ghani Khan Choudhury Institute of Engineering and Technology, Malda (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 Ghani Khan Choudhury Institute of Engineering and Technology, Malda (Buyer).

Notwithstanding anything contained herein:

1. Our liability under this DD shall not exceed Rs. (Indian Rupees only).
2. This DD shall be valid up to(date) and

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.

Annexure 10
COMPLIANCE REPORT

Tender ID & Date:

Name of the Firm:

Sl.	Item	Technical Specification	Whether complied or not (Yes/No)	Remarks
1.				
2.				
3.				
4.				

Signature of Bidder with seal

Annexure 11

CHECK LIST

(Please put this annexure at the top of the tender document)

Tender ID & Date:

Name of the Firm:

Sl.	Document to be submitted	Submitted (Yes/No)	Remarks
1.			

Signature of Bidder with seal