I.K. GUJRAL PUNJAB TECHNICAL UNIVERSITY
JALANDHAR-KAPURTHALA HIGHWAY,
KAPURTHALA

NOTICE INVITING E-TENDER

IKGPTU invites tenders from the eligible bidders for supply of Lab equipments/items mentioned below:

Name of Work	Supply, Installation, Commissioning of equipments for Deptt. of Electrical Engg. at **I.K. Gujral Punjab Technical University, Kapurthala**
Last date and time of submission of online tender	12-08-2017 Time 11:59 PM
Date and time of opening of Technical bids	14-08-2017 Time 10:30 AM
Venue	IKGPTU, Jalandhar – Kapurthala highway, Kapurthala
Tender document fee	INR 2500/-
EMD	INR 53000/-
Bid validity	90 days (from Date of opening of bids)
Delivery time	30 days (from the issuance of purchase/supply order)
On-site warranty	One year from the successful commissioning of equipments at IKGPTU
Tender document available at	https://www.ptu.ac.in/Tender.aspx etender.punjabgovt.gov.in

The tender document can be downloaded from website **etender.punjabgovt.gov.in**. Tenders shall be opened at above mentioned place in the presence of parties or their representative who may like to be present. For participating in the above e-tendering process, the suppliers/bidders shall have to get themselves registered with **etender.punjabgovt.gov.in** and get user ID and password Class three Digital signatures is mandatory to participate in the e-tender process. For any clarification/difficulty regarding e-tendering process flow, please contact us on 9465884841 (Convenor) or E-procurement Helpdesk Nos. 8054628821, 0172-3934667, 9257209340.

1. The **tender form fee Rs. 2500/- and E.M.D. as mentioned in above table**. The Tender fees and EMD should be deposited / Pay by online/E-payment mode only. No other modes will be accepted. **BIDDERS ARE NOT REQUIRED TO PAY TENDER PROCESSING FEE, AS SAME IS BEING PAID BY IKGPTU TO PUNJAB INFOTECH**.
2. Corrigendum/Addendum /Corrections/Notice, if any will be published on the website.

3. All fees like tender fee (Non-refundable) and Earnest money shall be paid through ONLINE mode (IPG, Net Banking, NEFT/RTGS) only.

4. Bids must be submitted online through **e-portal etender.punjabgovt.gov.in** before the time specified in the above table (as per system clock). Department/Service provider does not take any responsibility for the delay caused due to non-availability of internet connection or network traffic for online bids.

5. Bidders shall up load scanned copy of all the papers i.e. proof of Earnest Money, Tender document Fee, PAN Card, VAT No. etc as mentioned in the subsequent pages.

6. Uploaded documents of valid successful bidder(s) may be verified. The valid successful bidder(s) has to provide the originals to the concerned authority on receipt of letter, which will be sent back though registered post.

7. Bid(s) once submitted online, can be resubmitted before last date and time of submission.

8. There is no limit to data that can be uploaded on Punjab Infotech website, however, for ease of uploading and downloading, vendors will be advised to compile data into files and upload. Capacity of each upload file should not be more than 4 MB, preferable to keep it even less.

9. Perspective Vendors are advised to start uploading process well on time and not leave it to the last minute as same shall take time because of the data involved.

10. If the date of opening of tenders happens to be a public holiday, then the tenders will be opened on next working day at the same time and place.

11. The bidders should keep checking the website for any **addenda/corrigenda** to the notice/bidding documents till the last date of on-line submission of bids, and the bidder should incorporate the same in his bid documents.

General Guidelines

1. The terms and conditions, general guidelines of tender along with the annexures each and every page must be signed & stamped by authorized signatory and scanned & uploaded on the website.
2. Technical bid Performa to be filled online.
3. Technical bid will be opened on the due date and time as notified, in the presence of the vendors present with authorization letter from the respective company/firm, if they desire to be present.
4. The bidders who qualify the technical bid, will only be informed regarding opening of financial bids. The financial bids will be opened on the due date and time as intimated, in the presence of the vendors present with authorization letter from the respective company/firms.
5. Rates should be FOR destination (IKGPTU) inclusive of all **taxes/levies/govt. duties etc**.
6. The EMD/Performance security is liable to be forfeited in case the supplier fails to execute the order in time.
7. IKGPTU shall not be responsible if it is not possible to up load / submit the tender online due to any fault or malfunctioning of the internet / e tender site.
8. The tender should be submitted with the tender document available on e-tender website (etender.punjabgovt.gov.in) and can be seen on University website i.e. (www.ptu.ac.in).
9. Authorized signatory should sign on all the pages. Bids without signatures of authorized signatory on all the pages will be out rightly rejected.
10. IKGPTU Kapurthala reserves the right to increase/decrease the order quantity without assigning any reason(s), whatsoever.
11. Delivery of the above items will have to be made according to the schedule given by the user department of IKGPTU, Kapurthala.
12. The items are required to be delivered within stipulated period from the date of issuance of supply order. Place of delivery will be IKGPTU Campus, Jalandhar-Kapurthala Highway, Kapurthala.

I.K. Gujral Punjab Technical University

Terms & Conditions

Bidders responding to this enquiry shall be deemed to be agreeable to the terms and conditions herein contained. These terms and conditions shall be binding on the successful bidders. Conditional bids are liable to be rejected.

1. IKGPTU invites on line tenders from reputed original equipment manufacturers (OEM)/ authorised distributors/ dealers to supply equipments, install/commissioning etc for Electrical Engg. Labs at IKGPTU, Main Campus, Kapurthala.
2. IKGPTU will award the contract to technically qualified bidder(s) quoting the lowest rate (**ITEM WISE**) at the terms & conditions of work mentioned in the tender documents.
3. Eligibility criteria is placed at Annexure I
4. The specifications of equipment/items and bidder details are placed at Annexure II.
5. The financial bid performa is placed at Annexure III.
6. Bidder(s) is/are required to fill bidder details & financial bid etc. as per format provided online, failure to do so will result in rejection of bid(s). The rates to be quoted **ONLINE** by bidders in Financial bid have to be item wise.
7. The EMD will be forfeited if any terms and conditions are contravened / deviated.
8. The Selected bidder will be provided the detailed volume and other requirements about the work to be undertaken along with the relevant instructions.
9. The technical bids submitted by bidders will be scrutinized by a committee constituted by the university and the financial bid will be opened of only the technically qualified firms. The technical qualification includes the scrutiny of documents uploaded by the firm/ previous reports, manpower employed with firm etc., and the committee decision will be final in this regard.
10. The prices are to be quoted **including taxes/levies/govt. duties etc** for supply/ installation/commissioning of lab equipment at IKGPTU, Kapurthala. Item wise prices are only to be quoted.
11. In case the firm fails to supply/ install/commission in the specific time, the University may impose penalty as per provisions mentioned in the document. Penalty will be deducted from the bill after which the order will remain cancelled and Bid Security / Earnest Money deposited will be forfeited and university shall

have the right to get the remaining work done from other vendors and the difference of cost, if any, will be deducted from the payment and EMD of the contractor. In case repeated failure of more than three times, the University may consider cancellation of order and in such case security deposit and EMD will be forfeited.

12. The University reserves all the right to reject or accept any tender without assigning any reason or cancel or withdraw the tender notice.
13. The validity of the offer shall be 90 days after the date of opening of the technical bid. If any bidder withdraws his tender within the validity period or makes any modifications in terms and conditions of the tender and/or rates after submission of tender which or does not start the work within stipulated period from the date of issue of letter of acceptance, then IKGPTU shall without prejudice to any other right or remedy, be at liberty to forfeit the earnest money deposited by the bidder. In case of forfeiture of EMD, the Bidder shall be debarred from bidding in case of re-invitation of the tenders.
14. **Signing of Tender:** Individual signing the tender or other documents connected with contract must specify whether he signs as:-

(a) A "sole proprietor of the concern or constituted attorney of such sole proprietor.

(b) A partner of the firm, if it be a partnership firm, in which case he must have authority to execute contracts on behalf of the firm and to refer to arbitration disputes concerning the business of the Partnership either by virtue of the partnership agreement or by a power of attorney duly executed by the partners of the firm. In case of partnership firms, a copy of the partnership agreement, or general power of attorney duly attested by a Notary Public, should be furnished on stamped paper duly sworn or affirmed by all the partners admitting execution of the partnership agreement or the general power of attorney. The self-attested copy of the certificate of registration of firm should also be enclosed along with the tender. In the case of partnership firms, where no authority to refer disputes concerning the business of partnership firm has been conferred on any parties the tender and all other related documents must be signed by all partners of the firm. A person signing the tender form or any documents forming part of the tender on behalf of another person should have an authority to bid such other person and if, on enquiry it appears that the persons so signing had no authority to do so, the University may, without prejudice cancel the contract and hold the signatory liable for all costs, consequences and damages under the civil and

criminal remedies available. **The Bidder should sign and affix his/her firm's stamp at each page of the tender and all its Annexures as the acceptance of all terms & conditions by the Bidder.** NO PAGE SHOULD BE REMOVED / DETACHED FROM THIS TENDER DOCUMENT.

15. Bidder shall not be permitted to withdraw his offer or modify the terms and conditions thereof. In case the Bidder fails to observe and comply with the stipulations made herein or backs out after quoting the rates, the aforesaid EMD/demand draft will be forfeited.
16. All disputes shall be subject to the jurisdiction of Kapurthala Courts only.

17. **Inspection and tests prior to shipment of Goods and at final acceptance are as follows:**

    I. After the goods are manufactured and assembled, inspection and testing of the goods should be carried out at the supplier's plant by the supplier, prior to shipment to check whether the goods are in conformity with the technical specifications attached to the purchase order. Manufacturer's test certificate with data sheet should be issued to this effect and submitted along with the delivery documents. A team of IKGPTU may inspect the material and test if required at vendor's premises. The location where the inspection is required to be conducted should be clearly indicated by the bidder after confirmation of the order. The university will not pay anything extra for inspection/tests at the premises of the manufacturer/supplier.

    II. The acceptance test will be conducted by the Purchaser, at its option after the equipment is installed at Purchaser's site in the presence of supplier's representatives. The acceptance will involve trouble free operation and ascertaining conformity with the ordered specifications and quality. There should not be any additional charges for carrying out acceptance test. No malfunction, partial or complete failure of any part of the equipment is expected to occur. The Supplier should maintain necessary log in respect of the result of the test to establish to the entire satisfaction of the Purchaser, the successful completion of the test specified.

    III. In the event of the ordered item failing to pass the acceptance test, a period not exceeding one weeks will be given to rectify the defects and clear the acceptance test, failing which the Purchaser reserve the right to get the equipment replaced by the Supplier at no extra cost to the Consignee.

    IV. Successful conduct and conclusion of the acceptance test for the installed goods and equipment should also be the responsibility and at the cost of the Supplier.

    V. The time taken for pre-dispatch inspection is inclusive of the scheduled completion time of the delivery & installation of the equipments. Only the

equipment certified by the Purchaser should be dispatched to the Purchaser.

VI. The Supplier/manufacturer should display sample Item for verification of the equipments by Client before technical committee (if required)/ production of the same in bulk if required.

18. Manuals and Drawings

I. Before the goods and equipment are taken over by the Purchaser, the Supplier should supply operation and maintenance manuals. These should be in such details as will enable the Consignee to operate, maintain, adjust and repair all parts of the works as stated in the specifications.

II. The Manuals should be in the ruling language (English) in such form and numbers as stated in the contract.

III. Unless and otherwise agreed, the goods equipment should not be considered to be completed for the purpose of taking over until such manuals and drawing have been supplied to the Consignee.

19. Penalty

I. If delivery is not made in time and the IKGPTU is required to make purchase from outside at higher rates, the loss sustained will be deducted from the E.M.D./ Performance Security of the Bidder.

II. Irrespective of the fact as to whether or not the IKGPTU makes purchases from outside, the IKGPTU may impose penalty upto 1 % per week of total cost of delayed articles, if the delay is due to willful laches or negligence on the part of Bidder, and if it causes financial loss or inconvenience to the IKGPTU.

Acceptance

I/We accept the above terms & conditions and shall comply with these strictly.

Name of Vendor _____ Signature

Address _____ Seal of firm :

_____ Date :

Annexure I

Eligibility criteria:
(Documents must be provided in support of the following otherwise bids will be summarily rejected)

S. no.	Eligibility criteria	Supporting Documents required
1	The bidder must be a Company/ LLP registered with Statutory Authorities for the last five years	Copy of certificate of incorporation
2	Only authorized dealer/ agency of Original Equipment Manufacturer (OEM) or OEM having minimum 5 years of experience upto last date of submission of tender (within last 10 years) in execution of Laboratory Equipment/Instrument supplies should apply against this invitation for bid. In the case of the bidder, offering to supply Laboratory Equipment/Instrument under the bid, which the bidder does not manufacture or otherwise produce, the bidder has to provide Manufacturer's Authorization Certificate. Bids submitted without valid authorization certificate will be summarily rejected. Authorization certificate from OEM is essential for all the items of supply under scope of work.	Latest Authorization letter from OEM to the Bidder authorizing him to do business on OEM's Behalf, as associate or authorized business partner, for OEM's Manufactured Items. In case of OEM participating as a bidder, a power of attorney by the company's Director to the authorized signatory to be submitted along with the technical bid. Copies of work orders and completion certificates by various clients in the recent past.
3	An undertaking from the OEM is required stating that they would facilitate the bidder on a regular basis with technology/product updates and extend support for spares & maintenance facilities during warranty & AMC. The bid shall not be considered responsive in absence of the certificate from the OEM.	Undertaking by the authorized signatory of OEM in favour of the Bidder agency.
4	The average annual turnover of the bidder from the Laboratory equipment (for Electrical labs) supply quoting for the bid should be Rs. 26 Lacs (Rs. Twenty six lacs only) or above during the last three financial years (2014-2015, 2015-2016, 2016-17).	In this regard, the bidder should submit copies of audited Balance sheets including profit and loss accounts for the last three financial years as above.
5	Firm must have successfully executed (during	Copies of work orders

	the last three completed financial year 2014-2015, 2015-2016, 2016-17) at least one or more supply, Installation ,Commissioning & Maintenance of Laboratory Equipments order from start to finish of the following: One single order of Supply, Installation, Commissioning & Maintenance of Laboratory Equipments (Electrical labs) having value of Rs 21 Lakh (OR) Two orders of Supply of Laboratory Equipment (Electrical labs) Supply, installation, Commissioning & maintenance having value of Rs.13 Lacs each (OR) Three orders of Supply of Laboratory Equipments (Electrical labs) Supply, installation, Commissioning & maintenance having value of Rs.10.5 Lacs each.	and completion certificates (The above said orders should have been undertaken in the last three years)
6	The Bidder must have successfully executed at least one order of supply of Laboratory equipments to Govt./PSU's/Autonomous bodies/ Govt. Institutions such as IIT's/NIT's/IIIT's/Central Universities/ Govt. universities etc. during last three Financial years for which necessary supporting documents have to be enclosed.	Copies of work orders and completion certificates
7	The Bidder should indicate at least Four numbers of technically Qualified professionals having experience for not less than three years upto last date of submission of tender (within last 10 years) for installation & Maintenance support of Electrical equipment.	List of technical qualified Professionals duly self certificated by the bidder along with the professional certificate.

Notwithstanding anything stated above, the Consignee reserves the right to assess bidder's capability and capacity to perform the contract, should circumstances warrant such an assessment in the overall interest of the IKGPTU, Kapurthala, Punjab and constituents campuses.

ANNEXURE – II

Specifications of Equipment/Items

Semi Conductor Devices & Circuit Theory Lab

S.No.	Name of equipment	Specifications	Numerical values or other specification by bidder	Remarks, If any
1	Soldering Stations	Input Supply Voltage V AC: 220/240V Heat Temperature Max: 480°C Output Power (variable) : 0-90W Kit Contents: Soldering Iron, Mica Heater & BS Plug		
2	RF coaxial cable assembly	BNC plug to BNC plug type, length min. 2mtr Impedance -50Ω BNC plug to connector (crocodile clips) type, length min. 2mtr Impedance -50Ω		
3	Linear IC Tester with a 16 Character Display	Portable, power saving and usable with batteries Average search time is 0.8sec 16 characters in 1 line display 14 to 24 test pins Tester voltage is +/-5V Equipped with empty load test and auto power off function Temperature range from 5°C to 45°C		

Electrical Machines-I Lab

S.No.	Name of equipment	Specifications/ Configuration	Numerical values or other specification by bidder	Remarks, If any
1	Power Quality and Energy Analyzer	Number of inputs 4 (3 phase + neutral) dc-coupled, Maximum input voltage - 1000 Vrms (AC/DC) Nominal voltage range Selectable -1 V to 1000 V Max. peak measurement voltage 6 kV (transient mode only) High speed transients (<5µs) or		

		better Scaling 1:1, 10:1, 100:1, 1,000:1 10,000:1 and variable Resolution 16 bit analog to digital converter on 8 channels or better Sampling rate 256 samples per cycle Accuracy level 0.1% or better All power measurements, Energy measurements, Waveform capture Timed, THD, TDD, Main signaling recording, IEC/ ANSI Unbalance Voltage/ currents Sags/swells LCD/LED display Must have USB port (2.0 or higher) for data logging, Inbuilt memory card (16GB or higher) All accessories required for measurement		
2	Portable Wattmeters	Analog Wattmeters with high precision (mirror scale based) Dynamometer type, mounted on bakelite panel, fitted in Pine Wood case with rubber / plastic footing & rexine strap, provided with antiparallax mirror & knife-edge pointer, Scale Length 150mm Approx. 0-150W, 0-250V/500V, (LPF& UPF, 2 each) 0-500W, 0-250/500V , (LPF& UPF, 2 each) 0-1000W, 0-250/500V, (LPF& UPF, 2 each) 0-2000W, 0-250/500V , (LPF& UPF, 2 each) Accuracy ±0.5% of Full scale deflection or better		
3	Portable Voltmeters	Dynamometer type, mounted on bakelite panel, fitted in Pine Wood case with rubber / plastic footing & rexine strap, provided with antiparallax mirror & knife-edge pointer, Scale Length 150mm Approx. Analog type AC/DC 0-250/500V Analog type AC/DC 0-150/300V Analog type AC/DC 0-50V Accuracy ±0.5% of Full scale deflection or better		
4	Portable Ammeters	Dynamometer type, mounted on		

		bakelite panel, fitted in Pine Wood case with rubber / plastic footing & rexine strap, provided with antiparallax mirror & knife-edge pointer, Scale Length 150mm Approx. Analog type AC/DC 0-1A Analog type AC/DC 0-2A Analog type AC/DC 0-5/10A Analog type AC/DC 0-10/20A Accuracy ±0.5% of Full scale deflection or better		
5	Cut section model of Transformer	Single phase Core type and shell type Cut section models of transformers one each for instructional purpose. Each visible part name of the model should be displayed on it.		
6	Cut section model of DC machine	Cut section model of DC Shunt motor, Series motor one each. Each visible part name of the model should be displayed on it.		
7	DC Series motor and assembly	DC series motor with 3HP rating, 1500rpm, Input voltage 0-200V (Variable and fixed mode) Insulation : Class 'B' Must meet respective IS standards Motor must be fitted on MS frame with vibration pads along with belt pulley arrangements and gauge for stress measurement. Enclosed in cabinet with terminations on 12mm Bakelite sheet with Banana terminals 30A, Separate DC power supply compatible for connection (banana plugs) with DC motor Starter must be provided (If any).		
8	DC compound motor assembly	DC compound motor 3HP (200/220/240V)rating with options for long and short shunt Speed : 1500 RPM Insulation : Class 'B' Must meet respective IS standards Motor must be fitted on MS frame with vibration pads along with belt pulley arrangements and gauge for stress measurement. Enclosed in cabinet with		

		terminations on 12mm Bakelite sheet with Banana terminals 30A, Separate DC power supply compatible for connection (banana plugs) with DC motor Starter must be provided (If any).		
9	DC Shunt motor – generator and assembly	DC Machines (2 Nos.) Type : Shunt Rating :3 HP Voltage Rating : 220V ± 10% Speed : 1500 RPM ± 5% Must meet respective IS standards Motor generator (mechanically coupled) must be fitted on single MS frame with vibration pads Insulation : Class 'B' Separate DC power supply compatible for connection (banana plugs) with DC motor Starter must be provided.		
10	Digital Tachometer	Hand held, contactless digital tachometer with digital display Range 1RPM to 99999RPM Accuracy ±0.02% or better Along with all required accessories		
11	Single phase Transformer	Single phase, 2KVA Primary voltage 250V±5% Secondary voltage in tapping of 25%, 50%, 75%, 100% Enclosed in cabinet with terminations on Bakelite sheet with Banana terminals Must conform to IS standards 2026:2011 Equipment test certification to be provided		
12	Three phase Transformer	Three phase, 3KVA Voltage 440/230V, 50Hz Winding tappings on both sides of 50%, 86.6%, 100% Insulation class B Enclosed in cabinet with terminations on 12mm Bakelite sheet with Banana terminals 30A, Tank must be Oil filled with level indicator Transformer must be fitted on MS rollers for the movement Earth terminal must be provided on transformer		

		Must conform to IS standards 2026:2011 Equipment test certification to be provided		
13	Single phase Auto-transformer	Input Voltage 220V±5% Output voltage 0-270V, 10A Output terminals brought out on enclosed MS frame Must meet respective IS standards		
14	3 Phase Autotransformer	Input Voltage 415V±5% Output voltage 0-450V, 10A Output terminals brought out on enclosed MS frame Must have neutral terminal brought out along with RYB phases Must have rolling wheels for easy movement. Must meet respective IS standards		
15	Rheostats	Rheostat 2 A, 300 ohms Rheostat 2 A, 230 ohms Rheostat 1 A, 100 ohms Rheostat 3 A, 50 ohms Rheostat 5 A, 100 ohms		
16	Inductive load	Load bank inductive 3 phase, 3 kW, 10 A (in multiple steps) Load bank inductive 1phase, 2 kW, 5 A(in multiple steps) Must have inbuilt Analog type Voltmeter and ammeter displayed on front panel.		
17	Capacitive load	Load bank capacitive 3 phase 10A, 50 Hz Must have inbuilt Analog type Voltmeter and ammeter displayed on front panel.		
18	Power factor meter	Single phase , 0-5/10A 0-250/500V		
19	Digital clamp meter	DMM 3.5 digits Range 0-400A (AC/DC), 0-600V (AC/DC) Continuity measurement, frequency measurement (5-500Hz), Capacitance measurement(100µF-1000 µF), CAT III 600V Accuracy upto 2%± 5 digits or better		

Electrical Measurements Lab

S.No.	Name of equipment/kit	Specifications	Numerical values or other specification by bidder	Remarks, If any
1	A complete setup for the measurement of resistance using Kelvin's Bridge	Input supply: 0-220/230V, 50Hz, In built resistance boxes		
2	A complete setup for the measurement of self inductance using Anderson's Bridge	Input supply: 0-220/230V, 50Hz, In built Inductances		
3	A complete setup for the measurement of capacitance using Schering Bridge	Input supply: 0-220/230V, 50Hz, In built Capacitances		
4	LCR Digital meter (Hand held)	**Measurements** :Z / L /C /R /D /Q /θ /ESR **Display Primary display:** Maximum display 19,999 counts Secondary display: Maximum display 999 counts Automatic polarity indication **Test frequency** (Accuracy = ± 0.1% of actual test frequency or better) : 100 Hz, 120 Hz, 1 kHz, 10kHz Tolerance mode 1%, 5%, 10%, 20% Selection, Test signal level, Test frequency 100 Hz 0.74 Vrms 100 Hz 120 Hz 0.74 Vrms 120Hz 1 kHz 0.74 Vrms 1 kHz 10 kHz 0.74 Vrms 10 kHz 100 kHz 0.74 Vrms 00 kHz DCR2 +1.235 V In compliance with EN61010-1 (IEC61010-1:2001) for low voltage directive and Pollution Degree II Environment. Susceptibility and Emissions (EMC): Commercial Limits per EN61326-1		

5	Complete setup of Wein Bridge Oscillator using Op-Amp	Built in +12V / 350mA DC Power Supply, OpAmp (741) Wein Bridge Oscillator			
6	Analog Meters models	Ammeter model (PMMC) Voltmeter model (MC type)			
7	Digital milli voltmeter	Range	1mV, 10mV, 100mV, 1V & 10V with 100% over-ranging.		
		Resolution	1μV		
		Accuracy	±0.2% ±1 digit		
		Stability	Within ±1 digit		
		Input Impedance	>1000 MΩ (10MΩ on 10V range)		
		Display	3½ digit, 7 segment LED with autopolarity and decimal indication		
		Interfacing	USB		
		Software	DACC and CAMM,both Window compatible		
		Power Supply	220V ±10%, 50Hz		
8	Digital nano ammeter	Range	100nA, 1mA, 10mA, 100mA with 100% over-ranging		
		Accuracy	0.2% for all ranges		
		Resolution	0.1nA		
		Input Resistance	25Ω, 2.5Ω, 0.25Ω, 0.025Ω		
		Display	3½ digit 7 segment LED with auto polarity and decimal indication		
		Input	Through amphenol connector		
		Power Supply	220V±10%, 50Hz		

Bidder Details

S.No.	General Information	
1.	Name of the Firm	
2.	Address Email-id Website, if any	
3.	Contact Numbers Landline Mobile	
4.	Nature of Firm/Concern (Sole Proprietor/Partnership/Pvt Ltd etc.) Self Attested copy should be attached	
5.	Name of Authorised Signatory of Firm: (Authority Letter mentioning authorization to act on behalf of the Firm with photo of authorized signatory duly pasted, must be attached)	
6.	PAN No of Firm (Attested copy should be attached)	
7.	Copies of Income Tax Returns of last three years.	
8.	Sale Tax/VAT Registration Certificate/TIN No (Attested copy should be attached)	
9.	Annual Turnover of the Firm of last three years(Financial Years ending 31 March 2015, March 2016 & 31 March 2017). (Self Attested copy of Audited Balance Sheet of concerned work or Certificate	

	from CA to be attached)	
10.	An undertaking stating that the firm/ bidder has never been blacklisted by any Government/Semi-government/ Government Undertaking or by any Autonomous Organisation and no complaint/Inquiry is pending against the bidder. (This undertaking must be attached)	

Name of Firm:

Signature:

Address:

Seal of firm:

ANNEXURE – III

Financial Bid document

Note: Write NQ if bidder doesn't wish to quote/rate any particular Item/Items.

Semi Conductor Devices & Circuit Theory Lab

S.No.	Name of equipment/ Item		Qty in units	Price (INR) per unit Incl. taxes/levies/ govt. duties etc.	Total price Incl. taxes/levies/ govt. duties etc. (INR)
1	Soldering Stations		01		
2	RF coaxial cable assembly	BNC plug to BNC plug type	20		
		BNC plug to connector (crocodile clips) type	20		
3	Linear IC Tester with a 16 Character Display		01		

Electrical Machines-I Lab

S.No.	Name of equipment/Item	Qty in units	Price (INR) per unit Incl. taxes/levies/ govt. duties etc.	Total price Incl. taxes/levies/ govt. duties etc. (INR)
1	Power Quality and Energy Analyzer	01		
2	Portable Wattmeters 0-150W, 0-250V/500V, (LPF& UPF, 2 each) 0-500W, 0-250/500V , (LPF&	16		

	UPF, 2 each) 0-1000W, 0-250/500V, (LPF& UPF, 2 each) 0-2000W, 0-250/500V , (LPF& UPF, 2 each)			
3	Portable Voltmeters Analog type AC/DC 0-250/500V (Qty 8 Nos.) Analog type AC/DC 0-150/300V (Qty 4 Nos.) Analog type AC/DC 0-50V (Qty 2 Nos.)	**14**		
4	Portable Ammeters Analog type AC/DC 0-1A (Qty- 2 Nos.) Analog type AC/DC 0-2A (Qty 2 Nos.) Analog type AC/DC 0-5/10A (Qty 8 Nos.) Analog type AC/DC 0-10/20A (Qty 8 Nos.)	**20**		
5	Cut section model of Transformer	**02**		
6	Cut section model of DC machine	**02**		
7	DC Series motor and assembly	**02**		
8	DC compound motor assembly	**02**		
9	DC Shunt motor –generator and assembly	**02**		
10	Digital Tachometer	**04**		
11	Single phase Transformer	**05**		
12	Three phase Transformer	**02**		
13	Single phase Auto-transformer	**04**		
14	3 Phase Autotransformer	**04**		
15	Rheostats (Two each) Rheostat 2 A, 300 ohms Rheostat 2 A, 230 ohms Rheostat 1 A, 100 ohms Rheostat 3 A, 50 ohms Rheostat 5 A, 100 ohms	**08**		

16	Inductive load (Two each) 3 phase, 3 kW, 10 A 1phase, 2 kW, 5 A	04		
17	Capacitive load	02		
18	Power factor meter	02		
19	Digital clamp meter	04		

Electrical Measurements Lab

S.No.	Name of equipment/kit	Qty in units	Price (INR) per unit Incl. taxes/levies/ govt. duties etc.	Total price Incl. Taxes/levies/ govt. duties etc. (INR)
1	A complete setup for the measurement of resistance using Kelvin's Bridge	02		
2	A complete setup for the measurement of self inductance using Anderson's Bridge	02		
3	A complete setup for the measurement of capacitance using Schering Bridge	02		
4	LCR Digital meter (Hand held)	02		
5	Complete setup of Wein Bridge Oscillator using Op-Amp	02		
6	Analog Meters models	02		
7	Digital milli voltmeter	02		
8	Digital nano ammeter	02