



Tender No. C-DAC/COE/MMG/01/2021-2022

SUPPLY INSTALLATION TESTING & COMMISSIONING (SITC) OF CAPITAL EQUIPMENT FOR SETTING UP OF LAB FACILITY ON A TURNKEY PROJECT BASIS UNDER THE PROJECT “ESTABLISHMENT OF CENTRE FOR EXCELLENCE (COE) FOR PRODUCTS BASED ON LI-ION CELLS (POST-CELL)” AT CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING, B-30, NOIDA SECTOR-62, INSTITUTION AREA, GB NAGAR – 201307, UTTAR PRADESH

**Centre for Development of Advanced Technology,
(An Autonomous Scientific Society of Ministry of Electronics and Information Technology,
Govt. of India),
Anusandhan Bhawan, C-56/1, Institutional Area Sector-62,
Noida 201309**

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1. NOTICE INVITING e-TENDER (NIT)

Centre for Development of Advanced Computing (C-DAC), Noida, Ministry of Electronics and Information Technology (MeitY), Govt. of India, invites electronic bids in two bid systems from the prospective bidders for Supply Installation Testing & Commissioning (SITC) of capital equipment for setting up of lab facility on a turnkey project basis under the project **“ESTABLISHMENT OF CENTRE FOR EXCELLENCE (COE) FOR PRODUCTS BASED ON LI-ION CELLS (POST-CELL)”** at the office of Centre For Development Of Advanced Computing , B-30, Noida Sector-62, Institution Area, G.B Nagar-201301, Uttar Pradesh.

The project entitled “Establishment of Centre for Excellence (CoE) for Products based on Li-ion Cells (Post-Cell) is a sponsored project from MeitY & UP Government in collaboration with the Industry Association – India Cellular and Electronics Association (ICEA).

Tender document can be downloaded from the link: <https://eprocure.gov.in/cppp/> or <https://www.cdac.in>.

2. IMPORTANT TENDER DETAILS

Date of commencement of downloading Tender document	12/01/2022
Date & time of Pre Bid Meeting- Through online VC	18/01/2022 & 11:00 HRS IST
Last date and time for downloading of Tender Document	26/01/2022 & 17:30 HRS IST
Bid Securing Declaration letter in lieu of EMD- In reference to with GFR-Clause 170 (iii).	Bid Securing Declaration letter to be submitted by the bidder as per Annexure-B .
Public Procurement (Preference to Make in India) Order 2017:	This tender is in compliance with the DPIIT Order dated 15.07.2017 and subsequent amendments thereof for “Public Procurement Preference & PROVISION FOR LOCAL SUPPLIERS TOWARDS PREFERENCE TO MAKE IN INDIA. Accordingly the class-I (Local content 50% above) and class-II (Local Content between 20%-50%) will be allowed to participate in the subject tender. The bidder required to declare the percentage of Local content for the offered service as per Annexure –C and submit the same with the Technical Bid.
Restrictions on procurement from a bidder of a countries which shares a land border with India:	In line with OM.NO.6/18/2019-PPD dated 23.07.2020 OF PUBLIC PROCUREMENT DIVISION, DEPARTMENT OF EXPENDITURE, MINISTRY OF FINANCE for RESTRICTIONON PROCUREMENT from a bidder of COUNTRIES WHICH SHARES A LAND BORDER WITH INDIA, necessary declaration need to be provided by the bidders as Annexure-D
Last date and time for online Tender submission	27/01/2022 & 15:00 HRS IST
Mode of Tender Submission	Tender documents shall be submitted in electronic mode using digital signature of the bidder through Central Public Procurement Portal <u>www.eprocure.gov.in</u>
Opening of Technical Bids	Technical Bids shall be opened through online on 28/01/2022 & 15:00 HRS IST
Date & Time for opening of Financial Bid	Shall be conveyed separately.
Validity of Bid	180 days from the specified date of closing of bid.
Contact to Bidders and the authority to whom the bids are to be addressed	GC (MMG) CDAC, Anusandhan Bhawan, C-56/1, Sector-62, Noida-201309, Tel. 0120-2210823/825 Email- <u>headmmg-noida@cdac.in</u>

Note: Bidders can view the tender opening and evaluation status by logging on to e-procurement site.

3. SCOPE OF WORK & TECHNICAL SPECIFICATION

i. SCOPE OF WORK:

1. The selected Contractor/Bidder shall be responsible for Supply, Installation and Commissioning of the Equipment as per the Tender List at CDAC , Noida
2. The selected Contractor/Bidder shall be sign a contract of minimum 2 years duration.
3. The selected Contractor/Bidder must ensure to comply compulsorily to the condition that the OEM or its Authorized Channel partner of the Equipment to be supplied must have the Service and Support facility in India.
4. Any infrastructural/civil work as deemed necessary for the installation of the equipment shall be done by the selected Contractor/Bidder itself.
5. The selected Contractor/Bidder shall provide an initial detailed training on all the functionalities of the Equipment
6. Training and tutorials should cover all design, functional & feature aspects of the installed equipment and should be provided directly by the application engineers from OEM
7. The selected Contractor/Bidder has to provide additional training and support during the contract period as requested by CDAC
8. The offered equipment must be tested for all specification prior to installation/delivery of the equipment and PDI report/OQC report should be submitted at the time of delivery of the equipment.
9. The offered equipment should be inclusive of the following:
 - a. Two years warranty of the hardware
 - b. All software upgrades and updates for two years
 - c. Technical support for two years
10. The selected Contractor/Bidder must provide free technical support including hardware warranty, software updates, maintenance releases and bug fixing for the entire contract period from the date of acceptance at CDAC
11. The selected Contractor/Bidder must adhere to the safety directives as per the defined ESD Standards for CoE lab setup

- ii. Technical specification of equipment for Lab Setup given at **Annexure-G**.

4. ELIGIBILITY CRITERIA:

The bidder must satisfy/comply with the eligibility criteria as stipulated below and upload the relevant documents in Technical Bid part through Central Public Procurement Portal.

Table-I

SL No	Qualifying Criteria	Mandatory Documentary Proof to be uploaded	Documents Enclosed Yes/No
1	The bidding firm/entity should be registered legally under the rules & regulations issued by Government of India. The bidding firm/entity should be in existence in the relevant field minimum for the last 3 years (2018-19, 2019-20 & 2020-21).	1.Copy of valid Registration Certificates/Partnership Deed etc., 2. Audited Balance sheet for the last three years (2018-19, 2019-20 & 2020-21). 3. GST certificate. 4. PAN copy. 5. ITR documents for last three years (2018-19, 2019-20 & 2020-21).	
2	Authorization Letter for tender participation: a) In case of direct OEM, an authorization letter with Board Resolution to be submitted. b) In case of the bidder being a System Integrator, an authorization letter from the backup OEM and Board Resolution of the respective System Integrator to be submitted.	1.Authorization Letter. 2.Board Resolution for tender participation.	
3	OEM or its Authorized Channel partner of the Equipment to be supplied must have the Service and Support facility in India.	Supporting documents.	
4	Bid Securing Declaration Letter	As per Annexure-B	
5	MSME certificate for claiming relaxation on Turnover & Previous Experience-(This relaxation will be applicable only for the manufacturers/System Integrators and not for the traders)	Valid MSME certificate	
6	Average Annual turnover for last three financial years ending as on 31st March' 2021 not less than Rs 5 Crores (2018-19, 2019-20 & 2020-21). Note: For MSME bidders the turnover will be considered as 50% i.e Rs.2.5 Cr.	1.CA certificate. 2.Audited Annual accounts / balance sheet along with Profit & Loss account for three financial years ending 31st March 2021.	
7	Previous Work Experience: Experience of having successfully completed similar works during last 5 years (2016-2021): - a. Three similar completed works costing not less than the amount equal to Rs.1,40,00,000/- of the estimated cost. Or		

SL No	Qualifying Criteria	Mandatory Documentary Proof to be uploaded	Documents Enclosed Yes/No
	b. Two similar completed works costing not less than the amount equal to Rs.1,75,00,000/- of the estimated cost. Or c. One similar completed work costing not less than the amount equal to Rs. 2,80,00,000/- of the estimated cost. Note: In case of MSME bidders, they need to submit at least one work order valuing not less than Rs.1,75,00,000/- to become eligible in the Technical Evaluation.	Copy of work orders and client certificate for successful completion of projects .	
8	Bidder should: - a) not be insolvent, in receivership, bankrupt or being wound up, not have its affairs administered by a court or a judicial officer, not have its business activities suspended and must not be the subject of legal proceedings for any of the foregoing reasons; b) not have, and their directors and officers not have, been convicted of any criminal offence related to their professional conduct or the making of false statements or misrepresentations as to their qualifications to enter into a procurement contract within a period of three years preceding the commencement of the procurement process, or not have been otherwise disqualified pursuant to debarment proceedings; c) not have a conflict of interest in the procurement in question as specified in the bidding document. d) comply with the code of integrity as specified in the bidding document. f) should not have been blacklisted by or entangled in legal disputes with Central Government (or) any State Government (or) any other Public sector undertaking (or) a Corporation (or) any other Autonomous organization of Central (or) State Government as on Bid submission date	A Self Declaration letter as per Annexure-F .	

Note: The bidders those who are not meeting the requirements in the eligibility shall be disqualified in the technical evaluation process.

5. PREPARATION OF BIDS AND ON-LINE BID SUBMISSION

Before submission of the bid, the bidders must verify the eligibility criteria and also ensure fulfilling all the terms and conditions. In the absence of scanned uploaded copies of documents / certificates under eligibility criteria above, the bid is liable to be rejected. The bidders are required to submit soft copies of their bids electronically on the CPP Portal (<https://eprocure.gov.in/eprocure/app>), using valid Digital Signature Certificates. More information for submitting online bids on the CPP Portal may be obtained at: <https://eprocure.gov.in/eprocure/app>

- a) Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- b) Bidder should go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of documents have to be submitted including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- c) Bidder, in advance, should get the bid documents ready to be submitted as indicated in the tender document / schedule and they should be in PDF format.
- d) Bidder should log in to the site well in advance for bid submission so that the bid can be uploaded in time i.e. on or before the last date and time for bid submission. Bidder will be responsible for any delay due to any issues.
- e) 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.
- f) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- g) Upon the successful and timely submission of bids, the portal will give a successful bid submission message and a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- h) The CPP Portal is maintained by National Informatics Centre (NIC). Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24*7 CPP Portal Helpdesk. The contact number for the helpdesk is 0120-4200462, 0120-4001002, 0120-4001005, and 0120-6277787. C-DAC shall not be responsible for any technical issues/errors relating to the portal.
- i) The Technical bids must be uploaded on-line (pdf format) and price bid in excel sheet format in through <https://eprocure.gov.in/eprocure/app>, as explained below:

Note

- All the documents must be signed in ink by the authorized signatory of the bidder / digitally signed with the DSC of authorized signatory.
- The bid documents must be properly arranged in sequence.
- C-DAC reserves the right to reject the bid, if any of the above listed documents are not submitted.

6. PART NO. 1 (TECHNICAL BID)

Technical Bid uploaded shall contain the documents mentioned in the Table-I of clause (4) Eligibility Criteria and Annexures as per the details given below:

Annexures		
SL. No.	Documents Type	Format
1	Checklist along with documents as per Table-I of clause (4) Eligibility criteria.	Annexure-A
2	Bid Securing Declaration Letter	Annexure-B
2	Public Procurement (Preference to Make in India) Order 2017-Local Content Declaration	Annexure-C
3	Land Border Sharing OM-Declaration	Annexure-D
4	Tender Acceptance Letter	Annexure-E
5	Non- Blacklisting Declaration Letter	Annexure-F
6	General particulars of the bidder	Annexure-G
7	Technical Specification duly signed & stamped as a token of acceptance.	Annexure-H

- i) Scan Copy of Product Name, Product Description, Product Code, Technical Brochure etc.
- ii) Any other relevant information and documents pertaining to the subject tender scope of work can be uploaded.
- iii) Any deviation in acceptance of the general terms and condition may lead to the rejection of the bid.

Important Note:

- a) **If the bid is incomplete and / or non-responsive it will be rejected during technical evaluation. So bidders are requested to ensure that they provide all necessarily details in the submitted bids.**
- b) **If any price details are found in the Technical Bid, the offer will be summarily rejected.**

7. PART –II (PRICE BID):

- i) **The price bid (BOQ) in excel sheet format shall be uploaded online only. PRICE BID SHOULD NOT BE SUBMITTED ALONG WITH TECHNICAL BID DOCUMENT.**
- ii) The PRICE PART shall contain only schedule of rates dully filled in, NO stipulation, deviation, terms & conditions, presumptions etc. is permissible in price part of the bid. CDAC shall not take any cognizance of any such conditions and may at its discretion reject such price bid.
- iii) Price should be given in INR in figures only.
- iv) Bidders are advised to fill the BOQ file as per following instructions:
 - (a) The bidder has to download the BOQ file along with tender documents and subsequent corrigendum, if any.
 - (b) Bidder to note that there are GREY cell in BOQ file, which should not be modified by the bidder. Bidders are advised to fill GREY cells meant for the rates & TOTAL GST amount. Which are to be entered by the bidders.
 - (c) The bidder shall submit the tender online on e-tendering site e-procure.gov.in/e-procure/app on or before the date & time of bid submission. Tender submitted by any other form (fax, email, courier/post/hard copy) will not be accepted.

- (d) Price offered by the bidder shall not appear in any manner in the technical bid.
- (e) The GST rate to be filled in the BOQ without fail in case of receipt of BOQ without GST rate, it shall be construed that the rate quoted in the BOQ is inclusive of GST for further process.

Note: Bids complete in all respect should be uploaded at the given site above by the due date and time of bid submission.

8. INSTRUCTION TO BIDDER (ITB)

- (1) **Offer Validity:** Offers should be valid for minimum **180 Days** from the date of opening the Technical Bid. A bid, valid for a shorter period, will be rejected. C-DAC, Noida may ask the bidders to extend the period of validity, if required.
- (2) **Delivery:** The delivery to be done at CDAC Noida and should be completed within 90 days by April –May 2022 from the date of Purchase Order. Installation, Technical Support and Training if any within 3-5 weeks from the date of Purchase Order.
- (3) **Liquidated Damages:** If the Seller fails to deliver any or all of the Goods/Services within the original/re-fixed delivery period(s) specified in the contract, the Buyer will be entitled to deduct/recover the Liquidated Damages for the delay, unless covered under Force Majeure conditions aforesaid, @ 0.5% per week or part of the week of delayed period as pre-estimated damages not exceeding 10% of the contract value without any controversy/dispute of any sort whatsoever.
- (4) The contract will be awarded to L1 bidder on composite basis who offered all products as a turnkey solution. BID splitting is not allowed.
- (5) **Evaluation of Bids-** Bidder has to meet all eligibility criteria of BID. The bidder has to comply all required technical parameter. Bidder must quote for all products as per bid. The bids shall be evaluated on the basis of eligibility criteria given in the tender. The financial bid of the Bidders qualified in the Technical Bid shall be opened. The decision of the C-DAC in this regard shall be final & binding on the bidders.
- (6) Bidder's offer is liable to be rejected if they don't upload any of the certificates / documents sought in the Bid document, ATC and Corrigendum if any.
- (7) The rates should be quoted in **Indian Rupees**, IN FIGURES only. All the quoted prices shall be fixed and shall not be subject to escalation of any description during the bid validity period.
- (8) Govt. Levies like GST etc. shall be paid at actual rates applicable on the date of submission of Bid. Rates should be quoted accordingly giving the basic price, GST etc.
- (9) Bidders are advised to check applicable GST on their own before quoting. Buyer will not take any responsibility in this regards. GST reimbursement will be as per actuals or as per applicable rates (5% against DISR certificate), subject to the maximum of quoted GST %. GST amount will be paid after shown in GSTR2A portal.
- (10) **Warranty period** (24 Month) of the supplied products shall be as given in specifications from the date of final acceptance of goods or after completion of installation, commissioning & testing of goods (if included in the scope of supply), at consignee location. OEM Warranty certificates must be submitted by Successful Bidder at the time of delivery of Goods. The seller should guarantee the rectification of goods in case of any break down during the guarantee period. Seller should have well established Installation, Commissioning, Training, Troubleshooting and Maintenance Service group in INDIA for attending the after sales service. Details of Service Centers near consignee destinations are to be uploaded along with the bid.
- (11) Dedicated /toll Free Telephone No. for Service Support: BIDDER/OEM must have Dedicated/toll Free Telephone No. for Service Support.

- (12) Data Sheet of the product(s) offered in the bid are to be uploaded along with the bid documents. Buyers can match and verify the Data Sheet with the product specifications offered. In case of any unexplained mismatch of technical parameters, the bid is liable for rejection.
- (13) **Escalation Matrix for Service Support:** Bidder/OEM must provide Escalation Matrix of Telephone Numbers for Service Support.
- (14) Installation, Commissioning, Testing, Configuration, Training (if any - whichever is applicable as per scope of supply) is to be carried out by OEM / OEM Certified resource or OEM authorized Reseller.
- (15) The bidder should have not been black-listed or barred from participation in bidding process by any Central/ State Government, Government Department, Government Undertaking, Public Sector Unit (PSU) or autonomous institution, as on date of submission of bids. Declaration to be submitted as per **Annexure-F**.
- (16) **E-tender bidders are requested to note that all communication will be made through procurement portal only. CDAC reserve the right not to take cognizance of the communication made outside procurement portal.**
- (17) Contractor/Bidders are requested to quote all the cost inclusive of Taxes (Basic price + GST as per BOQ) in the schedule of rate, required to complete the work in totality.
- (18) The Contractor /Bidders are advised to acquaint themselves fully with the location of the building/ space and terms & conditions including all the provisions of the Tender Document before submission of their bid.
- (19) CDAC, however, reserves the right to terminate/curtail/cancel the contract at any time after serving notice of one week to the agency/bidder owing to deficiency of services, sub-standard quality of stores, breach of contract, etc. In such case successful Contractor/Bidder will not be admissible for any kind of compensation.
- (20) C-DAC, Noida reserves the right to accept / reject the offers or cancel the whole tender proceedings without assigning any reason whatsoever. Late / Delayed offers shall not be accepted under any circumstances. Incomplete offers will be rejected. In case the specified date for the submission of offers being a holiday or declared holiday for C-DAC, the bid-closing deadline shall stand extended to the next working day up to the same time.
- (21) The selected Contractor/Bidder shall undertake to abide sincerely by all rules, regulations and laws of land for their responsibilities to run the services and shall agree to keep itself liable and responsible for any such violation directly or indirectly related to their responsibilities for the contract.
- (22) Once the rate contract is finalized and accepted by both parties, no increase will be considered in the rates quoted by the Contractor/Bidder in any case during the period of the contract.
- (23) CDAC reserves the right to modify/relax any of the terms & conditions of the tender. CDAC also reserves the right to reject any or all of the bids or accept them in part or to reject lowest bid.
- (24) If the successful bidder fails to execute the order and fulfill its terms and conditions. In case of any default committed by the successful bidder resulting in non-execution of

tender work CDAC shall at its own discretion shall award the contract to the next available bidder at the initial tender finalized rate.

- (25) Canvassing in connection with tender is strictly prohibited and the bid submitted by Contractor/Bidder who resorts to canvassing will be rejected.
- (26) The successful agency/Contractor/Bidder shall not be allowed to transfer, assign, pledge or sub contract its right and liabilities under the contract to any other agency.
- (27) The Contractor/Bidder will be bound by the details furnished by him/her/them to CDAC while submitting the tender/bid or at subsequent stage. In case, any of such documents furnished by the Contractor/Bidder or successful Contractor/Bidder found to be false at any stage, it would be deemed to be a breach of terms of contract making him/her/them liable for legal action besides termination of the contract.
- (28) The Contractor/Bidder/Contractor can sign back to back agreement with OEM/Authorized Distributors for the Supply, Maintenance of all the equipment's. Scope of Supply and Maintenance must be in accordance with Terms and Conditions.
- (29) The successful Contractor/Bidder shall be responsible for the periodic maintenance, repair and replacement of all faulty equipment/items, cables, pipes etc.
- (30) The successful Contractor/Bidder shall be responsible for testing of equipment for errors, as and when required and also as per routine schedule.
- (31) The successful Contractor/Bidder shall attend all complaints and resolve the same in timely manner.
- (32) The successful Bidder shall take all precautionary measures in order to ensure the safety of their staff/service engineers working at CDAC while executing the work.
- (33) The successful Contractor/Bidder shall ensure that no unauthorized, careless, inadvertent operation/access of installed equipments, which may result in accident or damage to equipment, have been permitted. Accordingly, proper Insurance covers to be arranged by the successful contractor for men and material covering transit & storage risks.
- (34) Successful Bidder shall be liable to provide onsite services to maintain supplied equipment/infrastructure as indicated in the bid, Except Public holiday.
- (35) Successful Contractor/Bidder shall impart proper training to CDAC maintenance staff on regular basis to handle day to day work/activities.
- (36) Successful Contractor/Bidder shall provide a proper documentation of any change made by them in the CoE infrastructure.
- (37) CDAC shall only provide raw power to the successful Contractor/Bidder. All other consumable items/spare parts required for the maintenance of CoE shall be arranged by successful Contractor/Bidder.
- (38) The Contractor/Bidder must carry out an inspection/visit of site at CoE C-DAC. If any bidder/contractor not visited/inspected the site, it shall be assumed to have full knowledge of the site/ equipment whether he inspects it or not and no extra charges consequent on misunderstanding or otherwise shall be allowed.

- (39) Within warranty period Transportation cost of any faulty equipment/Device/Unit from the CDAC buildings to the bidder service provider's workshop, will be paid by bidder.
- (40) CDAC will not provide any tool and instrument to the Service Engineer for the purpose of servicing the equipment /items covered under the contract. Vacuum cleaner / Blower required for cleaning the Equipment along with necessary skilled manpower have to be managed by the service provider only.
- (41) The service provider shall use only OEM genuine spare parts (with similar/higher specification) for replacement of faulty parts/equipment's.
- (42) Bidder can offer equivalent/better/Higher product to meet Tender Technical requirements.
- (43) Successful Contractor/Bidder shall arrange the training for CDAC staff at least once in a year at his (bidder/contractor) cost.
- (44) CDAC shall not be responsible for delayed submission or non- submission of bid due to any reason whatsoever. The bidders are requested to submit the bid online much before date & time of submission, failing which CDAC shall not be responsible for any such technical problem.
- (45) E-tender bidders are requested to note that all communication will be made through procurement portal only. CDAC reserve the right not to take cognizance of the communication made outside procurement portal.
- (46) Any attempt of direct or indirect negotiations on the part of the bidder with the authority to whom the bid has been submitted or authority who is competent to finally accept / reject the same after the tender has been submitted or any endeavor to secure any interest for an actual or prospective bidder or to influence by any means the acceptance of a particular tender will render the tender liable to be rejected.
- (47) **Unsatisfactory Performance:** The Parties herein agree that C-DAC, Noida shall have the sole and discretionary right to assess the performance(s) of the Bidder component(s), either primary and or final, and C-DAC, Noida, without any liability whatsoever, either direct or indirect, may reject the system(s) component(s) provided by the Bidder, in part or in its entirety, without any explanation to the Bidder, either during the pre and or post test period should the same be unsatisfactory and not to the acceptance of C-DAC, Noida. The Bidder covenants to be bound by the decision of C-DAC, Noida without any demur in such an eventuality.
- (48) **Termination:** In case of breach of any of the conditions stipulated herein the CDAC shall be at liberty to terminate this contract without prejudice to the right for the Company to claim damage on account of breaches thereof in the manner as stated above by giving 7 days' notice to the vendor.
- (49) In case of any default committed by the successful bidder after award the contract resulting in non-execution of tender work, CDAC shall at its own discretion shall award the contract to the next available bidder at the L1 rate. CDAC Shall blacklist such defaulted party for a period upto 5 years including claiming all incidental damages, if any.

- (50) **Confidentiality:** This Tender's provisions and existence, as well as any commercial data including price or technical data and any information provided in accordance herewith to the other party shall be considered as confidential. Such information shall not be disclosed to any third party unless required by any applicable law or authorized in writing by the other party. All such information shall be used by the other party only for the purposes of performance of this Tender.

The restrictions here-in-above shall not apply to any information generally available to the public or received in good faith from a third party without restriction. The parties hereto agree to keep as confidential all documentation furnished or received by either party at any time in connection with this Tender. This provision, as far as practicable, shall apply to all the concerned officials of either party.

Confidentiality will be maintained during existence of this Tender and even on termination/expiry.

- (50) **Disclaimer:** This Tender / Request for Proposal (RFP) is not an offer by C-DAC, Noida, but an invitation for bidder's response. No contractual obligation whatsoever shall arise from the RFP process.

(52) **Declaration:**

The bidder would be required to give a certificate as below in his commercial bid.

“I/WE UNDERSTAND THAT THE QUANTITY PROVIDED ABOVE IS SUBJECT TO CHANGE. I/WE AGREE THAT IN CASE OF ANY CHANGE IN THE QUANTITIES REQUIRED, I/ WE WOULD BE SUPPLYING THE SAME AT THE RATES AS SPECIFIED IN THIS PRICE BID. I /WE AGREE TO ADHERE TO THE PRICES GIVEN ABOVE EVEN IF THE QUANTITIES UNDERGO A CHANGE”.

**SIGNATURE OF THE BIDDER WITH
STAMP**

9. SPECIAL CONDITIONS OF CONTRACT (SCC)

- (1) **Price Basis:** Price basis should be F.O.R C-DAC, Noida in INR only. Price quoted should be in the prescribed format as per BOQ. All the quoted prices shall be fixed and shall not be subject to escalation of any description during the bid validity period.
- (2) **Billing** is to be done in the name of Centre for Development of Advanced Computing (C-DAC), C- 56/1, Institutional Area, Sector-62, Noida, UP - 201309. The payment would be on the basis of the actual bill of items supplied, duly certified by our authorized representative at C-DAC, Noida.
- (3) **Payment Terms-** If the vendor required 30% advance of the total valuation shall be released upon issuance of the PO against equivalent BG in favour of CDAC with validity of 12 months (from nationalized bank) to be submitted by the vendor for speedy execution of project and the balance amount shall be paid after completion of the Turnkey Project. After successful completion of project and upon receipt of balance payment by the contractor, the 30% advance BG, if any, shall be returned without any interest.
- (4) **Performance Bank Guarantee:** 3% BG of the contract value should be submitted by the successful bidder for Performance Bank Guarantee/Security Deposit, in the favour of "CDAC" with validity of 24 months from a Nationalized Bank which shall be returned to the successful Contractor/Bidder after expiry of Contract Period i.e 2 years. No Interest will be paid on PBG/EMD/Security Deposit money. The Security Deposit to be submitted within 7 working days from the date of placing order. In case of any default (or) deviation in the agreed terms & condition (or) service mishaps (or) security breach activities, the purchase order shall be cancelled with immediate effect including forfeiture of BG and taking appropriate legal actions as deemed fit.
- (5) **Penalty for Delayed supply:** Penalty will be charged @ **0.5% of the contract value per week subject to maximum of 10% of total order value, in case of delayed in supply of stipulated time period.**
- (6) **Dispute & Arbitration:**
If at any time, dispute or difference whatsoever arises between the Parties out of or relating to the construction, meaning, scope, operation or effect of this contract or the validity or breach thereof shall be settled amicably. In case both the parties are unable to resolve the dispute amicably, the same shall be referred to the arbitrator appointed by C-DAC only under Arbitration & Conciliation Act 1996 as amended from time to time and rules made there under, or any legislative amendment or modification made thereto and the Award made in pursuance thereof shall be binding on the parties.

The venue and seat for the arbitration shall be **Noida/New Delhi**, India and language shall be English. The Award given by the Arbitrator shall be final and binding on the Parties.

The rights and obligation of the parties shall remain in full force and effect, pending the result of any arbitration proceedings.

(7) Cancellation Of Contract:

C-DAC reserves the right to accept or reject the tender in full or in part at its Sole discretion without assigning any reason whatsoever.

(8) Force Majeure :

Should any of the force majeure circumstances, namely act of God, natural calamity, fire, Government of India Policy, restrictions, strikes or lock-outs by workmen, war, military operations of any nature and blockades preventing the C-DAC/Successful Bidder from wholly or partially carrying out his contractual obligations, the period stipulated for the performance of the Contract shall be extended for as long as these circumstances prevail.

In the event of these circumstances continuing for more than three months, either party shall have the right to refuse to fulfill its contractual obligations without title to indemnification of any losses it may thereby sustain. The party unable to carry out its contractual obligations shall immediately advise the other party of the commencement and the termination of the circumstances preventing the performance of the contract. A certificate issued by the respective Chamber of Commerce shall be sufficient proof of the existence and duration of such circumstances.

(9) No Contractual Obligation:

C-DAC is not bound contractually or in any other way to any prospective buyers to this tender. C-DAC is not liable for any costs of compensation in relation to expenditure incurred by the prospective buyer to this tender on whatsoever reasons/grounds whether or not C-DAC terminates, varies, or suspends the tendering process or takes any other action permitted under this tender provisions during the course of execution.

(10) Indemnification:

The successful bidder shall fully indemnify, hold harmless and defend C-DAC and its officers etc., from and against all claims, liabilities, suits, damages including any criminal liability due to false declaration by the successful bidder with regard to the subject tender transaction etc., caused due to negligence/commission/omission of the Successful bidder or its agents and representatives or sub-contractors or any other person claiming or any other person claiming under this tender or under the applicable laws of India.

(11) Non-Disclosure Of Information:

The bidder shall not communicate or use in advertising, publicity, sales releases or in any other medium any information/materials like description of the site, dimensions, photographs or any other information concerning the work under this contract which may come to its possession, without the prior written permission of the CDAC.

(12) Indemnification Against Infringement Of Intellectual Property Rights (Ipr) Etc:

The successful bidder/contractor shall indemnify, protect and save C-DAC against all claims, losses, costs, damages, expenses, action, suits and other proceeding, resulting from / arising out of:

- a) Infringement of any law pertaining to intellectual property, patent, trademarks, copyrights etc. by the bidder or
- b) Such other statutory infringements in respect of all the equipment supplied by successful bidder, or
- c) Caused due to any act / omission / performance / under or none or part performance / failure of the bidder.

(13) Jurisdiction:

The jurisdiction for the purpose of settlement of any dispute or difference whatsoever in respect of or relating to or arising out of or in any way touching this contract or the terms and conditions there or the contraction/interpretation shall be that of the appropriate court in Gautam Budh Nagar U.P.

(14) Liability For Accidents And Damage

- a) During the execution of work, in case of an accident which results in the death of any of the workmen employed by the contractor or which is so serious as to be likely to result in the death of any such workmen, the bidder shall within 24 hours of the happening of such accident, intimate in writing to the CDAC, the fact of such accident.
- b) The successful bidder/contractor shall indemnify and hold CDAC, Noida harmless from and against all claims, damages, losses and expenses arising out of, or resulting from the works/services under the contract provided by them or their personnel, including any claims under the Workmen Compensation or any other Act.
- c) In the event of an accident in respect of which compensation may become payable under workmen's Compensation Act, whether by the successful bidder/contractor or by CDAC, it shall be lawful for CDAC to retain out of moneys due and payable to the bidder/contractor such sums of money as may in its opinion be sufficient to meet such liability. The decision of CDAC shall be final in regard to all matters arising under this clause.
- d) The successful bidder/contractor has to arrange proper Insurance to cover all risks associated with men & materials involved in this turnkey project including transit & storage risks.

(15) Assignment

Selected bidder/contractor shall not assign, delegate any of its rights or obligation under this Contract to other parties, without prior approval of C-DAC.

(16) Severability

If any provision of this Contract is determined to be invalid or unenforceable, it will be deemed to be modified to the minimum extent necessary to be valid and enforceable. If it cannot be so modified, it will be deleted and the deletion will not affect the validity or enforceability of any other provision of the contract.

(17) Validity Of Contract

The contract is valid for a period of 2 years (or) till the issuance of final facility certification by the successful bidder/contractor whichever is later and same can be extended in case of any requirement from CDAC end based on project requirement.

After award of work, a separate contract shall be executed by C-DAC with the service provided in line with subject tender terms and conditions.

(18) Limitation Of Liability

The liability of the Bidder arising out of breach of any terms / conditions of the tender/ contract / work order and addendums / amendments thereto, misconduct, and willful default will be limited to the total contract value. However, liability of the bidder in case of death / injury / damage caused to the personnel / property due to / arising out of / incidental to any act / omission / default / deficiency of bidder / bidder will be at actuals.

In no event shall Party, its officers, directors, or employees be liable for any form of incidental, consequential, indirect, special or punitive damages of any kind

(19) Disclaimer

The purpose of this tender is to provide the bidder (s) within formation to assist the formulation of their proposals. This tender does not claim to contain all the information each bidder may require. Each bidder should conduct his own investigations and analysis and should check the accuracy, reliability and completeness of the information in this tender and where necessary obtain independent advice C-DAC make snore presentation or warranty and shall in unreliability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of this tender. This tender is not an offer by C-DAC Noida, but an invitation for bidder's response.

(20) Corrupt (or) Fraudulent Practices

- a) It is expected that the bidders who wish to bid for this project have highest standards of ethics.
- b) C-DAC will reject the bid if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices while competing for this contract.
- c) C-DAC may declare a bidder ineligible, either indefinitely or for a stated duration, for award of a contract if it at any time determines that the bidder has engaged in corrupt and fraudulent practices during the award / execution of contract.

(21) Interpretation of The Clauses In The Tender Document / Contract Document

In case of any ambiguity/dispute in the interpretation of any of the clauses in this tender Document, the interpretation of the clauses by Director General, C-DAC shall be final and binding on all parties.

(22) Non-Disclosure of Information

The bidder shall not communicate or use in advertising, publicity, sales releases or in any other medium any information/materials like description of the site, dimensions, photographs or any other information concerning the work under this contract which may come to its possession, without the prior written permission of the CDAC.

(23) Completeness of Contract

Equipment/ sub-systems supplied should be complete in every respect with all mountings, fittings, fixtures and standard accessories normally provided with such equipment needed for erection, completion and safe operation of the equipment by applicable codes, though they may not have been specifically detailed in the respective specifications, unless covered in the list of exclusions. All similar standard equipment, provided, shall be interchangeable with one another.

(24) General

- a) The Bidder shall be responsible for provision of health and sanitary arrangement more particularly described in Contract Labour (Regulation and Abolition Act), safety precautions, etc. as may be required for safe and satisfactory execution of the contract.
- b) The bidder shall be responsible for the proper behaviour at site and observance of all regulations by the staff employed by them.
- c) Insurance for the labour engaged shall be the responsibility of the bidder until completion of works.

**CHECKLIST OF DOCUMENTS SUBMITTED TO BE UPLOADED ALONG WITH
TECHNICAL BID**

S. No.	Qualifying Criteria	Mandatory Documentary Proof to be uploaded	Page Number	Documents Enclosed Yes/No
1	The bidding firm/entity should be registered legally under the rules & regulation issued by Government of India. The bidding firm/entity should be in existence in the relevant field minimum for the last 3 years.	1.Copy of valid Registration Certificates/Partnership Deed etc., 2. Annual reports for the last three years (2018-19, 2019-20 & 2020-21). 3. GST certificate. 4. PAN copy. 5. ITR documents for last three years (2018-19, 2019-20 & 2020-21).		
2	Authorization Letter for tender participation: c) In case of direct OEM, an authorization letter with Board Resolution to be submitted. d) In case of the bidder being a System Integrator, an authorization letter from the backup OEM and Board Resolution of the respective System Integrator to be submitted.	1.Authorization Letter. 2.Board Resolution for tender participation.		
3	Bid Securing Declaration Letter	As per Annexure-B		
4	MSME certificate for claiming relaxation on Turnover & Previous Experience-(This relaxation will be applicable only for the manufacturers/System Integrators and not for the traders)	Valid MSME certificate		
5	Average Annual turnover for last three financial years ending 31st March 2021 not less than Rs 5 Crores (2018-19, 2019-20 & 2020-21). Note: For MSME bidders the turnover will be considered as 50% i.e Rs.2.5 Cr.	1.CA certificate. 2.Audited Annual accounts / balance sheet along with Profit & Loss account for three financial years ending 31st March 2021.		
6	Previous Work Experience: Experience of having successfully			

S. No.	Qualifying Criteria	Mandatory Documentary Proof to be uploaded	Page Number	Documents Enclosed Yes/No
	completed similar works during last 5 years (2016-2021): - d. Three similar completed works costing not less than the amount equal to Rs.1,40,00,000/- of the estimated cost. Or e. Two similar completed works costing not less than the amount equal to Rs.1,75,00,000/- of the estimated cost. Or f. One similar completed work costing not less than the amount equal to Rs. 2,80,00,000/- of the estimated cost. Note: In case of MSME bidders, they need to submit at least one work order valuing not less than Rs.1,75,00,000/- to become eligible in the Technical Evaluation.	Copy of work orders and client certificates for successful completion of projects .		
7	Public Procurement (Preference to Make in India) Order 2017- Local Content Declaration	Annexure-C		
8	Land Border Sharing-OM-Self Declaration.	Annexure-D		
9	Tender Acceptance Letter	Annexure-E		
10	Bidder should: - a) not be insolvent, in receivership, bankrupt or being wound up, not have its affairs administered by a court or a judicial officer, not have its business activities suspended and must not be the subject of legal proceedings for any of the foregoing reasons; b) not have, and their directors and officers not have, been convicted of any criminal offence related to their professional conduct or the making of false statements or misrepresentations as to their qualifications to enter into a procurement contract within a period of three years preceding the commencement of the procurement	A Self Declaration letter as per Annexure-F .		

S. No.	Qualifying Criteria	Mandatory Documentary Proof to be uploaded	Page Number	Documents Enclosed Yes/No
	process, or not have been otherwise disqualified pursuant to debarment proceedings; c) not have a conflict of interest in the procurement in question as specified in the bidding document. d) comply with the code of integrity as specified in the bidding document. f) should not have been blacklisted by or entangled in legal disputes with Central Government (or)any State Government (or) any other Public sector undertaking (or) a Corporation (or) any other Autonomous organization of Central (or) State Government as on Bid submission date			
11	General particulars of the bidder	Annexure-G		
12	Technical Specification duly signed & stamped as a token of acceptance.	Annexure-H		

Annexure – B**BID SECURING DECLARATION****Centre for Development of Advanced Computing**

Anusandhan Bhawan, C-56/1

Institutional Area, Sector-62,

Noida-201309 (U.P.)

SUBJECT: BID SECURING DECLARATION - SUPPLY INSTALLATION TESTING & COMMISSIONING (SITC) OF CAPITAL EQUIPMENT FOR SETTING UP OF LAB FACILITY ON A TURNKEY PROJECT BASIS UNDER THE PROJECT “ESTABLISHMENT OF CENTRE FOR EXCELLENCE (COE) FOR PRODUCTS BASED ON LI-ION CELLS (POST-CELL)”-REG

Tender Reference No. C-DAC/COE/MMG/01/2021-2022

I/We.....declare that I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.

I/We accept that I/We may be disqualified from bidding for any contract with you for a period of two year from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We a) have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity (i) fail or reuse to execute the contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: (insert signature of person whose name and capacity are shown) in the capacity of (insert legal capacity of person signing the Bid Securing Declaration)

Name: (insert complete name of person signing the Bid Securing Declaration) Duly authorized to sign the bid for an on behalf of (insert complete name of Bidder)

Dated on _____ day of _____ (insert date of signing)

Corporate Seal (where appropriate)

(Note: In case of a Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid)

LOCAL CONTENT DECLARATION**To****Centre for Development of Advanced Computing**

Anusandhan Bhawan, C-56/1

Institutional Area, Sector-62,

Noida-201309 (U.P.)

SUBJECT: LOCAL CONTENT DECLARATION- SUPPLY INSTALLATION TESTING & COMMISSIONING (SITC) OF CAPITAL EQUIPMENT FOR SETTING UP OF LAB FACILITY ON A TURNKEY PROJECT BASIS UNDER THE PROJECT “ESTABLISHMENT OF CENTRE FOR EXCELLENCE (COE) FOR PRODUCTS BASED ON LI-ION CELLS (POST-CELL)-REG

Tender Reference No. C-DAC/COE/MMG/01/2021-2022

I _____ S/o, D/o, W/o _____, Resident of _____ do hereby solemnly affirm and declare as under that:

1. I will agree to abide by the terms and conditions of subject tender terms & conditions issued by C-DAC.
2. The information furnished hereinafter is correct to best of my knowledge and belief and I undertake to produce relevant records on demand by C-DAC for the purpose of verifying the Local Content (LC).
3. The LC for all inputs which constitute the said Goods /Services/Works has been verified by me and I am responsible for the correctness of the claims made herewith against the subject tender participation.
4. In the event of the LC of the Goods/Services/Works mentioned herein is found to be incorrect and not meeting the prescribed LC norms, based on the verification by C-DAC (or) appropriate authority, I/my firm will be liable as under clause 9(f) of Public Procurement (Preference to Make in India) Order 2017.
5. I agree to maintain all information regarding my claim for LC in the Company's record for a period of 2 years and shall make this available for verification to any statutory authorities.
6. The details of LC claim:
 - a) Goods /Services/Works for which the certificate is produced:
 - b) Percentage of LC claimed:%
 - c) Type of Supplier (Class-I/Class-II):.....
 - d) Name and contact details of the unit of the manufacturer/Service Station:

For and on behalf of _____ (Name of firm/entity)
 Authorized signatory (To be duly authorized by the Board of Directors)

Annexure – D

DECLARATION-LAND BORDER SHARING

To
Centre for Development of Advanced Computing
Anusandhan Bhawan, C-56/1
Institutional Area, Sector-62,
Noida-201309 (U.P.)

**SUBJECT: DECLARATION-OM.NO.6/18/2019-PPD DATED 23.07.2020 OF PUBLIC
PROCUREMENTDIVISION, DEPARTMENT OF EXPENDITURE, MINISTRY OF
FINANCE FOR RESTRICTIONON PROCUREMENT FROM A BIDDER OF COUNTRIES
WHICH SHARES A LAND BORDER WITH INDIA**

Tender Reference No.C-DAC/COE/MMG/01/2021-2022

I have read the subject clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that our firm is not from such a country or, / if from such a county, that has been registered with the Competent Authority (copy of the Registration Certificate enclosed).

Yours faithfully,

**Authorized Signatory.
(Signature of the Bidder, with official Seal)
Email Id for correspondence.**

Annexure – E**TENDER ACCEPTANCE LETTER**
(To be given in Company Letter Head)

To

Centre for Development of Advanced Computing

Anusandhan Bhawan, C-56/1

Institutional Area, Sector-62,

Noida-201309 (U.P.)**SUBJECT: ACCEPTANCE OF TERMS & CONDITIONS- SUPPLY INSTALLATION TESTING & COMMISSIONING (SITC) OF CAPITAL EQUIPMENT FOR SETTING UP OF LAB FACILITY ON A TURNKEY PROJECT BASIS UNDER THE PROJECT “ESTABLISHMENT OF CENTRE FOR EXCELLENCE (COE) FOR PRODUCTS BASED ON LI-ION CELLS (POST-CELL)”-REG.****Tender Reference No. C-DAC/COE/MMG/01/2021-2022****Dear Sir,**

1. I / We have downloaded / obtained the tender document(s) for the above mentioned ‘Tender/Work’ from the web site(s) namely: www.cdac.in / www.eprocure.gov.in etc; as per your NIT / advertisement, given in the above-mentioned website(s).
2. I / We hereby certify that I / We have read the entire terms and conditions of the tender documents from **Page No.1 to 45** (including all documents like annexure(s), schedules (s), etc.), which form part of the contract agreement and I / We shall abide hereby by the terms / conditions/ clauses contained therein.
3. The corrigendum(s) issued from time to time by your department / organization too has also been taken into consideration, while submitting this acceptance letter.
4. I / We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.
5. I /We do hereby declare that our firm has not been blacklisted / debarred by any Govt. Department / Public sector undertaking.
6. 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 thereof or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the fully said earnest money deposit absolutely.

Yours faithfully,

Authorized Signatory.
(Signature of the Bidder, with official Seal)
Email Id for correspondence.

NON-BLACKLISTING/DEBARRING LETTER
(To be given in Company Letter Head)

To

Centre for Development of Advanced Computing

Anusandhan Bhawan, C-56/1

Institutional Area, Sector-62,

Noida-201309 (U.P.)

SUBJECT: NON-BLACKLISTING/DEBARRING LETTER- SUPPLY INSTALLATION TESTING & COMMISSIONING (SITC) OF CAPITAL EQUIPMENT FOR SETTING UP OF LAB FACILITY ON A TURNKEY PROJECT BASIS UNDER THE PROJECT “ESTABLISHMENT OF CENTRE FOR EXCELLENCE (COE) FOR PRODUCTS BASED ON LI-ION CELLS (POST-CELL)”-REG.

Tender Reference No. C-DAC/COE/MMG/01/2021-2022

I/we hereby certify that the our firm namely _____ is neither blacklisted/debarred by any Central/State Government/Public Undertaking/Institute nor any criminal case registered / pending against the firm or its owner / partners anywhere in India (or) against any of its branches (or) partners abroad. Further, we confirm the following that we are:

- a) not be insolvent, in receivership, bankrupt or being wound up, not have its affairs administered by a court or a judicial officer, not have its business activities suspended and must not be the subject of legal proceedings for any of the foregoing reasons;
- b) not have, and their directors and officers not have, been convicted of any criminal offence related to their professional conduct or the making of false statements or misrepresentations as to their qualifications to enter into a procurement contract within a period of three years preceding the commencement of the procurement process, or not have been otherwise disqualified pursuant to debarment proceedings;
- c) not have a conflict of interest in the procurement in question as specified in the bidding document.
- d) comply with the code of integrity as specified in the bidding document.

I also certify that the above information is true and correct in any every respect and in any case at a later date it is found that any details provided above are incorrect, any contract given to the above firm may be summarily terminated and the firm blacklisted.

Yours faithfully,

Authorized Signatory.
(Signature of the Bidder, with official Seal)
Email Id for correspondence.

Annexure-G**General Particulars of Bidder**

Sl. No.	Particulars	To be filled in by the Bidder
1	Name of the Bidding Firm:	
2	Authorized person for Contact:	
	Name:	
	Designation:	
	Mobile Number:	
	Landline Number:	
	Email Id:	
3	Address of the Bidding Firm:	

Seal of the Bidder**Signature:
(Authorized signatory of the Bidder)**

Annexure-H

Technical Specification of Equipment for Lab Setup

Sl. No.	TOOL /EQUIPMENT /SOFTWARE	REQUIRED SPECIFICATION	QTY
1	Digital Multi meter	DC Voltage range 60.000 mV to 1000.0 V, 6 ranges, Basic accuracy: ± 0.025 % rdg. ± 2 dgt. AC Voltage* range 60.000 mV to 1000.0 V, 6 ranges, Frequency characteristics: 20 Hz - 100 kHz Basic accuracy 45 - 65 Hz : ± 0.2 % rdg. ± 25 dgt. (True RMS, crest factor 3) DC + AC Voltage* range 6.0000 V to 1000.0 V, 4 ranges, Frequency characteristics: 20 Hz - 100 kHz Basic accuracy 45 - 65 Hz : ± 0.3 % rdg. ± 30 dgt. (True RMS, crest factor 3) Resistance range 60.000 Ω to 600.0 MΩ, 8 ranges, Basic accuracy: ± 0.03 % rdg. ± 2 dgt. DC Current range 600.00 μA to 600.00 mA, 4 ranges Basic accuracy: ± 0.05 % rdg. ± 5 dgt. AC Current* range 600.00 μA to 600.00 mA, 4 ranges Basic accuracy 45 - 65 Hz : ± 0.6 % rdg. ± 5 dgt AC Current* range (use with Clamp on probes) 10.00 A to 1000 A, 7 ranges Add the Clamp on probe accuracy to Basic accuracy 40 - 65 Hz : ± 0.6 % Peak DC V measurement: Signal width 4 msec or more (single), 1 msec or more (repeated) AC V, DC/AC A measurement :Signal width 1 msec or more (single), 250 μsec or more (repeated) Capacitance range 1.000 nF to 100.0 mF, 9 ranges, Basic accuracy: ± 1.0 % rdg. ± 5 dgt. Continuity Check, Diode test, Frequency range ,AC V, DC+AC V, AC A measurement, at pulse width 1 μs or more (50 % duty ratio) 99.999 Hz (0.5 Hz or more) to 500.00 kHz, 5 ranges, ± 0.005 % rdg. ± 3 dgt.dB conversion Standard impedance setting (dBm), 4 Ω to 1200 Ω, 20 stages Display dB conversion value of AC voltage (dBV) Temperature (thermocouples) K: -40.0 $^{\circ}$C to 800.0 $^{\circ}$C Other functions- Filter function (remove harmonic noise, use only at 600 V AC, 1000 V AC ranges), display value hold, auto hold, MAX/MIN value display, PEAK value display, relative value display, sampling setting, internal memory (400 data), auto-power save, USB communication , mis-insertion prevention shutters, decibel conversion, 4-20 mA percentage conversion	1
2	Digital clamp meter	DC Current range-10.00/ 100.0 A, Basic accuracy: ± 1.5 % rdg. ± 5 dgt. AC Current range-10.00/ 100.0 A (10 Hz to 1 kHz, True RMS) Basic accuracy: ± 1.5 % rdg. ± 5 dgt., DC Voltage range-419.9 mV to 600 V, 5 ranges, Basic accuracy: ± 1.3 % rdg. ± 4 dgt., AC Voltage range-4.199 V to 600 V, 4 ranges (30 to 500 Hz, True RMS) Basic accuracy: ± 2.3 % rdg. ± 8 dgt., Resistance range-419.9 Ω to 41.99 MΩ, 6 ranges, Basic accuracy: ± 2 % rdg. ± 4 dgt Crest factor 2.5 or less (150 A, 1000 V max.)	1

		Other functions Continuity: (50 Ω $\pm$ 40 Ω) or less buzzer sounds, Data hold, Auto power save, Auto zero (DC A), Display LCD, max. 4199 dgt., Display refresh rate: 2.5 times/s	
3	Functional generator	Dual Channel Arbitrary Function generator of 150 Mhz with following specifications 1. 2 Output channels 2. Output amplitude range 1 mVP-P to 4 VP-P into 50 Ω loads 3. 2 GSa/s sample rates 4. 14-bit vertical resolution 5. Built-in waveforms include Arb,sine, square, ramp, pulse, noise, and other frequently used waveforms Sweep, Burst, and Modulation modes (AM, FM, PM, FSK, and PWM) 6. Advanced Sequence mode should be available 7. 16 Mpts arbitrary waveform memory on each channel 8. Up to 256 steps in sequence mode with loop jump and wait events 9. Minimum 8-inch capacitive touch screen with 800 * 480 resolutions 10. Build in Arbitrary up to 75Mhz.	1
4	DTR winding machine	Speaker Coil Winding Machine Wire Diameter 0.03 to 1.2 mm, Capacity 10000 Coils per day Automation Grade Automatic, Power Supply 240 V AC Brake Electro Magnetic Disc Brake, Display 4 Line 20 Character LCD Module Key Board Numerical Keyboard, Memory Type Non Volatile Processor Micro Controller, Traverse Unit Lead Screw Mechanism Winding Swing Dia 180 mm, Country of Origin Made in India Number of Spindles 1, Winding Pitch 0.02 to 9.999 mm Winding Speed 100 to 3000 rpm, Spindle Motor 1/2 HP PMDC Motor 3000rpm Stepper Motor Hybrid Stepper Motor 1.8, Model Series Maxima S-Plus	1
5	Digital Oscilloscope	No of Analog Channels 8 Analog channels Analog Bandwidth Min. 2.5 GHz or better, Rise time (typical) 172 ps Sample Rate per Analog channel simultaneously min.12.5 GS/s Maximum Record Length per channel 60 M per Analog channel ADC Resolution 10 bits/12bit Provision to use Digital Channel Min.16 digital channel or more Time base Range-100 ps/div to 50 s/div or better Input sensitivity range- 1 mV/div to 5 V/div or better , Time base accuracy $\pm 1.0 \times 10^{-7}$ Trigger types-Edge, Pulse Width, Timeout, Runt, Window, Logic, Setup & Hold, Rise/Fall Time, Sequence, Visual Trigger, Parallel Bus. Acquisition Mode- Normal, Peak Detect, Averaging, High Resolution, Roll Mode, Sample, Envelope, Waveform database/History Mode Future upgradable capability to decode and trigger- I2C, SPI, RS-232/422/485/UART bus activity and Includes an built in 0.1 Hz to 50 MHz with 0.1Hz resolution arbitrary/function generator with 13 predefined functions and arbitrary waveforms with form Types: Arbitrary, Sine, Square, Pulse, Ramp, Triangle, DC Level, Gaussian,	1

		Lorentz, Exponential Rise/Fall, Sin(x)/x, Random Noise, Haversine, Cardiac Automatic Measurement-35 or more automatic measurements for voltage, time & frequency characteristics Connectivity-• USB, LAN, Display Port, DVI-I, VGA and USB mouse and keyboard support Spectrum Analysis-It should have DDC based Spectrum Analysis on all channel and Time domain and frequency domain of channel should be analyzed simultaneously Display type- Minimum 15 in or better Touch, liquid-crystal TFT color display (1920 x 1080 full HD) Standard Operating system-WINDOW/NON WINDOW Accessories to be supplied - passive probe of 1Ghz per channel.	
6	Hipot tester - Dielectric strength tester	Measurement Feature AC/DC withstanding voltage, insulation resistance, AC/DC earth continuity and leakage currents tests in a single device. Max output-voltage of AC & DC hipot testing 5kV AC& DC or mre Output voltage for Insulation Resistance Measurement 1200V or more Measurement range of insulation resistance testing 9999 M Ω or more Accuracy of insulation resistance testing 4% of reading or better Current Setting range for Ground bond testing 31A or more Accuracy for Current setting range for ground bond testing 1.2% of setting or better Measurement range of ground bond testing .001 Ω to 1.800 Ω or better Measurement range of leakage current testing 50μA to 50mA(rms), Bandwidth range of leakage current testing 1MHz or better Functions Rise-time control / Fall-time control function provided, Standard [NW-A] • Electrical Appliances and Materials Safety Act[NW-C] • Measurement of touch current and protective conductor current: IEC 60990:2016 • Electrical equipment for measurement, control, and laboratory use: IEC 61010-1:2010+ A1:2016 • Information technology equipment: IEC60950-1:2005+ A1:2009+ A2:2013 • Audio, video and similar electronic apparatus: IEC 60065:2014 • Personnel Protection Systems for EV: UL 2231-1:2012 (Amended 2016), UL-2231-2:2012 (Amended 2016) [NW-D] • For UL: UL 1492:1996 (Amended 2013) [NW-G] • Electrical equipment for measurement, control, and laboratory use; current measurement circuits in damp conditions: IEC 61010-1:2010+ A1:2016 Software Suitable software should be provided to analyze the data over PC interface & Control Output voltage and panel settings are controlled through LAN / USB / RS-232C. Other Features User-Friendly, Easy Firmware Updates via USB,I/V Monitor Terminal (Analog Monitor), EARTH FAULT Protection, Electric Discharge Function High Precision/High Resolution/High Speed, SIGNAL I/O Connector, STATUS OUT Connector, Basic Memory Function	1

7	PROBES	differential probe – 500Mhz high-voltage differential probe Attenuation 5X, 50X with Differential mode input voltage ± 42 v (DC + pk AC); 30 Vrms, Rise time (probe only) <700 ps, Gain accuracy at DC $\pm 2\%$ Differential input capacitance ≤ 1 pF Differential input resistance 1 MΩ Sensitivity/noise level 5X attenuation 2 mVrms 10 mVrms (referred to the probe output) 50X attenuation 1 mVrms 50 mVrms (referred to the probe output) Propagation delay 6.5 ns Common mode input voltage ± 35 v (DC + pk AC); 25 Vrms Differential input offset range. Quantity to supply 1 no. CURRENT PROBE- Bandwidth DC to ≥ 100 MHz Rise time ≤ 2.92 ns Maximum DC & RMS current 30 A Maximum peak pulse current 50 A Maximum bare wire voltage 150 V CAT II, (insulated wire 300 V CAT II) Sensitivity 1 mA (on oscilloscopes that support 1 mV/div setting) DC accuracy $\pm 3\%$ warranted Minimum conductor size 4 mm or better. Cable length 200 cm (79 in) Quantity to supply 1no.	1
8	Bluetooth Test Set	A Bluetooth test set shall be quoted for RF layer testing of various Bluetooth devices like Module testing, mobile phone testing, earphones testing etc. Offered solution should be in full compliance with below specs: - • Compliant with Bluetooth Core Specification v.5.2 RF test suite • It should support basic Rate measurements made in compliance with Bluetooth RF Test Specification RF. TS. p30 • It should support enhanced Data Rate measurements made in compliance with Bluetooth RF Test Specification RF. TS. p30 • It should support Bluetooth low energy measurements made in compliance with Bluetooth RF Test Specification RF-PHY. TS. p15 • It should support 2Mbps Low Energy (2LE) measurement and packet generation • It should support Bluetooth Long Range (BLR) measurement and packet generation capability. • The solution should be quoted along with all necessary accessories required for testing. • The solution should be quoted along with software tool for detailed analysis of measurement results on graphical display.	1

9	Power Source + Analyzers	Output Rating: AC 0 – 350 Vrms, DC 0 - $\pm$ 500 V Output Frequency setting -AC Mode: 40.00 Hz to 999.9 Hz, AC+DC Mode: 1.00 Hz to 999.9 Hz. DC Output --250 V to +250 V / -500 V to +500 V Measurement Items: Vrms, Vavg, Vpeak, Irms, IpkH, Iavg, Ipeak, P, S, Q, PF, CF Voltage and Current Harmonic Analysis(THDv, THDi) Remote Sensing Capability OVP, OCP, OPP, OTP, AC Fail Detection and Fan Fail Alarm. Support Arbitrary Waveform Function Output Capacity: MIN. 1000VA or better Customized Phase Angle for Output On/Off Sequence and Simulation Function(up to 10 sets) OUTPUT VOLTAGE WAVEFORM DISTORTION RATIO-0.05%. Interface: USB, LAN(std) LINE REGULATION-$\pm$0.2% or less LOAD REGULATION-0.15% @45 - 65Hz; 0.5% @DC, all other frequencies (0 to 100%, via output terminal) RIPPLE NOISE-0.7 Vrms / 1.4 Vrms Built-in External Control I/O and External Signal Input Built-in Output Relay Control EMC-EN 61326-1 (Class A), EN 61326-2-1/-2-2 (Class A), EN 61000-3-2 (Class A, Group 1) EN 61000-3-3 (Class A, Group 1), EN 61000-4-2/-4-3/-4-4/-4-5/-4-6/-4-8/-4-11 (Class A, Group 1)	1
10	Spectrum analyzer	Real time portable spectrum Analyzer 1. 9 kHz to 7 Ghz of frequency range 2. 40 MHz acquisition bandwidth 3. Mil-Std 28800 Class 2 environmental, shock and Vibration specifications for use in harsh conditions 4. Internal battery for extended field operations Should be provided. 5. Feature of Spectrum/Spectrogram to minimize time spent on transient and interference hunting 6. Instrument should have EMC/EMI pre-compliance and troubleshooting - CISPR detectors, predefined standards, limit lines, easy accessory setup, ambient capture, failure analysis, and report generation with Standards EN55011, EN55012, EN55013, EN55014, EN55015, EN55025, EN55032, EN60601, DEF STAN, FCC Part 15, FCC Part18, MILSTD 461G,Features EMC-EMI display, Wizard to setup accessories and limit lines, Inspect, Harmonic Markers, Level Target, Compare Traces, Measure Ambient, Report generation, Re-measure Spot Detectors +Peak, Avg, Avg (of logs), Avg (VRMS), CISPR QuasiPeak, CISPR Peak, CISPR Average, CISPR Average of Logs, MIL +Peak, DEF STAN Avg, DEF STAN Peak Limit lines Up to 3 Limit Lines with corresponding margins Resolution BW Set per standard or user definable , Dwell time Set per standard or user definable Report format PDF, HTML, MHT,RTF, XLSX, Image File format 7. Software should be provided for WLAN 802.11a/b/g/j/p measurement and Bluetooth measurement with supported laptop. Digital Modulation formats BPSK, QPSK, 8PSK, 16QAM, 32QAM, 64QAM, 128QAM, 256QAM, $\pi/2$DBPSK, DQPSK, $\pi/4$DQPSK, D8PSK, D16PSK, SBPSK, OQPSK, SOQPSK, 16-APSK, 32-APSK,	1

		MSK, GFSK, CPM, 2FSK, 4FSK, 8FSK, 16FSK, C4FM. 8. LISN should be single phase two wire configuration. Frequency Range: 9 kHz-30MHz, AMN Impedance : $(50 \mu\text{H} + 5 \Omega) \parallel 50 \Omega$ Continuous Load Current: 16A, Current Max-18 A Pre-Filter Choke: 250μH, Max. Input Voltage : AC: 300 V @ 50/60 Hz, DC: 600V Rotary switch to select between Line and Neutral for measurement at RF port at with N connector. Transient Limiter with 10 Db attenuator with 9KHz to 30MHz Manufacture Calibration certificate from India with insertion loss, impedance, isolation and phase information as per Cispr 16 std.	
11	Digital Vernier	Measuring Range Max: 6 inch Resolution-0.01mm	1
12	Digital Micrometer	Measuring Range Max: 25mm Graduations: 0.01mm Accuracy: 0.002mm	1
13	Battery Capacity Tester	Battery Simulator - 1. Voltage and Current ratings: - 0 to 20V and 0 to 6 A 2. Voltage accuracy: - $\pm (0.02\% + 3 \text{ mV})$. 3. Voltage Resolution: - 1mV 4. Load and Line regulation: - $\pm(0.01\% + 2 \text{ mV})$ & $\pm(0.01\% + 1\text{mV})$. 5. Output Ripple and Noise:- <1 mV RMS, <6 mV p-p 6. Overvoltage Protection setting accuracy: - $\pm(0.25\% + 0.25 \text{ V})$. 7. Over current Protection (OCP) setting accuracy:- $\pm(0.25\% + 0.10 \text{ A})$ 8. Common mode current :- <6 μA peak-peak 9. Instrument should be provided with battery simulation model for battery like-AA, AAA, CR123, 10NI mh battery, coin cell, 10 . Display for live battery SOC, VOC, 11. GPIB, USB, and LAN interface	1

14	SMD soldering/rework station	Input 230V AC +/-10%•Soldering Iron24V AC/60W•Hot Air Gun Max Power Rating 250W•Air Blower 18 VDC Brush Less Fan•Air Flow 24 LPM•Tip To Ground Resistance Under 2 Ohms•Tip To Ground Potential Under 2mv•Temperature Range 180-4800C For Soldering•Temperature Range 200-4500C For Hot Air •Station Weight Approx 4.0 Kg•System Includes: Control Unit, Soldering Iron, Hot Air Gun, Single Hole Nozzles 2 Nos, Pick Up Tool. Micro Processor Based Pid Control Digital Soldering Station•Digital Display For Temperature Reading•Japanese Ceramic Heater With Quick Heat Recovery•Wide Range Of Inter ChangeableSoldering Bits & Nozzles•Long Life Soldering IronBit With Oxygen Free Copper & 300 Micron Iron Plating Covered With Nickel & Chrome•Micro Control System, Digital Display, Easy To Work With •Pulses Heating Method, Protect Heating Element, Hot Air Blower From Over Heating, Thus Prolongs The Machine's Service Life. •Automatic Cool Off System, Protect The Heater Form Overheating. •Sleek & Light Weight Soldering Iron & Hot Air Handle.	1
15	Fume Extractor	Metal body structure, strong and durable. Noise reduction design, quiet operation. Triple-filter design ensures thorough purification. High quality alloy fan achieves great suction power Power 50w 200W Filters 3 layers 3 layers Ducts 1 2 Systemic flow 235 mh 2 x 150 rh Air velocity 17 m/s 2 x 11 m/s Filtering Efficiency 0.3µm 99.97% 0.3µm 99.97% Length of duct <1>75mm x 1.4m <1>75mm x 1.4m Noise <55 dB <55dB Dimensions(mm) 425 x 250 x 410	1
16	Ionizer Bench Top	Benchtop Air Ionizer Air Flow (High Speed) 300 fpm,Air Flow (Low Speed) 100 fpm Number of Speeds 2,Power AC 100V/240V	1
17	Illuminance Meter	Measuring range 0 to 99999 Lux 0 to 9300 ftc Accuracy ±3 Lux or ±3 % (compared to reference instrument at 90° light irradiation) Resolution1 Lux (0 to 19999 Lux)10 Lux (Remaining Range)Measuring rate0.5 s	1
18	Power Meter	Single-phase 2-wires, single-phase 3-wires, 3-phase 3-wires, 3-phase 4-wires (voltage / current measurement range set for each wiring mode) Voltage, Current, Active power, Apparent power, Reactive power, Power factor, Phase angle, Frequency, Efficiency, Current integration, Active power integration, Integrated time, Voltage waveform peak value, Current waveform peak value, Voltage crest factor, Current crest factor, Time average current, Time average active power, Voltage ripple factor, Current ripple factor Synchronization frequency range: 10 Hz to 640 Hz, Analysis order up to 50th Harmonic voltage RMS value, Harmonic current RMS value, Harmonic active power, Total harmonic voltage distortion, Total harmonic current distortion, Voltage fundamental waveform, Current fundamental waveform, Active power fundamental waveform,	1

		Apparent power fundamental waveform, Reactive power fundamental waveform, Power factor fundamental waveform (displacement power factor), Voltage current phase difference fundamental waveform, Interchannel voltage fundamental wave phase difference, Interchannel current fundamental wave phase difference, Harmonic voltage content % , Harmonic current content % , Harmonic active power content % (The following parameters can be downloaded as data during PC communication but not displayed: Harmonic voltage phase angle, Harmonic current phase angle, Harmonic voltage current phase difference) Voltage range: AC/DC 15 V to 1000 V, 7 ranges Current range: AC/DC 200 mA to 50 A, 8 ranges Power range: 3.0000 W to 150.00 kW (Depends on combination of voltage and current range) Current] No.of displayed digits: 6 digits (from 0.00000 mAh, Polarity-independent integration and Sum value) [Active power] No.of displayed digits: 6 digits (from 0.00000 mWh, Polarity-independent integration and Sum value) Accuracy: 0.1% rdg. $\pm 0.1\%$ f.s. (DC) $\pm 0.1\%$ rdg. $\pm 0.05\%$ f.s. (45 Hz to 66 Hz, at Input < 50% f.s.) $\pm 0.15\%$ rdg. (45 Hz to 66 Hz, at 50% f.s. $\leq$ Input) DC, 0.1 Hz to 100 kHz 16 channels (selectable from following items), Level output DC ± 2 V, Waveform output 1 V f.s. Level output, instantaneous waveform output (voltage, current, active power) Level output (apparent power, reactive power, power factor, or other) High-speed active power level output RS-232C / LAN standard, GP-IB	
19	Precision Data Logger	System should have V/I digitizer with 1Ms/ sec sampling rate, Resolution-6 $\frac{1}{2}$ bit Voltage ranges -100 mV to 1000V, Voltage resolution-100 nV Resistance-1 – 100 MΩ, Resistance resolution-1 $\mu\Omega$ Current ranges -10 μA- 03 , Current resolution-10 pA, Capacitance ranges-10nF- 100 μF No of channels required. -40 channels (2 wire)and 2 channel Current up to 1A. Scanner card should have capability of measurement voltage upto 300V,Current upto 1A. Temperature measurement -Direct Thermocouple, RTD(2, 3, 4 wire), and thermistor temperature measurements, communication interface-USB, LAN LXI,	1

20	Vector network analyzer	Frequency Range 300 kHz - 8.5 GHz Ports 2-ports, Type-N female connectors Measurements S11, S21, S12, S22 (full 2-port 2-path S-parameter measurement) IF bandwidth 1 Hz to 100KHz, Measurements data points 2 to 200,001 Full Frequency accuracy $\pm 5.10^{-6}$, Frequency resolution 1 Hz Test port input noise floor (300 kHz - 9 GHz), :300 kHz to 6.5 GHz: -130 dBm / Hz 6.5 GHz to 8 GHz: -125 dBm / Hz, 8 GHz to 8.5 GHz: -122 dBm / Hz Test port input power without damage (300 kHz - 9 GHz) : Up to +23dBm Test port input max. DC voltage without damage :Up to 35V Test port output power range should cover the range ,300 kHz to 8.0 GHz: -55 dBm to +5 dBm 8 GHz to 8.5 GHz: -55 dBm to +3 dBm Test port output power accuracy ± 1.5 dB , Power Resolution 0.05dB Dynamic Range 300kHz to 6.5 GHz: 125 dB, 6.5 GHz to 8 GHz: 120 dB, 8 GHz to 8.5 GHz: 115 dB Trace noise magnitude (IF bandwidth 3 kHz) 0.002 dB rms Effective System Data Directivity : 46dB, Source Match 40dB, Load Match 46dB Operating power supply-110-240V, 50/60Hz with ac/dc adaptor Channels 16 Channels ,Traces-16 Traces per channel Display format-Logarithmic magnitude ,Linear magnitude,Phase,Expanded phase Group delay,Smith chart,Polar,SWR,Real / Imaginary, Sweep type :Linear, Logarithmic, Segment, Power & Reverse, Measurement Speed per point70 us typ. Special Fucntionsm Port Impedance Conversion Embedding De-Embedding Limit Testing S-parameter conversion Accessories-Software, Necessary drivers and software required run the VNA should be provided - Qty 1Nos Calibration kit: Short / Load / Open Mechanical type calibration kit with N type female connectors should cover frequency range (1 MHz - 9 Ghz) Qty - 1Nos, VNA Cables-Low Loss RF cable, DC to 18GHz, N type male connectors, each of length: 60inch,Qty - 2 Nos	1
21	EMC_Test_systems	System should have stand-alone 5 kV EFT/Burst Generator with an integrated single phase coupling decoupling network (CDN) for EMC testing applications up to 16 A. EFT/Burst ,Surge Combination Wave (1.2/50 us & 8/20 us), Ring Wave, Telecom Wave (10/700 us), AC/DC Voltage Dips & Interrupts and Pulsed Magnetic Field should be control through one unit. Automated testing to the most common IEC, EN, ANSI, IEEE and UL standards as given below. BNC connections on front panel, BNC outputs for: surge voltage and current waveform, separate output for oscilloscope trigger, EUT supply voltage and current waveforms measurements. IEC / EN 61000-4-4 EDITION 2 & 3 EFT / BURST-Output Voltage 0.2 – 5.0 kV $\pm 10\%$ at coaxial output ,Rise Time 5 ns $\pm 30\%$, Impulse duration 50 ns $\pm 30\%$ at 50 Ohm,50 ns –15 +100 ns at 1000 Ohm Burst Mode normal, continuous, real, random IEC / EN 61000-4-5 EDITION 2 & UPCOMING EDITION 3	1

		SURGE COMBINATION WAVE- Output Voltage– 7.0 kV $\pm 10\%$, Voltage Rise Time / Impulse duration 1.2 μs $\pm 30\%$ / 50 μs $\pm 20\%$ Output Current 0.1 – 3.5 kA $\pm 10\%$, Current Rise Time / Impulse Duration 8 μs $\pm 20\%$ / 20 μs $\pm 20\%$ EC / EN 61000-4-5 Telecom Wave / ITU K.20, K.21, K.44, K.45 (external module)- Output voltage - 0.2 - 7.0 kV $\pm 10\%$, Front time OCV / Decay Time OCV - 10 μs $\pm 30\%$ / 700 μs $\pm 20\%$ Front time SCC 5 μs $\pm 20\%$ IEC / EN 61000-4-11 EDITION 2 AND IEC / EN 61000-4-29 DIPS & INTERRUPTS((external module)- Max. voltage 264 V AC/DC, Max. current 16 A AC/DC continuous 20 A for 5 s , 23 A for 3 s , 40 A for 3 s , > 500 A inrush current IEC / EN 61000-4-12 EDITION 2 AND ANSI / IEEE C62.41 Ring Wave- Max. voltage - 0.2 - 7.0 kV $\pm 10\%$, Frequency - 100 kHz, Rise time OC / Rise time SC - 5 μs / 1 μs Accessories to get 14 KV impulse floating output with main module. Impulse Transformer for 1.2/50 μs voltage impulse p Separate Outputs – for each source impedance , HV input cable, HV cable for HIGH output, HV cable for COMMON output , Cable for protection earth, Technical Data Device-Turns Ratio 1:2, Impulse Shape 1.2 / 50 μs Voltage impulse Output Impedances 12 Ω Load capacity < 200 pF, Load resistance > 5 kΩ ,40 Ω Load capacity < 300 pF, Load resistance > 5 kΩ, 500 Ω Load capacity < 600 pF, Load resistance > 50 kΩ Impulse Output HV Sockets safety banana socket COMMON terminal with 4 mm banana socket Earth Protection	
22	electrostatic discharge test system	ESD GUN with wooden TABLE as per standard IEC 61000-4-2 Air discharge voltage 1 -16 kV , Cont. discharge voltage 1 -16 kV Discharge repetition single/0.1/0.2/0.5/1/2/5/10/20 Hz Discharge counter 1 – 9999,Default R/C – network 150 pF / 330 Ω Voltage resolution 100 V steps, Discharge polarity positive & negative, Operating modes single & continuous, Battery life > 16 hrs, Power consumption 17 VA, Included accessories • Carrying case, test tip contact discharge, 2 rechargeable battery packs, ground cable • battery charger unit incl. country-specific mains plugs, R/C module 150 pF/330 Ω according to IEC 61000-4-2.	1
23	Charging system	Wireless charging system-System must be able to in one rack system to get report of our DUT. .Equipment is able to use in individual condition as well. PC Software ▪ Control Power Analyzer, Impedance Analyzer, Data Logger and Magnetic Field Meter ▪ Automatic Operation of the Stage by Sequence ▪ Available to show below Screen: - Stage Position, - 3D Graph, - Smith Chart ▪ Calculation Parameters: - Coupling Coefficient (K) - Mutual Inductance(Lm) - Active Power Transmission Efficiency - User Defined Calculation	1

		- Area inside the Established Threshold (AET) Function PC Set- - Widows10 Professional SP1 32bit - Intel Atom E3845 (1.91GHz) - DDR3L 4GB - SSD 64GB (MLC) Interface: USB3.0×1, USB2.0×4, RS232C×4, Gigabit Ethernet×2, HDMI×1, VGA×1 Display- Optimum Resolution: 1920*1080 (60Hz) ,Aspect Ratio: 16:9 Panel Size: 23.6 inch / 59.9 cm Response Time: 8ms (GTG) Signal Input: VGA (Analog), DVI-D (digital, HDCP), HDMI (digital, HDCP) Main Stage Dimensions: 500mm(W)×500mm(H)×400mm(D) Stroke: X Axis 200mm/Y Axis 200mm/Z Axis 200mm Positioning Accuracy (Uniaxial): All Axis 20 micro meter, Resolution: All Axis 1mm Acceptable Weight of DUT: Max. 1kg, Acceptable Size of DUT on the Stage: 100×100mm All Axis are required to control by motor through PC software, Position Controller & Motor Driver 3-axis controller with built-in driver Drive Speed: 1pps to 500kpps, Interface for PC: USB Emergency Stop Function, Switch Box- Frequency Bandwidth: Up to 1MHz, Two channels Power Analyzer- Channel Number: 4, Voltage Accuracy: $\pm 0.02\%$ rdg$\pm 0.02\%$ f.s. Current Accuracy: $\pm 0.02\%$ rdg$\pm 0.02\%$ f.s., Active Power Accuracy: $\pm 0.02\%$ rdg$\pm 0.03\%$ f.s. Frequency Bandwidth: DC to 2MHz, Data update rate Power measurement: 10 ms/ 50 ms/ 200 ms Phase Shift Function, Interface: LAN×1 Accessories: Voltage Probe, Current Sensor 200A AC/DC Or more The power analyzer and current probe must be from the same manufacturer Current Probe- Bandwidth: DC to 50MHz ,Acceptable Current: 1mA to 5A rms Output Terminal: BNC , Impedance Analyzer -Frequency Bandwidth: 20Hz to 5MHz Measurement parameters: Z, Y, θ, Rs (ESR), Rp, Rdc (DC resistance), X, G, B, Cs, Cp, Ls, Lp, D (tanδ), Q Basic accuracy Z $\pm 0.08\%$ rdg. θ: $\pm 0.05^\circ$ Display 5.7-inch color TFT, display can be set to ON/OFF Interface: LAN×1 ,4 Terminal Kelvin Probe DATALOGGER-10ms sampling, 15 channels, Measurable Parameter: Temperature, Voltage Interface: LAN/USB 2.0 mini B Terminal, CF Card 1 GB Magnetic Field Meter- 100mm² sensor bundled , Magnetic flux density(Bandwidth): 10 Hz to 400 kHz/ 10 Hz to 2 kHz/ 2 kHz to 400 kHz, Exposure level: General public/ Occupational Magnetic flux density/Ranges and accuracy: [X, Y, Z axes] Effective measuring ranges: 2.000 μT to 2.000 mT, 4 ranges, Accuracy: $\pm 3.5\%$ rdg. $\pm 0.5\%$ f.s. [R axis] Effective measuring ranges: 3.464 μT to 3.464 mT, 4 ranges, Accuracy: $\pm 3.5\%$ rdg. $\pm 0.5\%$ f.s., [Valid measurement frequency range] at 10 Hz-400 kHz mode: 50 Hz to 100 kHz, at 10 Hz-2 kHz mode: 50	
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		Hz to 1 kHz at 2 kHz-400 kHz mode: 5 kHz to 100 kHz DC Power Supply Programmable DC 720W, Power Supply, 80V, 27A. RIPPLE AND NOISE (Noise bandwidth 20 MHz, ripple bandwidth 1 MHz)- CV p-p - 80 mV, CV rms - 11 mV, CC rms - 54 mA PROGRAMMING & READBACK ACCURACY- Voltage- 0.1% +10 mV, Current- 0.1% + 30 mA PROGRAMMING RESOLUTION (by PC Remote Control Mode)- Voltage -2mV,Current-2mA. ANALOG CONTROL: External voltage or resistance control of output, voltage and current monitor outputs, turn-on, turn-off control, status monitoring, 26-Pin Connector (Rear Panel). INTERFACE: USB: 1.1/2.0, Type A Host (Front Panel), Type B Control (Rear Panel). LAN: 100BASE-T (100Mb/s), GPIB: (with optional 2260B-GPIB-USB Adapter). AC INPUT RANGE: 85VAC-265VAC, 50/60Hz, single phase LOAD Register –General Load register.	
24	Audio analyzer	1. The analyzer shall have complete dual domain test (generation and analysis) facilities. 2. It shall provide two channel audio analogue input /output as well as microphone inputs (balanced) and consumer (coaxial as well as optical) formats. 3. The analyzer shall have Analysis of audio parameters including Frequency, Level, Selective level, Input level, THD+N, Harmonic distortion k2 to k35, IMD (acc. IEC60268/3), FFT, Gain, Inter-channel phase, XTalk, Signal latency, PureSound™ steepness, DCV differential, DCR, Impedance. 4. The analyzer shall have Analysis of audio acoustic parameters including Frequency Response, Distortion THD, THD+N, k2-k35, Impedance Response, Resonance Frequencies f0, Sound Pressure Level dB SPL, Speaker Polarity, Rub & Buzz defects analysis with a 100% correlation to the human ear, Thiele/Small Parameters, DC Resistance. 5. SPECIFICATION OF EQUIPMENT 5.1 Generator (i) No. of analog outputs: 2 independent outputs (ii) Source Impedance: 1 Ω or better (iii) Level range -100 dBV to +21.9 dBV (i) Frequency range: 5 Hz – 80 kHz (ii) Frequency accuracy: ± 25 ppm (iii) Frequency resolution: < 2 ppm or better (iv) Amplitude Range (20 Hz - 20 kHz): -100 dBV to +21.9 dBV (v) Amplitude Resolution: better than ± 0.01 dB 5.2 Analyzer (i) No. of input channels: 2 (ii) Input Impedance: Nominally 100 k Ohms (iii) Terminations: 600 Ohm (iv) Maximum input voltage: 200 Vp, overload protected (vi) CMRR: ≥ 88 dB or better (vii) Frequency Range: 5 Hz to 80 kHz	1

		(viii)Frequency Accuracy: $\leq \pm 25$ ppm (ix)Frequency Resolution: < 0.1 ppm	
25	PCB PROTOTYPE MAKING	Features Specification PCB Prototyping System PCB Prototyping Standard Kit ,Software Copper CAM and Mach3 Mill Accessories Handheld Remote Control unit for Machine Setting,Resolution (X/Y) 3.125 Micro Meter (0.123 Mil), Working Area (X/Y/Z) (mm) 220x330x120,Minimum Width Line & Space in mm 0.1 (4 mil) Max Travel Speed (mm/sec) 58 (2.28 “),Drilling (mm) 0.2 -3.175 (8-125 mil),Maximum Drilling Cycles/ Min 50,Conversion Software Converts Gerber, G code,Vision Camera Supported ,Dust extractor Available,Acoustic Cabinet Available Main Axle Power Rate 300 W ,Main Axle Rotating Speed 25000 RPM ,Max working speed 3500mm/min,Feeding Height 120 mm,Working drive 0.02-0.05mm,Repositioning accuracy 0.01-0.02mm,Capability of Processing various materials FR4, Copper clad, Acrylic, Metal, Aluminum and etc.,Power 220 V AC 2. Software Specification A. G Code Convertor Software – Copper G code Convertor is an application for managing isolation engraving, drilling and cutting printed-circuit board prototypes. • Native 32 bits program for Windows 7 / 8 / 10 • Import of Gerber & Excellon files, with automatic or manual alignment • Reading Gerber RS274-X format with macros, polygon surfaces and negative polarity traces • Real-time display of equipotential paths through layers • Manual modification of isolation contours (deletion or addition with auto-snap) • Enforcement of isolation between very close pads • Selection of tracks to be engraved at path centre (texts, logos or references) • Possible drills with boring cycles, reducing the number of tool changes • Automatic calculation of board contour cut-path, with manual addition of support bridges • Management of a tool library and drilling strategies depending on available cutters • G-code output, or HPGL, DXF, Isel-NCP, Roland RDGL, etc. • Automatic chaining to a machining driver, or output to a virtual printer driver or a COM / LPT port • Opening Gerber file containing one circuit layer • Opening next layers (maximum 4), if any • Detecting or plotting card cut-out contour • Opening Excellon file for drillings, if any • Aligning layers (automatic or manual) • Plotting tracks that are centerline texts • Hatching zones for removing all the copper • Checking drill tools and eventual boring cycles • Sending output data to the driver software or to the machine	1 each

		B. Machine Operating Software – Mach3 Mill: The Mach Operating software is one of the most versatile CNC control packages. The Operating Software turns a typical computer into a CNC machine controller. It's on most Windows PC's to control the motion of motors (stepper & servo) by processing G-Code. While comprising many advanced features, it is the most intuitive CNC control software available. • Converts a standard PC to a fully featured, 6-axis CNC controller • Allows direct import of DXF, BMP, JPG, and HPGL files through LazyCam • Visual G code display• Fully customizable interface• Spindle Speed control• Multiple relay control • Manual pulse generation• Video display of machine• Touch screen ability & Full screen eligibility C. Surface Levelling Software - Auto Leveller: • AutoLeveller is easy to use. Just input a GCode file, change a few probing settings and output another GCode file. • AutoLeveller is written in Java which means its platform independent and can be used in any OS. Linux, Windows, MacOS. • AutoLeveller is not tied to any particular CNC control software. Currently, either Linux NC or Mach3 can be used. • AutoLeveller is not tied to any particular Isolation or CAM software. AutoLeveller reads from a GCode file and it does not matter where that file is created. • AutoLeveller stops your tool from going too deep. If a V-bit is used then going too deep will mean the traces are narrower than you intend as a V-bit is wider at the base. The tool may also struggle to cut at depth ruining the tool quicker. • AutoLeveller stops 'air cuts' where the tool tip is higher than the surface and therefore no etching takes place. You can mill / etch at a much shallower depth when levelling. In the video, I am etching at -0.1mm whereas in the past I have tried - 0.2mm which still produced 'air cuts'. Features Specification PCB Prototyping System PCB Prototyping Standard Kit ,Software Copper CAM and Mach3 Mill Accessories Handheld Remote Control unit for Machine Setting,Resolution (X/Y) 3.125 Micro Meter (0.123 Mil) Working Area (X/Y/Z) (mm) 220x330x120,Minimum Width Line & Space in mm 0.1 (4 mil),Max Travel Speed (mm/sec) 58 (2.28 “),Drilling (mm) 0.2 -3.175 (8-125 mil),Maximum Drilling Cycles/Min 50,Conversion Software Converts Gerber, G code Vision Camera Supported ,Dust extractor Available,Acoustic Cabinet Available,Main Axle Power Rate 300 W Main Axle Rotating Speed 25000 RPM ,Max working speed 3500mm/min,Feeding Height 120 mm Working drive 0.02-0.05mm,Repositioning accuracy 0.01-0.02mm,Capability of Processing various materials FR4, Copper clad, Acrylic, Metal, Aluminum and etc.,,Power 220 V AC 3. PCB Cabinet- 1. User Safety during Machine Working Time, 2. This types of cabinet having storage space in Bottom of panel	
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		3. Panel door having Emergency Stop Button 4. Length x Width x Height: 600 x 600 x 1200 mm 4. Vacuum Cleaner - Eureka Forbes - Easy Clean Plus 800-Watt Vacuum Cleaner 1. Portable Vacuum cleaner with 800 watt motor power 2. Both suction and blower functions Lightweight, handheld vacuum cleaner which is ideal for daily cleaning 3. Special 18 feet long cord for easy reach around the house 4. Blower accessory for multipurpose use Dust cup for easy disposal of garbage 5 Power: 800 watts; operating voltage: 230 volt 5. All in One Desktop Computer reputed Make . 6. Double Sided Copper Clad Laminate Circuit Board- 10 x 15 cm (Glass Epoxy FR4 PCB) , 1. Layers: Double Sided; Material: FR4 Glass Fiber; 2. Surface Finishing: Copper Clad; 7. Single Side Copper Clad Laminate Circuit Board 10 x 15 cm (Glass Epoxy FR4 PCB) 1. Layers: Single Sided; Material: FR4 Glass Fiber; 2. Surface Finishing: Copper Clad; 8. Drill Bits- 1. Diameter: 3.175mm, 2. Rotary Burrs 0.6-1.5mm 9. Engraving Bits 1. Shank diameter: 3.175mm (1/8") 2. Total Length: 33mm 3. Router Bit: 0.1mm 30Degree 10. Spring Collet Chuck Tool Bit Holder (One Piece)- 1. Model Number: ER16 5.5mm 11. Digital Microscope Camera- Magnification Ratio: 500X (Manual) Power Supply : USB Port (5V DC) Software : Driver and Measurement, System Requirement : Pentium Computer with, 700MHz & Above, 20M HD Space CD ROM Driver,128MB RAM, Direct X VGA Card,PC Interface: USB2.0 & USB1.1 12. PCB Washing tub- 20 Ltrs Capacity SMT Solder Printer Dimensions(L×W×H) 540×370×350 (mm) ,Platform Size 300×400 (mm) ,PCB Size 250×400 (mm) Template Size 370×470 (mm) ,Printing Speed Manual Control ,PCB Thickness 0~80 (mm) ,PCB Tuning range Front/ Side +10mm ,Platform Height 220 (mm) ,Repeatability ±0.01mm ,Positioning Mode ,Outside/Reference Hole SMT Pick and Place Machine Specification, Maximum circuit board area: 340*190 mm (50 Feeder) Quantity of feeders: 50 PCS Number of mounting heads: 4(Juki nogel),Maximum movement range of Z axis: 20 mm, Maximum mounting rate: 9,500 PCS/hour, Average mounting rate: 8,000 PCS/hour, Positioning accuracy: 0.01 mm, Buffering range of suction nozzle: 4.5 mm Power supply: 220V/110V, 50 Hz, Compressed air: 0.6-0.7 Mpa, Average power: 400 W, Recognition Mode: Four Heads Synchronized Recognition, Number of cameras: a Mark camera, four high-speed cameras, a high-definition camera PCB access mode: automatic Left-in and right-out access, supporting left-right device connection function Quantity of trays: Up to 48 non-feeder feeding components are supported, each of which can specify its coordinates within the mounting range. Complex speed to mount resistance and Chip: 7000/h, Mounting	
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		accuracy range: 0201-40*40mm, Pin spacing 0.3mm Chip (Matching which support electric feeder can mount the 0402,0201), Service motor: Panasonic servo motor Guide rail: Taiwan TBI Linear Guide rail, Driving mode: Taiwan TBI ball screw, Nozzle Vacuum Source: Japan CKD High Speed On-off Vacuum Generator with Vacuum Damage, Minimum air capacity of pump: 80-120 L/min, volume more than 60 L Gas quality requirements: oil-water separation device, dust filter device, air pressure stabilization device Soldering Reflow Oven Machine- The heating zone quantity upper3/down2, The length of the heating zone 960mm The heating type intelligent level sirocco and rapid infrared, heating, The cooling zone quantity 1, Maximum width of PCB board 300mm, The operation direction left right, Delivery options Net transmission chain transmission The speed of conveyer belt 0-1600mm/min, The power supply Three phase 5-line 380V/220V 50/60Hz Peak power 4.5KW, Heating up time Around 15mins, Temperature control range Room temperature~300°C Temperature control mode PID closed-loop control, Temperature control accuracy $\pm 3^{\circ}\text{C}$, PCB temperature distribution deviation $\pm 2^{\circ}\text{C}$	
26	Utility	IGBT Based 10KVA UPS with 30 Minutes Backup on SMF battery .Electrical wiring as required. MDP, SDP and table box as required. ESD safe work benches with one chair per bench (10 table size 4feet x5.5Feet) with 1.5feet rack to loading capacity 50 KG, chair -10Qty, Esd ,mate as per table size ,3sdp with four on off switches on each SDP. 3MDP with 4 on off switches each sdp , 10 x table boxes with 6 on switches on each TB. Each table will have 3 built in sliding drawer with Key lock.	1